
State Demonstrations Group

December 14, 2021

Brett Friedman
Acting State Medicaid Director
New York State Department of Health
Empire State Plaza, Corning Tower, Room 1466
Albany, NY 12237

Dear Mr. Friedman:

The Centers for Medicare & Medicaid Services (CMS) completed its review of the Delivery System Reform Incentive Payment (DSRIP) Final Summative Evaluation Report, which is required by the Special Terms and Conditions (STCs) of New York's section 1115 demonstration, "Medicaid Redesign Team" (Project No: 11-W-00114/2). The DSRIP component was authorized from April 14, 2014 through March 31, 2020.¹ CMS determined that the Evaluation Report, which was submitted on August 10, 2021, is in alignment with the approved Evaluation Design and the requirements set forth in the STCs, and therefore, approves the state's DSRIP Final Summative Evaluation Report.

In accordance with the STCs, the approved Evaluation Report may now be posted to the state's Medicaid website within thirty days. CMS will also post the Evaluation Report on Medicaid.gov.

In alignment with the approved Evaluation Design, the evaluation used a combination of quantitative data, largely drawn from the DSRIP performance dataset, and qualitative data collected through beneficiary and provider surveys, provider focus groups, and key informant interviews. This Evaluation Report highlighted a number of notable successes associated with the DSRIP component of the state's demonstration. The interrupted time series analysis showed a significant reduction in potentially preventable readmissions, while descriptive analysis of the annual potentially preventable admissions measure suggested a similar decrease associated with the DSRIP program. A majority of the behavioral health and population health measures evaluated demonstrated statistically significant improvements by the end of the demonstration period compared to the pre-demonstration baseline, including key primary care indicators such as HbA1c control, antidepressant medication management, and annual flu vaccinations.

¹ The broader Medicaid Redesign Team demonstration is currently authorized through March 31, 2022.

Qualitative data show that a majority of participating providers felt that the DSRIP program was helpful in preparing for value-based payment arrangements. The report also presented a thorough examination of lessons learned from the DSRIP program that will help support future delivery system reform and quality improvement projects both in New York and elsewhere. For example, the implementation of Performing Provider Systems (PPSs) outside the delivery system was seen as a clear advantage in spurring reform through the DSRIP program, and the early focus on data sharing was critical to efforts in delivery system transformation. However, there was a more mixed assessment of the complex hierarchy of attribution in New York's DSRIP program. While the attribution methodology ensured that beneficiaries were attributed to providers most responsible for care, it also allowed for shifting attribution such that it may have masked observed improvements among PPSs which led to challenges from an evaluation and payment standpoint.

We look forward to our continued partnership on the New York Medicaid Redesign Team section 1115 demonstration. If you have any questions, please contact your CMS demonstration team.

Sincerely,

Danielle
Daly -S

Digitally signed by
Danielle Daly -S
Date: 2021.12.14
10:15:33 -05'00'

Danielle Daly
Director
Division of Demonstration
Monitoring and Evaluation

cc: Frankeena McGuire, State Monitoring Lead, CMS Medicaid and CHIP Operations Group



UNIVERSITY AT ALBANY

State University of New York

Final Summative Report

By the Independent Evaluator for the New York State Delivery System Reform Incentive Payment (DSRIP) Program

August 2021

Authors

Wendy Weller, Ph.D.,¹ Principal Investigator

Erika Martin, Ph.D., M.P.H.,² Quantitative Evaluation Lead

Donald Boyd, Ph.D.,² Quantitative Methods Consultant

Philip Gigliotti, M.P.A.,² Quantitative Data Analyst

André Kiesel, M.A.,² Quantitative Data Analyst

Young Joo Park, Ph.D., M.P.P.,³ Quantitative Data Analyst

Dylan Roby, Ph.D.,⁴ Policy Analyst

Sarah Rain, B.A.,⁵ Qualitative Evaluation Lead

Sarah Drazak, M.S.,⁵ Qualitative Researcher

Amanda Rozsavolgyi, M.S.Ed.,⁵ Qualitative Researcher

Acknowledgements

Sharleen Brittell,¹ Administrative Support

David Holtgrave, Ph.D.,¹ Advisory Committee

Rose Greene, M.A.,⁵ Independent Evaluation Management Team

Benjamin Shaw, Ph.D., M.P.H.,¹ Advisory Committee

¹ School of Public Health, University at Albany, State University of New York

² Rockefeller College of Public Affairs and Policy, University at Albany, State University of New York

³ School of Public Administration, University of New Mexico

⁴ School of Public Health, University of Maryland

⁵ Center for Human Services Research, University at Albany, State University of New York

Table of Contents

Introduction – Brief Summary of the Independent Evaluation	7
New York DSRIP Program Terminology Guide.....	9
<i>Abbreviations.....</i>	<i>9</i>
<i>Performing Provider Systems.....</i>	<i>12</i>
<i>New York DSRIP Program Timeline of Demonstration and Measurement Years.....</i>	<i>14</i>
<i>New York DSRIP Program Implementation Timeline and Key Program Benchmarks.....</i>	<i>15</i>
1. Executive Summary.....	16
1.1. <i>State Context.....</i>	<i>16</i>
1.1.1. <i>Medicaid Redesign Team.....</i>	<i>16</i>
1.1.2. <i>The DSRIP Opportunity.....</i>	<i>16</i>
1.2. <i>New York’s Approach to DSRIP.....</i>	<i>17</i>
1.2.1. <i>Achieving the Triple Aim – Statewide Transformation through Regional Collaborations to Address Person-Centered Care.....</i>	<i>17</i>
1.2.2. <i>Focusing Across the Continuum of Care to Reduce Avoidable Hospital Utilization by 25%.....</i>	<i>18</i>
1.3. <i>Key Findings on Statewide Performance.....</i>	<i>19</i>
1.3.1. <i>Statewide Performance Measures.....</i>	<i>19</i>
1.3.2. <i>Attributed Population.....</i>	<i>24</i>
1.3.3. <i>Statewide Composite Measure of Project Success.....</i>	<i>24</i>
1.4. <i>Key Findings on PPS-level Performance.....</i>	<i>25</i>
1.4.1. <i>Performance Measures.....</i>	<i>25</i>
1.4.2. <i>Comparative Analysis Findings and Drivers of PPS Variation.....</i>	<i>29</i>
1.5. <i>Cost Analysis.....</i>	<i>29</i>
1.5.1. <i>Approach to the Cost Analysis.....</i>	<i>29</i>
1.5.2. <i>Cost Analysis Findings.....</i>	<i>30</i>
1.6. <i>PPS Implementation and Process and Partner Survey Findings.....</i>	<i>31</i>
1.6.1. <i>Successes of the New York DSRIP Program.....</i>	<i>31</i>
1.6.2. <i>Challenges of the New York DSRIP Program.....</i>	<i>33</i>
1.7. <i>Lessons from the New York DSRIP Program: Leading the Way in System Transformation.....</i>	<i>34</i>
1.8. <i>Limitations.....</i>	<i>40</i>
2. Demonstration Description.....	41
2.1. <i>New York’s Medicaid Crisis and the Medicaid Redesign Team.....</i>	<i>41</i>
2.2. <i>New York DSRIP Program Goals, Objectives, and Activities.....</i>	<i>43</i>
2.2.1. <i>Overview of Goals and Objectives.....</i>	<i>43</i>
2.2.2. <i>Conceptual Framework Guiding New York DSRIP Program Activities.....</i>	<i>45</i>
2.2.3. <i>Development of Performing Provider Systems.....</i>	<i>47</i>
2.2.4. <i>Selection of Projects by Performing Provider Systems.....</i>	<i>49</i>
2.3. <i>Attribution and Project Valuation.....</i>	<i>55</i>
3. Independent Evaluation Study Design	58

3.1. Research Questions and Hypotheses.....	58
3.2. Study Design for Evaluation of DSRIP Program Performance Measures.....	61
3.2.1. Overview of the Time Series and Comparative Analysis of Performance Measures.....	61
3.2.2. Data Sources for Performance Measures.....	65
3.2.3. Data Analysis.....	68
3.3. Study Design for Evaluation of DSRIP Program Costs.....	79
3.3.1. Overview of the Cost Analysis.....	79
3.3.2. Data Source for Cost Analysis.....	80
3.3.3. Data Analysis.....	83
3.4. Study Design for Evaluation of the Implementation and Process.....	85
3.4.1. Overview of Implementation and Process Study Design.....	85
3.4.2. Data Collection and Analysis for Key Informant Interviews.....	89
3.4.3. Data Collection and Analysis for Regional Partner Focus Groups.....	92
3.4.4. Data Collection and Analysis for Statewide Partner Survey.....	94
3.4.5. Data Collection and Analysis for Patient Survey.....	101
3.5. Study Limitations.....	103
4. Findings and Conclusions.....	108
4.1. Assessment of Changes in Hospital Utilization.....	108
4.1.1. Statewide Trends in Hospital Utilization.....	111
4.1.2. Comparative Analysis of Hospital Utilization Among Performing Provider Systems.....	120
4.1.3. Statewide Trends in Primary Care Utilization.....	133
4.1.4. Comparative Analysis of Primary Care Utilization Among Performing Provider Systems.....	140
4.1.5. Statewide Trends in Patient Experiences with Primary Care.....	156
4.1.6. Comparative Analysis of Patient Experiences with Primary Care.....	159
4.1.7. Qualitative Findings on Perceptions of the DSRIP Program’s Impact on Hospitalizations and Primary Care Utilization.....	166
4.2. Assessment of Changes in Behavioral Health Care Utilization.....	176
4.2.1. Statewide Trends in Behavioral Health Care Utilization.....	180
4.2.2. Comparative Analysis of Behavioral Health Care Utilization among Performing Provider Systems.....	188
4.2.3. Qualitative Findings on Perceptions of the DSRIP Program’s Impact on Behavioral Health Care Utilization.....	201
4.3. Assessment of Changes in Health Care Quality.....	209
4.3.1. Domain 3 Context and PPS Project Activities.....	211
4.3.2. Overall Perceptions of Changes in Clinical Care Quality.....	217
4.3.3. Cross-Cutting Health Care Quality Measures.....	218
4.3.4. Disease-Specific Health Care Quality Measures.....	242
4.4. Assessment of Changes in Health System Transformation.....	271
4.4.1. Overall Perceptions of System Transformation from Partners and Key Informants.....	273
4.4.2. Health Care Service Delivery Integration Projects and Metrics.....	278
4.4.3. Health Care Coordination Projects and Metrics.....	291
4.4.4. Health Care Utilization among the Uninsured, Non-Utilizing, and Low-Utilizing Populations Projects and Metrics.....	300
4.4.5. Partners’ and Key Informants’ Perceptions of the DSRIP Program’s Impact on Patient Care.....	309
4.5. Assessment of Changes in Population Health.....	315
4.5.1. Domain 4 Context and PPS Population Health Activities.....	317
4.5.2. Statewide Trends in Population Health Outcomes.....	326

4.5.3. Qualitative Findings on Perceptions of the Impact of the DSRIP Program on Population Health.....	348
4.6. <i>Assessment of Changes in Health Care Costs</i>	352
4.6.1. Analysis of Medicaid Expenditures Among DSRIP-Eligible Members.....	354
4.6.2. Perception of Health Care Costs among DSRIP Partners.....	369
4.6.3. Contextualizing Changes in Health Care Costs.....	370
4.7. <i>Successes and Challenges of Implementation and Process</i>	370
4.7.1. Start-up.....	372
4.7.2. Operations.....	383
4.7.3. Support Systems and Accountability Structures.....	418
4.7.4. Partners' and Key Informants' Perceived Outcomes and Observations.....	419
5. Policy Implications.....	429
5.1. <i>Interpretations of Conclusions</i>	429
5.1.1. Statewide Performance.....	429
5.1.2. PPS-level Performance.....	431
5.1.3. Cost.....	434
5.2. <i>Impact of the New York State DSRIP Program within the New York State Delivery System</i>	435
5.2.1. System Transformation and Collaborative Care.....	435
5.2.2. Sustainability.....	438
5.3. <i>DSRIP Program Impacts on the Overall Health Care Environment</i>	438
5.4. <i>Key Lessons from the New York DSRIP Program: Leading the Way in System Transformation</i>	439
6. DSRIP Program Interaction with Other State Initiatives.....	445
6.1. <i>Overview and Purpose</i>	445
6.2. <i>Population Health</i>	447
6.2.1. Descriptions of Population Health Programs.....	448
6.2.2. Interactions Between the DSRIP Program and Population Health Programs.....	450
6.3. <i>Care Integration</i>	451
6.3.1. Descriptions of Care Integration Programs.....	452
6.3.2. Interactions Between the DSRIP Program and Care Integration Programs.....	454
6.4. <i>Programs Supporting Health Information Technology</i>	455
6.4.1. Description of Health Information Technology (HIT) Connectivity and the State Health Information Network for New York (SHIN-NY).....	456
6.4.2. Interactions Between the DSRIP Program and Health Information Technology Activities.....	457
6.5. <i>Value Based Payment</i>	457
6.5.1. Descriptions of Value Based Payment Programs.....	458
6.5.2. Interactions between the DSRIP Program and Value Based Payment Activities.....	460
6.6. <i>Access to Care</i>	460
6.6.1. Descriptions of Access to Care Programs.....	460
6.6.2. Interactions between the DSRIP Program and Access Programs.....	462
6.7. <i>Conclusion – Progress and Opportunities</i>	463
Appendices.....	468
<i>Appendix 1. Projects Selected by Each Performing Provider System</i>	468

Appendix 2. Algorithm to Attribute Members for Valuation and Performance..... 480

Appendix 3. Additional Details on Research Questions and Hypotheses..... 484

Appendix 4: Documentation of PQI/PDI Exclusion..... 487

Appendix 5: Descriptive Statistics for Performing Provider System Characteristics..... 489

Appendix 6: Key Informant Interview Guides..... 493

Appendix 7: Focus Group Guide..... 501

Appendix 8: Statewide Partner Survey Instruments..... 504

Appendix 9: CG-CAHPS Survey..... 516

Introduction – Brief Summary of the Independent Evaluation

As a part of a competitive procurement process, the New York State Department of Health (NYS DOH) selected the State University of New York Research Foundation (SUNY RF) to conduct an independent evaluation of its Delivery System Reform Incentive Payment (DSRIP) program, as required in the Special Terms and Conditions (STC) of the 2014 Medicaid Redesign Team (MRT) Waiver Amendment. The SUNY RF implemented a robust, mixed methods evaluation of New York's DSRIP program to:

- Assess program effectiveness on a statewide level, with respect to the MRT Triple Aim;
- Obtain information on the effectiveness of specific projects and strategies selected and the factors associated with program success; and
- Obtain feedback from stakeholders, including Performing Provider System (PPS) administrators and providers and Medicaid members served under the DSRIP program, regarding the program's planning and implementation, and on the health care service experience under DSRIP reforms.

The evaluation consisted of a time series and comparative analysis component that analyzed DSRIP performance measures and an implementation and process component that triangulated data from PPS key informant interviews, regional partner focus groups, a statewide partner survey, and a patient survey to examine the New York DSRIP program's evolution and to provide a context for interpreting the DSRIP performance measures. Changes in New York Medicaid expenditures during the DSRIP program and how they varied by service categories were also examined. The DSRIP Independent Evaluation Plan Design was approved by the Centers for Medicare and Medicaid Services (CMS) on March 13, 2018.

This current report serves as the **final** Summative Report, the third of three reports based on all five years of the DSRIP program. A **preliminary** Summative Report was submitted to CMS in September 2020 and a **draft** Summative Report was submitted to CMS in March 2021 (see the exhibit below). An Interim Evaluation covering the first three years of the program was approved by CMS on October 2, 2019. This **final** Summative Report builds on the Interim Evaluation by including findings from all years of the DSRIP program, and the overall outcomes of the program. This **final** Summative Report also incorporates feedback from CMS on the **draft** Summative Report.

Timeline of Independent Evaluation Reports

Report Submission	Due Date
Final Interim Evaluation Report due to CMS	August 2, 2019
Preliminary Summative Report due from Independent Evaluator to NYS DOH	July 15, 2020
Preliminary Summative Report due to CMS	September 30, 2020
Draft Final Summative Report due from Independent Evaluator to NYS DOH	January 15, 2021
Draft Final Summative Report due to CMS	March 26, 2021
Final Summative Report due from Independent Evaluator to NYS DOH (pending CMS comments within 60 days)	May 2021 (see note)
Final Summative Report due to CMS (30 days post receipt of CMS comments)	June 30, 2021 (see note)

Source: CMS-approved Independent Evaluation plan.

Abbreviations: Center for Medicare and Medicaid Services (CMS), New York State Department of Health (NYS DOH).

Note: Dates in the table for the **final** Summative Report reflect the original anticipated dates based on submission of the **draft** Summative Report. CMS provided comments on the **draft** Summative Report to the NYS DOH on July 13, 2021, with the expectation that the **final** Summative Report would be submitted to CMS by August 12, 2021.

New York DSRIP Program Terminology Guide

Abbreviations

ACO	Accountable Care Organization
AHRQ	Agency for Healthcare Research and Quality
AST	Account Support Team
CAHPS	Consumer Assessment of Healthcare Providers and Systems
CG-CAHPS	Clinician & Group Consumer Assessment of Providers and Systems
CMS	Centers for Medicare and Medicaid Services
CRFP	Capital Restructuring Financing Program
DSRIP	Delivery System Reform Incentive Payment
DY	Demonstration Year
ED	Emergency Department
EHCPS	Essential Health Care Providers Support Program
EHR	Electronic Health Record
EMR	Electronic Medical Record
ETE	Ending the Epidemic
FQHC	Federally Qualified Health Center
HEDIS	Healthcare Effectiveness Data and Information Set
HIT	Health Information Technology
IA	Independent Assessor
IE	Independent Evaluation
LGBTQ	Lesbian, Gay, Bisexual, Transgender, and Queer
MACRA	Medicare Access and CHIP Reauthorization Act
MAPP	Medicaid Analytics Performance Portal

MAX Series	Medicaid Accelerated eXchange Series
MDW	Medicaid Data Warehouse
MY	Measurement Year
MRT	Medicaid Redesign Team
NCQA	National Committee for Quality Assurance
NewCo	New Corporation
NYC	New York City
NYS DOH	New York State Department of Health
P4P	Pay/Payment for Performance
P4R	Pay/Payment for Reporting
PCG	Public Consulting Group
PCMH	Patient-Centered Medical Home
PPR	Potentially Preventable Readmission(s)
PPS	Performing Provider System(s)
PPV	Potentially Preventable Emergency Room Visit(s), Full Attributed Population
PPVBH	Potentially Preventable Emergency Room Visit(s), Behavioral Health Population
QE	Qualified Entity
ROS	Rest of State
RQ	Research Question
SHIN-NY	Statewide Health Information Network for New York
SPARCS	Statewide Planning and Research Cooperative System
STC	Special Terms and Conditions
STD	Sexually Transmitted Disease
SUNY RF	State University of New York Research Foundation
SWAM	Statewide Accountability Milestones

VAP	Vital Access Provider
VBP	Value Based Payment

Performing Provider Systems

Acronym	Preferred Name	Counties Served
AHI	Adirondack Health Institute	Clinton, Essex, Franklin, Fulton, Hamilton, St. Lawrence, Saratoga, Warren, Washington
AFBH	Alliance for Better Health	Albany, Fulton, Montgomery, Rensselaer, Saratoga, Schenectady
BHNNY	Better Health for Northeast New York	Albany, Columbia, Greene, Saratoga, Warren
BHA	Bronx Health Access	Bronx
BPHC	Bronx Partners for Healthy Communities	Bronx
CCN	Care Compass Network	Broome, Chemung, Chenango, Cortland, Delaware, Schuyler, Steuben, Tioga, Tompkins
CNYCC	Central New York Care Collaborative	Cayuga, Lewis, Madison, Oneida, Onondaga, Oswego
CCB	Community Care of Brooklyn	Kings (Brooklyn), Queens
CPWNY	Community Partners of Western New York	Chautauqua, Erie, Niagara
FLPPS	Finger Lakes PPS	Allegany, Cayuga, Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Steuben, Wayne, Wyoming, Yates
LCHP	Leatherstocking Collaborative Health Partners	Delaware, Herkimer, Madison, Otsego, Schoharie
MCC	Millennium Collaborative Care	Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming
MHVC	Montefiore Hudson Valley Collaborative	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester
MSPPS	Mount Sinai PPS	Kings (Brooklyn), New York (Manhattan), Queens
NQP	Nassau Queens PPS	Nassau, Queens
NYPQ	New York-Presbyterian Queens PPS	Queens
NYP	New York-Presbyterian PPS	New York (Manhattan)
NCI	North Country Initiative	Jefferson, Lewis, St. Lawrence

Acronym	Preferred Name	Counties Served
NYUL	NYU Langone Brooklyn	Kings (Brooklyn)
OCH	OneCity Health	Bronx, Kings (Brooklyn), New York (Manhattan), and Queens
RCHC	Refuah Community Health Collaborative	Orange, Rockland
SOMOS	SOMOS	Bronx, Kings (Brooklyn), New York (Manhattan), Queens
SIPPS	Staten Island PPS	Richmond (Staten Island)
SCC	Suffolk Care Collaborative	Suffolk
WMC	WMCHealth	Delaware, Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

Source: Author's synthesis of DSRIP program materials.

New York DSRIP Program Timeline of Demonstration and Measurement Years

Demonstration Years		Measurement Years	
DY0	April 2014 – March 2015	MY0	June 2014
DY1	April 2015 – March 2016	MY1	July 2014 – June 2015
DY2	April 2016 – March 2017	MY2	July 2015 – June 2016
DY3	April 2017 – March 2018	MY3	July 2016 – June 2017
DY4	April 2018 – March 2019	MY4	July 2017 – June 2018
DY5	April 2019 – March 2020	MY5	July 2018 – June 2019

Source: Adapted from the New York State Department of Health DSRIP Timeline Poster.¹

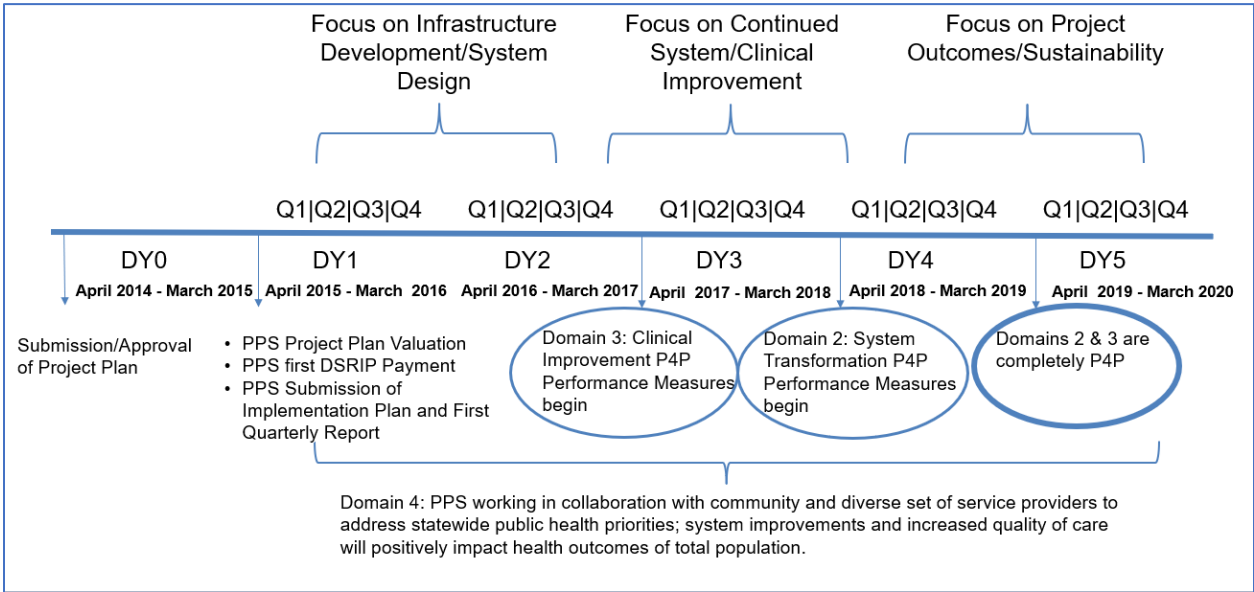
Abbreviations: Demonstration Year (DY), Measurement Year (MY)

Notes: The implementation and process component of the **final** Summative Report relied primarily on data collected by the Independent Evaluator and covered the period from the beginning of DY0 (April 2014) through the middle of DY5 (October 2019). The time series analysis and comparative analysis components of the **final** Summative Report relied on secondary data, collected according to measurement year, to assess New York DSRIP program performance from MY0 (June 2014) to the end of MY5 (June 2019) among Medicaid members attributed to the New York DSRIP program. The cost analysis in the **final** Summative Report relied on New York Medicaid fee-for-service claims and managed care encounter data, covering the entire 12 months of MY0 (July 2013 through June 2014) through the end of MY5 (June 2019), to assess expenditures for the DSRIP program-eligible population.²

¹ New York State Department of Health (2016, January). Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/2016/docs/2016-01-29_dsrip_timeline_poster.pdf

² The DSRIP program-eligible population was used for the cost analysis due to the longer pre-DSRIP program period (twelve months of MY0) for the cost analysis. The DSRIP program was not yet operational for most of the pre-period used in the cost analysis and PPSs did not exist; it was not feasible to retroactively assign PPS attribution during this time period.

New York DSRIP Program Implementation Timeline and Key Program Benchmarks



Source: Adapted from New York State Department of Health DSRIP overview materials.³

Abbreviations: Demonstration Year (DY), Pay for Performance (P4P), Performing Provider System (PPS), Quarter (Q)

³ New York State Department of Health (2016, October 21). DSRIP program: An overview (slide deck). Retrieved from http://medicaidmattersny.org/cms/wp-content/uploads/2016/10/Medicaid-Matters-DSRIP_102116-VF.pdf

1. Executive Summary

1.1. State Context

1.1.1. Medicaid Redesign Team

In 2010, New York's Medicaid system was on an unsustainable path. The Commonwealth Fund's 2009 edition of the State Scorecard on Health System Performance reported that New York ranked 50th in the nation for avoidable hospital use and costs, and 21st for overall health system quality.⁴ To address the Medicaid crisis, Governor Andrew M. Cuomo issued Executive Order No. 5 to create the New York Medicaid Redesign Team (MRT).⁵

The activities outlined in the MRT's multi-year action plan are organized along the Centers for Medicare and Medicaid Services' (CMS) Triple Aim framework:

- To **improve care**, New York worked towards creating fully-integrated care management for all Medicaid members, ensuring universal access to high quality primary care, implementing patient-centered medical homes (PCMH), developing a robust health care workforce for the 21st century, improving the interoperability of electronic health records, and improving behavioral health integration with primary care.
- To **improve health**, New York pursued strategies to reduce disparities in health outcomes, expanded access to affordable and supportive housing, and redesigned the Medicaid benefit to ensure access to clinically effective and efficiently delivered services.
- To **reduce costs**, New York developed a new statutory "global cap" on the state's share of Medicaid spending, conducted strategies to strengthen and transform the health care safety net, engaged in medical malpractice reform and payment reform, and revised state and local relationships around Medicaid financing.

1.1.2. The DSRIP Opportunity

After establishing the MRT's multi-year plan, New York sought a Medicaid Section 1115 waiver amendment to "allow the state to reinvest in its health care infrastructure as well as to give the state the freedom to innovate".⁶ In April 2014, CMS approved New York's Section 1115 Medicaid waiver amendment request allowing New York to reinvest \$8 billion of its anticipated

⁴ Commonwealth Fund. (2009, October). Aiming higher: results from a state scorecard on health system performance, 2009. Retrieved from https://www.commonwealthfund.org/publications/fund-reports/2009/oct/aiming-higher-results-state-scorecard-health-system-performance?redirect_source=/publications/fund-reports/2009/oct/2009-state-scorecard

⁵ Cuomo, A.M. (2011, January 5). No. 5: Establishing the Medicaid Redesign Team [executive order]. Retrieved from <https://www.governor.ny.gov/news/no-5-establishing-medicaid-redesign-team>

⁶ Ibid, p. 41.

\$17.1 billion federal savings over 5 years towards the MRT action plan, with \$6.42 billion of waiver funds allotted for its Delivery System Reform Incentive Payment (DSRIP) program.

1.2. New York's Approach to DSRIP

1.2.1. Achieving the Triple Aim – Statewide Transformation through Regional Collaborations to Address Person-Centered Care

To achieve its goals, New York's DSRIP program established 25 Performing Provider Systems (PPSs), regional coalitions of health and social care providers, to implement innovative demonstration projects across three domains: system transformation, clinical improvement, and population health improvement. The DSRIP program was not a uniform statewide approach and instead, each PPS was by design very different and encouraged to choose their own path towards transformation through different projects and implementations. The DSRIP demonstration would evaluate which PPS implementations had the most success so that the best practices and lessons learned could be applied statewide. In selecting demonstration projects, PPSs were required to choose strategies that responded to their communities' needs and to establish broad networks of local providers to address the continuum of care required by Medicaid members. In the early years of the demonstration the focus was on achieving metrics and milestones in infrastructure and system redesign and then shifted toward reaching clinical and population focused metrics.

The DSRIP program provided New York an important opportunity to incentivize Medicaid providers to create and sustain an integrated delivery system that meets the needs of Medicaid members in their local communities. Its primary stated goal was to reduce avoidable inpatient and emergency department hospital use by 25% over five years,⁷ and to use financial incentives to drive system transformation and improvement in clinical management and population health. Another unique aspect of New York's DSRIP program was that CMS structured four Statewide Accountability Milestones (SWAM) metrics to be applied for the last 3 years of the demonstration for performance at the statewide level as well as the PPS-level in order to earn the full payments:

1. Statewide performance on a universal set of performance metrics;
2. Success of projects statewide based on project-specific and population-wide quality metrics;
3. Growth in statewide total Medicaid spending that is at or below the target trend rate; and
4. Demonstrated progress toward ensuring 80 percent of managed care payments are value based by the end of the five-year demonstration period.

⁷ New York State Department of Health. (n.d.). DSRIP overview. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrp/overview.htm

Managed care payment reform and the transition to value based payment were meant to ensure that delivery system transformation would continue beyond the waiver period, provide near-term financial support for vital safety net providers at immediate risk of closure, and increase collaboration by requiring communities of eligible providers to partner on DSRIP projects.

1.2.2. Focusing Across the Continuum of Care to Reduce Avoidable Hospital Utilization by 25%

New York's DSRIP program took a holistic approach to system transformation to reduce avoidable hospital utilization by 25% over its five-year demonstration. By creating an integrated community-oriented delivery system that incorporated the full continuum of care, Medicaid members' needs could be addressed earlier and in more appropriate settings, resulting in improved outcomes, reduced avoidable hospital use, and lower costs. In focusing across the continuum of care to reduce hospital use, New York's DSRIP program specifically recognized the importance of promoting system transformation, addressing behavioral health needs, and facilitating partnerships between community-based organizations and health care providers to address the social determinants of health.

- **Promoting Integrated Delivery Systems:** The New York DSRIP program's comprehensive, multi-stakeholder approach to system transformation emphasized provider connectivity to reduce fragmentation and "siloes" health care. Coalitions of partners forming PPSs to work on specific projects necessitated collaboration, teamwork among diverse provider types, and investments in infrastructure development and capacity building to facilitate connectivity. Through shared data and accountability, providers were incentivized to understand and act on the common goal of improving care for Medicaid members. Local providers, many of whom may not have worked together previously, had to come together to plan, solve problems, and address Medicaid members' needs collaboratively.
- **Addressing Behavioral Health Needs:** Historically, payment and delivery systems for behavioral and physical health care have been separated even though both contribute to the overall health and well-being of individuals. Fragmentation and lack of coordination between behavioral and physical health care payment and delivery systems has contributed to poor outcomes and higher costs, including high rates of avoidable hospitalizations and spending on chronic physical conditions among Medicaid members with co-occurring physical and behavioral health conditions, and limited outpatient follow-up care after an acute inpatient admission.⁸
- **Partnering with Community-Based Organizations to Address Social Determinants of Health:** In transforming the delivery system to "whole-person" oriented care, the New

⁸ New York State Department of Health. (2011). A plan to transform the Empire State's Medicaid program. Better care, better health, lower costs multi-year action plan. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/mrtfinalreport.htm

York DSRIP program explicitly recognized the importance of addressing the social determinants of health. It is now commonly accepted that unmet social needs are a major determinant of health outcomes and health care spending. The New York DSRIP program encouraged and facilitated partnerships between health care providers and community-based organizations through projects that specifically identified and addressed unmet social needs among Medicaid members, inclusion of community-based organizations in PPS networks, and support for cross-sector collaboration.

1.3. Key Findings on Statewide Performance

1.3.1. Statewide Performance Measures

There are 18 statewide performance measures that constitute the first Statewide Accountability Milestone (SWAM 1). Analysis of trends for these 18 measures showed that New York made statewide improvements in most of the areas targeted by the DSRIP program. The Independent Assessor determined the state passed SWAM 1 each year it was assessed, beginning in Demonstration Year 3 (DY3) and through DY5. The DY5 results for the 18 measures constituting SWAM 1 are shown in Exhibit 1.2.1.i. This milestone was considered to be passed in any given year if more metrics in these domains were improving than worsening on a statewide level for the year, as compared to both the prior year and initial baseline performance.

The Independent Assessor determined that statewide performance maintained or improved on 13 of 18 of measures for DY5 of the DSRIP program period. Notably, potentially preventable readmissions maintained/improved, as did all measures of primary care, timely access, care transitions, and system integration. Although four access to care measures worsened during the DSRIP program period, performance on these measures tended to have high or very high baseline values (data not shown). Even with small declines during the DSRIP program period, performance on these access to care measures remained high.

Exhibit 1.3.1.i. Performance on Statewide Accountability Milestone 1 Measures for DY5, determined by the Independent Assessor

#	Statewide Category	Statewide Measure Name	MY5 vs. Baseline	MY5 vs. MY4
Statewide Performance Result			13/18	11/18
1	Potentially Avoidable Services	Potentially Preventable Readmissions (rate per 100,000)	Maintained/Improved	Worsened
2	Potentially Avoidable Services	Potentially Preventable Emergency Room Visits (rate per 100)	Worsened	Maintained/Improved

#	Statewide Category	Statewide Measure Name	MY5 vs. Baseline	MY5 vs. MY4
Statewide Performance Result			13/18	11/18
3	Potentially Avoidable Services	PDI-90-Composite of All Pediatric Measures	Maintained/Improved	Maintained/Improved
4	Potentially Avoidable Services	PQI-90-Composite of All Measures	Maintained/Improved	Maintained/Improved
5	Access to Care	Children's Access to Primary Care – 12 to 24 Months	Maintained/Improved	Maintained/Improved
6	Access to Care	Children's Access to Primary Care – 25 Months to 6 Years	Worsened	Worsened
7	Access to Care	Children's Access to Primary Care – 7 to 11 Years	Worsened	Worsened
8	Access to Care	Children's Access to Primary Care – 12 to 19 Years	Maintained/Improved	Worsened
9	Access to Care	Adult Access to Preventive or Ambulatory Care – 20 to 44 Years	Worsened	Worsened
10	Access to Care	Adult Access to Preventive or Ambulatory Care – 45 to 64 Years	Worsened	Worsened
11	Access to Care	Adult Access to Preventive or Ambulatory Care – 65 and Older	Maintained/Improved	Maintained/Improved
12	Primary Care	Percent of Primary Care Providers Meeting Patient-Centered Medical Home or Advanced Primary Care Standards	Maintained/Improved	Maintained/Improved
13	Primary Care	Primary Care – Usual Source of Care (CG-CAHPS)	Maintained/Improved	Maintained/Improved
14	Primary Care	Primary Care – Length of Relationship (CG-CAHPS)	Maintained/Improved	Worsened
15	Timely Access	Getting Timely Appointments, Care, and Information (CG-CAHPS)	Maintained/Improved	Maintained/Improved
16	Care Transitions	Care Coordination (CG-CAHPS)	Maintained/Improved	Maintained/Improved
17	System Integration	Percent of Eligible Providers Who Have Participating Agreements with Qualified Entities	Maintained/Improved	Maintained/Improved

#	Statewide Category	Statewide Measure Name	MY5 vs. Baseline	MY5 vs. MY4
		Statewide Performance Result	13/18	11/18
18	System Integration Meaningful Use Providers	Percent of Eligible Providers Who Are Able to Participate in Bidirectional Exchange	Maintained/Improved	Maintained/Improved

Source: Independent Assessor’s determination of New York’s performance on Statewide Accountability Milestone 1 for DY5 based on MY5 performance compared to baseline and MY4.

Abbreviations: Measurement Year (MY), Clinician & Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS)

Note: The Independent Assessor determined if New York passed this milestone beginning in DY3. The milestone was considered passed in any given year if more measures were improving than worsening on a statewide level, as compared to initial baseline performance and to the prior year. For the Independent Assessor’s determination, MY1 was used as the baseline period for all measures that began data collection in MY0 or MY1. The baseline period for the two measures of “system integration” was MY2. These baseline years differ from the MY0 baseline used in the Independent Evaluator’s analyses. The data for PQI-90 and PDI-90 used MY3 as the baseline period to assess this milestone in DY4 and DY5 due to the shift from ICD-9 to ICD-10. The PQI-90 and PDI-90 measures were excluded from the evaluation of this milestone in DY3.

The purpose of evaluating performance on the Statewide Accountability Milestones and the method for determining if performance met milestones agreed to by New York and CMS differ somewhat from the purpose and methods of the Independent Evaluation of the DSRIP program.⁹ However, New York’s achievement on the Statewide Accountability Milestones provides additional evidence that the DSRIP program has met its goals and provides a useful framework for presenting statewide performance based on the Independent Evaluator’s analyses.

The results of the Independent Evaluator’s statewide findings are presented in Sections 1.3.1.1 through 1.3.1.3, focusing on measures that comprised SWAM 1.¹⁰ All statewide analyses of performance measures were calculated based on member-level administrative claims and encounter data,¹¹ Consumer Assessment of Healthcare Providers and Systems survey data, or medical chart reviews. The exception is for the measures of providers’ adoption of health information technology and Primary Care Medical Home standards; those data were

⁹ There were three main differences. First, for the purposes of assessment of SWAM 1 measures, the Independent Assessor defined “statewide” as all Medicaid members in New York eligible for the DSRIP program, whereas the Independent Evaluator defined the statewide population as members attributed to a PPS with the exception of the Domain 4 population health measures where statewide refers to all persons living in New York. Second, the Independent Assessor used MY1 as the baseline for all measures that began data collection in MY0 or MY1, and the Independent Evaluator used MY0 Month 12 for all regression analyses. Third, while many of the SWAM 1 measures were also examined by the Independent Evaluator, the evaluation also had a focus on two additional avoidable hospitalization measures and four behavioral health measures.

¹⁰ The Independent Evaluation includes regression-based time series analyses and comparative analyses on measures of avoidable hospitalizations and behavioral health. The behavioral health outcomes are described in Section 1.4.

¹¹ Throughout this report, member-level and beneficiary-level are used interchangeably.

aggregated from provider-level data.¹² The statewide findings should be interpreted with caution. Factors such as growth in the Medicaid population and unexpected surges in utilization such as those seen with the opioid crisis can affect numerators and denominators of individual measures (i.e., clinical outcomes and the population included in the measure). Also, given that New York's DSRIP program was based on the efforts and performance of PPSs, statewide findings need to be considered in the context of the PPS-level findings described in Section 1.4.

1.3.1.1. Avoidable Hospital Use Outcomes

New York experienced notable reductions (improvements) in the rates of potentially preventable admissions (PPAs) and potentially preventable readmissions (PPRs) during the DSRIP program period, meeting or coming close to meeting the goal of reducing avoidable hospital use by 25%. Between MY0 (baseline for the purposes of the Independent Evaluation) and MY5, the PPA and the PPR rates declined (improved) by 26.1% and 18.1%, respectively. Although the PPA measure was not in the original evaluation plan, it was examined to supplement the PPR measure because there is a higher frequency of PPA events than PPR events, and reducing PPA events was an important component of the DSRIP program's main goal of a 25% reduction in hospital use. On the hospital admissions continuum, PPRs are very low frequency events and tend to measure a narrower band of more specific hospital clinical breakdowns and follow up care. In contrast, PPAs are higher frequency events and tend to measure population health efforts more broadly and as such, better measure the impact of multi-provider/community level efforts to keep populations healthy and out of the hospital.

Statewide interrupted time series was used to examine the statistical significance of changes in the PPR rate across the pre- and post-DSRIP program initiation time period.¹³ Findings showed that the downward trend in the PPR rate during the pre-DSRIP program initiation period ($p < 0.01$) had an initial improvement post-DSRIP program initiation ($p < 0.01$) but thereafter continued to have a downward trend but improved more gradually in the post-DSRIP program initiation period ($p < 0.01$). For measures with considerable room for improvement at baseline, such as measures of avoidable hospital use, it is not uncommon to see large initial improvements, with improvements then slowing over time.

Potentially preventable emergency department visits (PPVs) did not show as much improvement during the DSRIP program period as PPAs and PPRs, declining (improving) by 3.5% between MY0 and MY5. Statewide interrupted time series showed that the PPV rate did not change significantly during the pre- or post-DSRIP program initiation periods ($p > 0.1$ for the pre-DSRIP program trend, immediate change in the level post-DSRIP program initiation, and change in post-DSRIP program initiation trend). Smaller improvements in PPVs compared to PPAs and

¹² The Domain 4 measures are constructed from various data sources including surveillance systems, vital records, and health interview surveys. They represent the full New York population and are not limited to Medicaid members.

¹³ The PPA measure was only available on an annual basis, so statewide interrupted time series analysis was not used to assess formally whether the trend improved after the DSRIP program's initiation. The regression analyses focused on the measures of PPR and PPV.

PPRs during the DSRIP program period may be due to external factors or unintended consequences of improvements seen elsewhere. Newly eligible and enrolled Medicaid members, such as the Affordable Care Act (ACA) expansion population, may have been more likely to rely on emergency departments for primary care if they were not previously connected to community-based providers. There may also have been an unintended “cascade effect” of potentially preventable event reductions. It is possible that reductions in PPAs and PPRs may have resulted in higher PPVs, if preventable emergency department visits which previously led to an inpatient admission (and were captured as a PPA or PPR), instead now resulted in a discharge from the emergency department and were counted as a PPV.

The Independent Evaluator reviewed qualitative findings from the implementation and process component of the evaluation for possible further insight into the quantitative findings from analyses of statewide trends in avoidable hospitalization. However, there were no clear and consistent themes from the focus group, key informant interview, or PPS partner survey data that could explain some of the trends in the quantitative data such as the sharp decline (improvement) in the rate of potentially preventable readmissions at the start of the DSRIP program’s implementation.¹⁴

1.3.1.2. Health Care System Transformation

Multiple measures were examined to assess the New York DSRIP program’s progress on health care service delivery integration and health care coordination during the program period, important indicators of system transformation. The majority of these measures improved or remained steady, with substantial improvements in the two health information technology measures (participating agreements and bidirectional exchange) and PCMH achievement. All three of these statewide measures improved by at least 25% compared to baseline (participating agreements with Qualified Entities, 25.4% increase; bidirectional exchange with Qualified Entities, 39.3% increase; PCMH achievement, 29.6% increase).¹⁵

Partner survey respondents reported a high degree of satisfaction with the system transformation projects, and a strong majority of partners believed that the projects made a positive change in patient care. Supporting the partner survey results, a significant majority of PPS partners and administrators who participated in focus groups and key informant interviews emphasized improvements in patient care coordination as a result of the DSRIP program.

¹⁴ A strength of the evaluation is that qualitative data provided important contextual information about the DSRIP program’s implementation and operations. The qualitative data were also reviewed for any additional insight or explanations of the statewide interrupted time series trends seen in avoidable hospital use and behavioral health care service use. However, there were no clear or consistent themes from the qualitative data that would explain some of the statewide trends seen, including some of the more unexpected trends.

¹⁵ For the two HIT measures, data were only available for MY2 through MY5 due a change in how the data was collected between MY1 and MY2, and the baseline for the analysis is MY2. For the PCMH measure, data were available for MY1 through MY5 and the baseline is MY1. These measures were analyzed descriptively and not with regression analysis because they were only available on an annual basis.

1.3.1.3. Access to Primary Care Measures

Statewide performance on most access to primary care measures started at a high level of performance, in some cases, exceeding national commercial benchmarks. They remained high during the entire period of the DSRIP program making it challenging to achieve a 10% annual closure of gap to goal. Improvements were made in the percent of attributed Medicaid members with a usual source of care, the percentage who had seen their current provider for at least one year, and the percent reporting timely access to care.¹⁶

1.3.2. Attributed Population

The New York DSRIP program prospectively assigned members at the beginning of each measurement year based on the PPS provider networks submitted for that time period. Because Medicaid members were attributed to PPSs on the basis of their loyalty to providers (among other factors), the clinical and social case-mix could vary significantly across PPSs depending on the mix of providers in a PPS's network. Each year, PPSs were able to add new providers to their networks and they also had one opportunity to remove providers during the mid-point assessment.

Only considering statewide averages of performance measures can mask the high performance of some PPSs and underestimate the gains made in New York through its DSRIP program. Measures of statewide performance can be affected by several factors, including attribution methodology, growth in the DSRIP attributed Medicaid population, and unexpected surges in utilization. For example, the Independent Evaluator observed that denominators for the behavioral health care utilization measures changed substantially over the DSRIP program period, which may have impacted performance on these measures.¹⁷

1.3.3. Statewide Composite Measure of Project Success

Statewide Accountability Milestone 2 (SWAM 2) is a composite measure of success of projects statewide on project-specific and population-wide quality metrics. The New York DSRIP program set overall performance goals for each DSRIP program performance measure, with SWAM 2 evaluated by the Independent Assessor. These performance goals represented the best performance in New York and were the same for all PPSs. Annual Improvement Targets were set for each PPS using a methodology of reducing the gap to goal by 10% to earn the associated Achievement Value, which determined payment. Achievement Values could only be earned if a PPS met or exceeded its Annual Improvement Target and/or met the statewide goal. This statewide milestone is considered passed in any given year if the number of measures for each project that met their Achievement Values are greater than the number of measures for

¹⁶ These measures were analyzed descriptively as annual measures, and not with regression analysis.

¹⁷ Changes in the denominators for the behavioral health care utilization measures are discussed in Section 4.2. Although the Independent Evaluator was able to identify these denominator changes, the underlying reasons for these changes could not be determined by the Independent Evaluator.

each project that fail to meet their Achievement Values as per the improvement standard in the DSRIP Program Funding and Mechanics Protocol (Attachment I).¹⁸ New York has met this milestone for all three years where SWAM was applied (see Exhibit 1.3.3.i).

Exhibit 1.3.3.i. Performance on Statewide Accountability Milestone 2, determined by the Independent Assessor

Measure Type	MY3		MY4		MY5	
	Measures Available	% Measures Earned	Measures Available	% Measures Earned	Measures Available	% Measures Earned
P4R	256	100.00%	248	100.00%	248	100.00%
P4P – Non-Claims Based	593	55.31%	579	48.42%	581	40.10%
P4P	884	30.66%	1,078	30.33%	1,078	29.59%
Domain 2 Subtotal	1,733	49.34%	1,905	44.90%	1,907	41.95%
P4R	503	100.00%	741	100.00%	741	100.00%
P4P – Non-Claims Based	1	0.00%	117	71.79%	131	72.52%
P4P	465	47.10%	851	34.20%	839	33.97%
Domain 3 Subtotal	969	74.51%	1,709	65.30%	1,711	65.52%
Total	2,702	58.36%	3,614	54.55%	3,618	53.10%

Source: Independent Assessor’s determination of New York’s performance on Statewide Accountability Milestone 2.

Abbreviations: Measurement Year (MY), Pay for Reporting (P4R), Pay for Performance (P4P)

Notes: This statewide milestone is considered passed in any given year if 50% or more of the project performance measures met their Achievement Values as per the improvement standard in the DSRIP Program Funding and Mechanics Protocol (Attachment I). Data from MY3, MY4, and MY5 were used to assess the milestones for DY3, DY4, and DY5, respectively. The Independent Assessor determined that this statewide milestone was met for all three years it was applied. There is no fixed baseline year for comparison because the Annual Improvement Targets varied year-to-year.

1.4. Key Findings on PPS-level Performance

1.4.1. Performance Measures

As noted previously, New York’s DSRIP program was based on the efforts and performance of PPSs, which were responsible for an attributed population. Performance of each PPS was

¹⁸ Special Terms and Conditions Attachment I – NY DSRIP program funding and mechanics protocol, retrieved from https://www.health.ny.gov/health_care/managed_care/appextension/docs/2017-07-20_rev_att1.pdf.

ultimately dependent on the outcomes of each PPS's attributed population. The majority of individual PPSs improved on almost all measures examined in the *final* Summative Report during the DSRIP program period, with several PPSs making particularly large improvements on key performance measures.¹⁹

1.4.1.1. Avoidable Hospital Use Outcomes

Although the PPA rate was not a PPS performance measure, the Independent Evaluator added this measure to the analysis of avoidable hospital utilization due to its importance to the goals of the DSRIP program (see Section 1.3.1.1). Twenty-three PPSs experienced reduced PPA rates during the DSRIP program period and therefore improved on this measure between MY0 and MY5. Reductions for the top quartile of PPSs that improved between MY0 and MY5 ranged from 34.8% to 46.8%. Performing Provider Systems with the highest initial rates of PPAs tended to have the largest improvements. The two PPSs that did not improve during the DSRIP program period had only a modest increase in the rate of PPAs (1.7% and 3.0%). Overall performance represents an average of a range of individual PPS performance, and the majority of PPSs reduced measures of preventable hospital utilization, with a subset having surpassed the 25% improvement targets.

Nearly all PPSs (22 of 25) also experienced reduced PPR rates from MY0 to MY5 and therefore improved on this measure during the DSRIP program period. Reductions for the top quartile of PPSs that improved ranged from 27.8% to 60.0%. Similar to PPAs, PPSs with initially higher rates of PPRs (and thus more room for improvement) tended to experience the greatest improvements.

The majority of PPSs were able to reduce PPV rates both overall and among the behavioral health population (PPVBHs), but gains were slightly smaller than for PPAs and PPRs. Among PPSs in the top quartile of improvement in the two avoidable emergency department visit measures, reductions ranged from 16.5% to 32.5% for the overall attributed population and 16.7% to 41.3% for the behavioral health population, suggesting that some PPSs were able to successfully identify and implement approaches to reducing avoidable emergency department visits. By design, the New York DSRIP program allowed PPSs flexibility to adopt different projects and approaches to project implementation. Identifying “promising practices” among PPSs that did well on a given performance measure, such as PPVs, compared to other PPSs can then be leveraged statewide.

1.4.1.2. Behavioral Health Utilization Outcomes

Integration of behavioral health and primary care, and improvement in behavioral health overall was an important emphasis of the New York DSRIP program. With the exception of initiation of alcohol or drug treatment, the majority of PPSs were able to improve performance on behavioral health utilization measures, but improvement varied.²⁰ For example, 18 PPSs

¹⁹ Based on comparisons between MY5 and baseline performance.

²⁰ Based on comparisons between MY5 and baseline performance.

improved performance on children’s follow-up care for ADHD medications, but improvement varied from less than 1% to almost 24%. Improvements for the top quartile of PPSs that improved ranged from 10.0% to 23.9%. The largest improvements were among several of the smaller PPSs, limiting their influence on the overall statewide average. Similar patterns of performance were seen for measures of antidepressant medication management and adherence to antipsychotic medications. These findings should be interpreted cautiously. All four of the behavioral health measures experienced a notable increase in their denominators during MY1 and MY2, which may have had an impact on some of the performance measures.

1.4.1.3. Health Care System Transformation

Measures of health care delivery integration and health care coordination were used to assess PPSs’ progress on system transformation. There was high variability at baseline for both measures of health information capabilities, with many PPSs having substantial room for improvement. In MY2 the percentage of providers in PPSs who had participating agreements with Qualified Entities ranged from 38.3% to 98.7%.²¹ The majority of PPSs improved on this measure, with the six PPSs that started at the lowest levels at baseline showing the greatest improvement (between 33.7% and 110.7% improvement). By MY5, the percentage of providers in PPSs who had participating agreements with Qualified Entities ranged from 72.2% to 100%. Large improvements by many PPSs were also seen for the second health information technology measure. The percentage of providers in PPSs who conducted bidirectional exchange with Qualified Entities ranged from 18.3% to 87.9% in MY2. This range narrowed markedly by MY5, when it varied from 42.7% to 95.6%, with 24 of 25 PPSs at 55% or more.

Variation across PPSs in the adoption of PCMH standards also narrowed over time due to large improvements among PPSs that had the most room for improvement at baseline. In MY1, PCMH achievement ranged from 16.2% to 62.0%, with only three PPSs at 45% or more.²² Most PPSs improved on this measure, narrowing the range across PPSs from 22.4% to 59.9% at the end of the period. By MY5, eleven PPSs had at least 45% of their primary care providers meeting PCMH standards. Most PPSs started at high levels of performance on measures of up-to-date care coordination and care transitions and maintained high levels of performance throughout the DSRIP program period.

1.4.1.4. Clinical Management

Improvement in clinical processes and quality was reflected in PPS performance on several measures of clinical quality improvement related to chronic disease projects undertaken by PPSs. There were improvements comparing the start and end of the study period among 9 of the 10 PPSs that selected the diabetes projects²³ and all 13 PPSs that selected the asthma projects. Only a small number of PPSs selected the HIV/AIDS and perinatal care projects, so caution is warranted when interpreting PPS performance on outcomes associated with these

²¹ MY2 was used as the baseline because a different methodology was used for this measure in MY1.

²² For the PCMH measure, data were available for MY1 through MY5.

²³ For the diabetes control measure, data were only available for MY2 through MY5, no pre-DSRIP initiation period data were available.

projects. The one PPS that selected the comprehensive HIV/AIDS care project experienced improved performance from MY0 to MY5 on two of the four HIV/AIDS measures, viral load monitoring (8.7% improvement) and syphilis screening (2.1% improvement). The four PPSs that selected the perinatal project improved performance from the start and end of the study period on blood lead level screening, with improvement ranging from 4.2% to 14.8%. Findings on the two other perinatal measures were somewhat mixed, although the four PPSs started at different levels on these measures. Most PPSs started at high levels of performance on the cross-cutting measures used to assess aspects of care quality (e.g., health literacy and smoking cessation) and maintained high performance during the entire program.

1.4.1.5. Population Health

Over half of the population health measures improved (13 of 22 measures improved and another five measures remained steady). These provide a snapshot of New York's progress towards meeting its Prevention Agenda goals. Because it was anticipated that there would be a larger lag time between the implementation of the DSRIP program and changes in population health measures and the data sources used for the population measures covered the larger statewide population beyond Medicaid members, population health measures were only examined at the statewide level to provide a snapshot of New York's trends during the DSRIP period.

1.4.1.6. PPS-level Performance Considerations

Although PPSs may have had steady improvements over time, they were not necessarily financially rewarded for these steady improvements if they did not meet the annual improvement target of 10% improvement over the previous year or did not meet the statewide goal. For example, a PPS that improved its annual rate of a measure by 7%, 5%, and 8% in MY3, MY4, and MY5 would have made important improvements on the measure but would not necessarily have met the threshold for any incentive payments. Missing an incentive payment by a small percentage on a given measure may have had a "chilling effect" on subsequent PPS performance efforts if a PPS determined that even with additional efforts, they still might not reach the threshold required for payment.

Performance measurement was not adjusted for case-mix of members or variability in the provider networks. Furthermore, members may have been reassigned to different PPSs throughout each year, and thus a PPSs' year-end performance may not fully reflect improvements among members who were reattributed to another PPS during the year. For many measures examined, there were notable changes in the denominators (e.g., the number of persons with specific mental health conditions for the behavioral health measures). The measure results are cross-sectional snapshots of PPS performance at a single point in time, and do not capture the dynamics of members being added to the DSRIP program or shifting across PPSs over time, or other changes in healthcare utilization as a result of the opioid crisis. Newly enrolled Medicaid members, for example, who entered the program at various points after the start of the DSRIP program would not have benefited from the full five years of the DSRIP

program, making it more difficult to realize improvements on some outcomes during the demonstration period.

1.4.2. Comparative Analysis Findings and Drivers of PPS Variation

The comparative analysis examined the association between seven PPS-level characteristics (size of attributed population, New Corporation (NewCo) status versus pre-existing lead entity, hospital system versus other lead entity type, geographic location, health status of members, racial composition of members, and average age of members) and performance outcomes. Comparative analyses were only performed for the claims-based measures used to assess preventable hospital utilization and behavioral health care service utilization.

Findings related to the PPS characteristics associated with higher or lower performance during the program period were mixed for both the avoidable hospitalization and behavioral health measures. Overall, none of the factors consistently explained differences in performance across PPSs. Generally, however, PPSs with healthier populations tended to have better outcomes, suggesting that risk adjustment may be appropriate when measuring performance of entities such as PPSs.

1.5. Cost Analysis

1.5.1. Approach to the Cost Analysis

The Independent Evaluator addressed whether the DSRIP program reduced health care costs by analyzing changes in expenditures for different categories of health care services over time using New York Medicaid claims and encounter data.²⁴ Examining changes in expenditures by category allows for a nuanced view of specific services that had higher or lower utilization over time and provided detailed information on how New York progressed in its efforts to reduce avoidable hospital use and focus on behavioral health. The method to develop the cost data also allowed for an additional 12 months of pre-DSRIP program data.²⁵ Because the DSRIP program was not in place during the full twelve-month MYO period, it is not possible to determine retroactively which members would have been enrolled in the DSRIP program and therefore the cost analysis focused on the Medicaid members who would have been eligible for the DSRIP program.²⁶

²⁴ The claims and encounter data used for the cost analysis are maintained by Salient Management Company on behalf of the NYS DOH.

²⁵ Unlike the analyses of DSRIP program performance measures, the cost analysis includes twelve months of MYO data.

²⁶ The performance measures used for the other research questions were limited to the *attributed* population, whereas the *eligible* population examined for the cost analysis includes both attributed and non-attributed members which can be interpreted as an “intent-to-treat” (versus “as-treated”) analysis. The performance measures use 12-month moving averages, whereas the expenditure data reflect services delivered in a given month.

While the initial evaluation plan called for an evaluation of cost-effectiveness that included assessment of the “incremental costs of each life-year gained or of hospital readmissions of the traditional and DSRIP Medicaid programs,” this analysis was not feasible to complete.²⁷ An incremental cost-effectiveness ratio requires a comparison group receiving the “status quo” medication or intervention, which in this case would be the traditional Medicaid program. However, there was no equivalent comparison group available. Even if it was possible to create equivalent comparison groups for analysis, an incremental cost-effectiveness ratio using hospital readmissions would have required tracking a consistent cohort of members in the intervention and control groups. This was impractical due to churning in the Medicaid program (i.e., members changing their Medicaid status over time due to gaining or losing private health insurance, transitioning to different Medicaid eligibility categories such as low-income parents, etc.), the increase in Medicaid eligibility under the ACA Medicaid expansion, and churning within the Medicaid program between managed care plans. The wide variety of clinical quality projects whereby PPSs focused on different diseases, combined with the ICD-9 to ICD-10 transition that prevent an ability to trend over time, make it impractical to focus on changes in clinical outcomes and translate those into life years saved.

1.5.2. Cost Analysis Findings

Total annual expenditures per member per month (PMPM) increased by 1.9%, from \$465.83 PMPM in MY0 to \$474.81 in MY5; however, changes in expenditures varied across categories.²⁸ Inpatient and emergency department expenditures per member per month (PMPM) decreased by 11.9% and 8.4%, respectively, from MY0 to MY5. Although the declines in hospitalization expenditures were consistent with expectations that these would decrease, most of the decline was between MY0 and MY1, before full implementation of the DSRIP program, and the extent to which the declining hospitalization expenditures are attributable to the DSRIP program is inconclusive. However, these expenditure results are consistent with the Independent Evaluator’s findings of overall statewide reductions (improvements) in potentially preventable hospital and emergency department utilization (see Section 1.3.1.1).²⁹

Primary care and behavioral health expenditures per member per month (PMPM) decreased by 4.6% and 3.7%, respectively, from MY0 to MY5. These expenditures initially had a notable decline from MY0 to MY1 followed by an increase in the last two years. The pattern of an initial

²⁷ Additional details on the infeasibility of a formal cost-effectiveness analysis are discussed in Section 3.3.3.

²⁸ Expenditures are inflation adjusted to 2019 dollars, which was the last year of the DSRIP program.

²⁹ As explained in Section 1.5.1. and footnote 26, the performance measures used for the other research questions were limited to the *attributed* population, whereas the *eligible* population examined for the cost analysis includes both attributed and non-attributed Medicaid members. Although the populations examined for the cost analysis and performance measure analysis differ somewhat and cannot be compared directly, contextualizing the cost analysis with findings from the analysis of performance measures can help provide a more complete picture of the DSRIP program time-period.

decrease prior to the DSRIP program's implementation and reversal of the trend indicates modest support for expectations that expenditures for these services would increase. Although counter to expectations there was a small overall decrease in primary care expenditures between MY0 and MY5, there were several notable achievements in primary care quality outcomes during this time period, including improvements in diabetes control, asthma medication management, adults receiving a flu shot, and patients advised to quit smoking/tobacco cessation.

The health home category had a small absolute increase of \$2.28 PMPM, but it had a notable 62.5% increase which reflects the state's efforts to expand this program. The largest share of the increase was attributable to the ambulatory care, pharmacy, and long-term care categories. With the exception of ambulatory care, the largest share of increases occurred in spending categories outside of the DSRIP program focus.

1.6. PPS Implementation and Process and Partner Survey Findings

1.6.1. Successes of the New York DSRIP Program

Most PPS key informants, focus group participants, and partner survey respondents believed that the New York DSRIP program succeeded in laying a strong foundation for changes to the health care system and that those changes often translated to improved care for Medicaid members. Improvements in five key areas were frequently cited: stronger and more effective care collaborations, integration of primary care and behavioral health, cultural shifts, innovation, and training and infrastructure improvements. These are described in more detail below.

Performing Provider Systems' ability to improve collaboration among local providers and focus on "whole-person" care may best be demonstrated by their response to the COVID-19 pandemic. Near the end of the DSRIP program, the COVID-19 pandemic was spreading rapidly in New York and approaching the first peak within the United States. Due to the strong community collaborations developed through the DSRIP program, PPSs and their partners were able to mobilize and respond relatively quickly and effectively to the COVID-19 crisis (see Section 5.2.1 for specific examples).³⁰

Stronger and More Effective Care Collaboration

Performing Provider System partners and key informants believed that stronger and more effective care collaborations between providers led to improved care coordination and better care transitions. About two-thirds of partner survey respondents in 2019 perceived that the DSRIP program resulted in more coordinated care. At the time of the partner survey in fall 2019, respondents would have been able to consider most of the time period covered by the

³⁰ New York State Department of Health, Office of Health Insurance Programs (2020, May). New York DSRIP 1115 Quarterly Report. January 1, 2020-March 31, 2020. Year 5, fourth quarter. Retrieved from: https://www.health.ny.gov/health_care/medicaid/redesign/dsrp/quarterly_rpts/year5/q4/v5_q4_rpt.htm

DSRIP program in considering the program's impact. Partners were especially satisfied with DSRIP program projects related to care coordination and collaboration, such as development of community-based navigation services, and rated these projects among the most effective of all projects. The development of new relationships between community-based organizations and health care providers afforded a greater ability to address a wider range of patient needs. Partners reported that patients were connected to health homes, received more appropriate referrals to both specialists and community-based organizations, received more integrated behavioral health services, and experienced more support after hospital discharge.

Integration of Primary Care and Behavioral Health

Integration of primary care and behavioral health led to improvements in the quality of the care received in both areas. It reduced barriers to receiving behavioral services and increased the likelihood that behavioral health patients would receive primary care. There was an increased awareness of the connections between behavioral health and physical health and a realization that these systems should not be segregated.

Cultural Shifts

Cultural shifts increased attention to population health and awareness of social determinants of health. Many practices became certified as PCMH; this certification evidences a higher level of integration of behavioral health, care coordination and population health capacities. Hospitals began collaborating with community providers and organizations to devise new strategies to reducing admissions, which was viewed as a significant paradigm change given the traditional financial incentives that rewarded providers for volume. Institutional and community-based providers of various services jointly formulated local strategies to address barriers to achieving performance outcomes.

Innovation

The DSRIP program encouraged partners to work on innovative programs, permitting them to experiment and pilot programs which they may not have attempted otherwise. The funding provided more flexibility and creativity than budgets typically allowed. While these programs were not necessarily transforming the entire delivery system, they filled important gaps and tested ideas for new interventions.

Training and Infrastructure Improvements

Many partners received opportunities to receive trainings and update data infrastructure that would not have occurred without the DSRIP program. This included value based payment preparedness activities.

Consistent with the most commonly cited improvements resulting from the DSRIP program, the majority of partner survey respondents reported that the DSRIP program was at least moderately effective, changed population health for the better, and that services at their organization or clinical care had changed for the better due to the DSRIP program. These

findings held for the partner surveys fielded in the early years of the program as well as the later years of the program.

1.6.2. Challenges of the New York DSRIP Program

Some key informants and focus group participants described some challenges to effectively changing the health care system through the DSRIP program, including: insufficient time to make changes, lack of partner buy-in, difficulties with changing hospitals' practices, limited engagement with managed care organizations, and concerns among community-based organizations about demonstrating their value.

Not Enough Time to Make Changes

Many study participants did not think that five years was enough time to make a substantial difference in health care delivery because of all the system-level changes that needed to take place.

Lack of Partner Buy-in

Some PPS key informants believed that a subset of providers were waiting for systems to go back to "business as usual" at the end of the DSRIP program. They felt that these providers were fulfilling their contractual obligations but not making fundamental changes to their service models.

Hospitals Not Fundamentally Changing

Some study participants questioned the amount of control hospitals had over the PPSs. They noted that hospitals remained incentivized to admit patients, which fundamentally conflicted with the goals of the DSRIP program.

Lack of Engagement of Managed Care Organizations

Managed care organizations were perceived as integral to system transformation, but they had little participation in the DSRIP program.

Community-based Organizations

Many community-based organizations remained unsure of how they would be able to demonstrate their value to negotiate value based contracts.

1.7. Lessons from the New York DSRIP Program: Leading the Way in System Transformation

New York's DSRIP program represented an ambitious effort to transform its Medicaid delivery system. Lessons learned from New York's experience and both the successes and challenges of its DSRIP program can be informative to the federal government and other states pursuing system transformation.

Bringing population health improvement to scale is challenging and requires time, effort, and preparation, with continuous feedback and adjustments.

Programs to bring population health improvement to scale are complex and challenging, especially in the context of a five-year demonstration program. It requires policymakers to determine how to sequence dollars in a way that provides flexibility yet ensures accountability. This is particularly challenging in the early stages, when infrastructure is being built as entities are also learning which activities drive outcomes. Early planning on the part of both policymakers and system transformation participants is needed to translate ideas into a concrete plan. New York's DSRIP program built in a planning year prior to the start of the first year of its DSRIP program (referred to as DY0). This year provided emerging PPSs with time for planning, assessment, and project development, yet still required PPSs to quickly pivot to implementation by the beginning of the first demonstration year. States must also decide how they will reward entities for the infrastructure building needed to create a local integrated delivery system. Rewarding the development of organizational components, the structure of how to bring resources to individuals, and overall preparedness more broadly may be more appropriate in the capacity building stage than rewarding levels of specific individual inputs.

Even with careful planning, early implementation and operations are likely to encounter challenges, especially when under tight timelines. Early challenges can be overcome with clear and frequent communication and adequate support structures. Systemwide change also requires continuous feedback, and adjustments throughout the process when necessary. When using time-limited demonstration programs such as DSRIP to reform delivery systems, early sustainability planning is also important. States can begin making positive systemwide changes in a relatively short period of time, but to ensure that these reforms are maintained and continue to evolve, careful thought must be given to sustainability and may require multiple approaches for sustaining changes.

It is important to invest in a structure outside of the current delivery system that can focus solely on changing the status-quo and reform efforts.

Changing a health care system with deeply embedded interests and cultures is difficult, especially in a still largely fee-for-service environment that incentivizes volume over value and fragmented delivery of care. A structure and team outside of the current delivery system that

focuses solely on systematic improvements through practice redesign and implementation of evidence-based care can be a much more effective change agent than the isolated efforts of individual providers and organizations. The goal is not to create another administrative layer, but to create and invest in a structure that can take on the day-to-day responsibility of driving change and supporting providers to make that change happen. In the case of the New York DSRIP program, PPSs served this role. The PPSs were responsible for building infrastructure and capacity, improving clinical processes, and strengthening and leveraging partnerships in their networks. One of the key successes of the New York DSRIP program was increasing collaborative, team-based care across providers to work towards a shared goal of reducing preventable hospitalizations. Many of the relationships built through the DSRIP program happened because there was a PPS team that could connect partners within their network and align efforts towards a common goal.

Attribution methods should align with the transformation goals. These methods can be complex, and care is needed to think prospectively about data infrastructure requirements. It is critical to strike the right balance between the complexity required for accurate member assignment and the simplicity needed to broadly communicate the methodology to all stakeholders.

Attribution is the method of assigning patients to providers and networks of providers who are accountable for their care. It is a foundational part of delivery system reform, especially when payments are tied to performance. There is no single accepted method for attribution, and all methods have both strengths and limitations. In developing an attribution method, it is important to align the method of attribution with the overall goals of delivery system transformation. Attribution methods should support both accountability and resource allocation, which can be challenging and result in complex attribution algorithms.

New York attributed Medicaid individuals on the basis of geography, actual use of services, and enrollee-specific needs. New York recognized that some high-needs Medicaid members have close relationships with specialty providers and built that into its attribution algorithm. Therefore, when multiple PPSs were in a geographical area, individuals were attributed to PPSs based on a hierarchy of health care settings/providers where Medicaid members received most of their services. The hierarchy recognized the primacy of important patient-provider relationships such as those with behavioral health providers that were not traditionally recognized in attribution methodologies. By recognizing other providers, the methodology identified providers most accountable for patient care.

Attribution for *performance* in the New York DSRIP program refers to the approach used to assign Medicaid members to providers and their affiliated PPSs for the purpose of performance

measurement.³¹ Populations for performance measurement were not fixed and could change for several reasons, including patient movement, changes in patient utilization patterns, and network changes. From an evaluation and payment standpoint, shifting attribution may mask observed improvements among PPSs with sudden shifts in their attributed populations. If attribution for performance approaches similar to New York are used, risk adjustment may be necessary to account for differences in case-mix and the social needs of the population used to measure performance. Because of these challenges, states and other entities need to carefully consider the strengths and limitations of prospective and retrospective attribution methods and weigh them against the intended goals of the program.

Embracing meaningful patient-centered care is important, especially for the hardest-to-reach populations.

Patient-centered care is considered a critical aspect of quality and health system transformation. Recognizing the importance of patient-centered care to system transformation, the New York DSRIP program expected all primary care practices to meet 2014 National Committee for Quality Assurance (NCQA) Level 3 PCMH standards by the end of Demonstration Year 3. This was an important step towards building capacity and changing the system from provider-centric to patient-centric. New York DSRIP program stakeholders also recognized that patient-centered care is more than simply meeting PCMH requirements. It is about embracing true culture change all along the continuum of care, and introducing models of care that reflect that focus. It is particularly important to identify and connect the hardest-to-treat populations with care, such as those with mental health conditions (e.g., schizophrenia, bipolar disorder, depression) and co-occurring chronic physical conditions (e.g., diabetes, heart disease). Ultimately, the goal should be bringing redesigned team-based care to patients and redesigning the care interface so that it's more patient-centric.

Early sustainability planning is necessary, especially if value based payment is meant to be a pathway to sustainability. It takes time for entities to organize in a way that allows them to assume risk and therefore it is also important to engage managed care organizations in population health management efforts.

Value based payment is the cornerstone of most current efforts to transform the delivery system. Recognizing this, New York undertook Medicaid payment reform in parallel to its DSRIP

³¹ New York's DSRIP program distinguished between attribution for valuation and attribution for performance. Attribution for valuation was used to assign Medicaid members, and in some cases the uninsured, to a PPS for the purpose of project valuation. It was calculated early in the program and did not change over time. Attribution for performance was used to assign Medicaid members to providers and their affiliated PPSs for the purpose of performance measurement.

program, guided by its Value Based Payment Roadmap.^{32,33} However, it takes time and resources for individuals or networks of health and social services providers to develop the understanding, infrastructure, and capacity to allow them to assume financial risk. The New York DSRIP program was important for educating providers and organizations on the fundamentals of value based payment. The upside risk built into the DSRIP program also helped in preparing providers and organizations to accept downside risk in the future.

For most PPS network providers, the DSRIP program was not long enough for them to readily assume downside financial risk by the end of the program. Therefore, it is important to engage managed care organizations early when undertaking system transformation efforts. System transformation may require managed care organizations to continue to hold most of the financial risk in the near term, with providers accepting progressively more risk over time to change the incentive towards outpatient care and avoiding unnecessary hospitalizations. Managed care organizations may be able to create flexible payment mechanisms to fund some of the most promising practices in system transformation and provide timely data to entities implementing them. By involving managed care organizations early in discussions around population health management and its related activities, managed care organizations and providers affiliated with PPSs or similar entities are more likely to see themselves as partners that share a common goal rather than competitors.

In moving towards value based payment approaches that align with system transformation efforts, it is also important to consider arrangements that support broad provider networks across the continuum of care, including community-based organizations that address the social determinants of health. Special efforts may be required to prepare and include community-based organizations in value based arrangements. New York's Value Based Payment Roadmap started laying the groundwork for broader networks of care by requiring certain value based payment arrangements to include social determinants of health interventions and contractual agreements with one or more community-based organizations that do not provide Medicaid-billable services.³⁴ Medicaid programs looking to align value based payment arrangements with delivery system transformation should consider ways to engage community-based organizations more directly in value based payment contracting.

A performance-based reward structure that ties payment to both progress towards and attainment of objective performance is necessary to drive change.

³² New York State Department of Health, Medicaid Redesign Team (2015). A Path toward Value Based Payment: New York State Roadmap for Medicaid Payment Reform. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/vbp_reform.htm.

³³ New York's Medicaid payment reform required all Medicaid managed care organizations to shift 80-90% of provider payments from fee-for-service to value based payment arrangements by the end of the DSRIP program.

³⁴ Specifically, New York required value based contractors (those entering into a value based payment arrangement with a Medicaid managed care organization) entering Level 2 (shared savings and loss) or Level 3 (capitated) arrangements to include at least one Tier 1 community-based organization. New York defines Tier 1 community-based organizations as non-profit, non-Medicaid billing community-based social and human services organizations.

In order to drive system change, performance-based reward structures that reward both process and outcomes can be useful for incentivizing change. Performance payments to PPSs in New York's DSRIP program were based on a mixture of Pay for Reporting and Pay for Performance. Pay for Reporting was useful for building early accountability, ensuring that PPSs were making progress towards infrastructure-building, and giving PPSs time to implement projects that would eventually transition to Pay for Performance.

When payments are tied to performance outcomes, it is important to reward both incremental improvement as well as attainment of goals. The New York DSRIP program set annual performance measure improvement targets using a methodology of reducing the gap to goal by 10% to earn the Achievement Value, which determined payment. New York's gap to goal approach did account for smaller gains in subsequent years as performance improved toward the end goal. However, PPSs were only rewarded if they met the annual performance targets; they were not rewarded if the annual target was not met. This meant that PPSs that made significant annual or even multiple year improvements, but did not quite meet the 10% goal in a single year, were not rewarded for those achievements. Mechanisms to reward both attainment of performance targets and improvements can incentivize providers to continue improvement efforts and prevent providers from focusing only on areas where they are likely to meet performance targets. Additional incentives for sustained meaningful change should also be considered, such as looking at performance over multiple years rather than just annually. Similarly, steps may be necessary to reward providers for maintaining high performance on measures for which performance is already at the upper end of the measurement scale or to exclude performance goals where they have been consistently at high levels. Annual changes in performance levels for these measures are more likely to reflect random variation and not changes in actual performance.

Payment systems based on performance may also need to account for differences in case-mix to avoid penalizing providers who may be caring for a patient population that is sicker than average or has greater social needs.

Data is central to population health models of care.

Population health models and value based payment arrangements require timely access to clinical, administrative, and financial data and the ability to share data across providers. States pursuing delivery system transformation must address multiple issues that influence providers' ability to obtain, analyze, use, and share data. Although steps taken to strengthen access to and use of data will depend on a state's existing infrastructure and regulatory framework, considerable capacity building efforts are required early on and are likely to evolve over time. Key decisions must be made to determine which data are most important, develop data structures, create data sharing standards and protocols, identify or develop useful data curation platforms, determine ways to integrate clinical and administrative data, and provide technical support to partners when needed. These decisions need to consider the state's regulatory and

legal framework for privacy, which may require adaptation to meet evolving delivery system needs while at the same time protecting patient privacy.

Given the important but complex nature of health information technology and data, states also need to be prepared for the unexpected. Even with careful planning, unexpected issues will arise and will need to be addressed along the way. For example, New York recognized the importance of getting data to providers early in the DSRIP program and was able to provide claims and highly curated monthly updated gap to goal reports by performance measure to PPSs. However, during the demonstration period several issues arose in New York unrelated to the DSRIP program that had an impact on data used for the DSRIP program. For example, unforeseen cyber incidents across industries including health care caused New York to require new security safeguards for PPS and state Medicaid data that impacted the ability and extent of data-sharing. Another instance was a change in the Medicaid managed care encounter intake system (EIS) that occurred between the first two measurement years of the DSRIP program. This change affected how emergency department encounters were reported, which subsequently affected results of the potentially preventable emergency department visits measures. This required adjustments to the data to account for the changes and ensure that potentially preventable emergency department visits were calculated accurately.

There is a need for measures to evolve and to be more inclusive of social determinants of health.

Performance measures should align with the specific goals of system transformation. Ideally, measures will reflect the outcomes of care and not just processes of care, which may or may not be directly tied to outcomes. However, this requires additional work to expand the availability of valid and reliable outcome measures. Likewise, if the goal of delivery system transformation is to shift to “whole-person” care, including addressing the social determinants of health, there is a need to measure health and social well-being more broadly.

Recognize the need for local solutions.

Local health care providers and community-based organizations that deliver social and human services are most familiar with the needs of their local populations. Systemwide transformation should therefore recognize the need for local solutions and realize that a “one-size-fits-all” approach is unlikely to be successful. Incentives for local providers to integrate delivery and to engage in shared goals are important.

Applying learnings.

Ultimately, New York’s DSRIP program succeeded in demonstrating significant progress towards both the MRT and DSRIP program stated goals and laid the foundation and pathways for successful and promising practices to continue. Given the enormity of the undertaking to redesign NY’s Medicaid delivery system, it is perhaps not surprising that the limited time to make substantial changes, or sufficient time for the changes to demonstrate improvement, was

raised as a challenge by the DSRIP key informants. The performance improvements demonstrated, the system capacity built, the promising practices identified, and the lessons learned along the way should prove valuable to inform the design and guide the implementation of continued improvement efforts beyond the DSRIP program. Through application of the findings of this study, as well as attention paid to the continuously evolving healthcare and social service landscape, responsive, strategic investments in the delivery system that reward value can further progress New York Medicaid in achieving the Triple Aim.

1.8. Limitations

A complete listing of the quantitative, qualitative, and cost analyses limitations is included in Section 3.5 and the key limitations are described briefly below.

- The implementation process data are subject to the standard interview and focus group limitations, such as non-response bias and social desirability bias. The implementation and process data provided important contextual information about the DSRIP program's implementation and operations. However, no clear and consistent themes emerged from the data that could explain some of the statewide trends in the performance measures (e.g., sharp increases or decreases in some of the avoidable hospital measures).
- A small number of pre-DSRIP program observations limits the assessment of the DSRIP program's effect on statewide trends. The Independent Evaluator explored the possibility of using Medicaid-member level data to reconstruct the measures for the study period and to retroactively develop additional data points to provide a longer pre-DSRIP program initiation period. However, it was determined this was not feasible for several reasons, including those described briefly below and in more detail in Section 3.2.1.
 - The NYS DOH elected to use the nationally-recognized, industry standard 3M definitions for the preventable hospital utilization measures (PPA, PPR, and PPV). Due to limitations with the 3M grouper output, calculation of performance for these measures could not be replicated retrospectively. Alternative claims-based measures of preventable hospitalizations could not be trended over time due to changes in diagnosis and procedures codes during the DSRIP program period.
 - Although avoidable hospitalization was a key goal of the DSRIP program, the evaluation also addressed research questions related to other aspects of the program, such as clinical quality. Some of these measures were non-claims based, such as medical chart reviews conducted as part of the DSRIP program, and were not available prior to MY0.
 - Changes in the New York Medicaid program (e.g., the Affordable Care Act Medicaid expansion; adoption of Health Homes; and the continued shift from fee-for-service to Medicaid managed care, including Health and Recovery Plans for adults with significant behavioral health needs) resulted in changes in the composition of the Medicaid population over time (e.g., an increase in the number of low-income, childless adults after the ACA expansion) and the way care was received, with differences increasing in significance as the DSRIP program pre-period is extended.
- The quantitative analysis of DSRIP performance measures only includes data for New York. Although the comparative regression framework to identify the PPS characteristics

associated with improved performance explicitly controls for statewide trends, internal validity would be higher with an external comparison group. Conceptually, it is difficult to identify an ideal “control” state as comparison, given large inter-state variations in Medicaid programs and ongoing waivers. States that are typically used as comparisons for New York based on program size or similar region (e.g., California, New Jersey, and Texas) already have DSRIP waivers.

- The analysis of aggregate expenditures and PPS-level aggregated performance measures does not adjust for member characteristics at the individual level, broader changes in the health care environment, and other socioeconomic changes that may have affected outcomes, utilization, and expenditures. It was infeasible to do a consistent cohort analysis to look at changes within specific members after entering the DSRIP program due to churning (which limited the number of members with consistent Medicaid eligibility during a long pre- and post-program period), changes in Medicaid eligibility through the Medicaid expansion, and feasibility. All analyses are subject to ecological bias, although this was addressed partially through the inclusion of rich implementation and process data to provide contextual explanation.
- Encounter data have missing data in limited circumstances and have some data quality issues, but have been found by the NYS DOH to be satisfactory for payment of quality rewards.

2. Demonstration Description

2.1. New York’s Medicaid Crisis and the Medicaid Redesign Team

In 2010, New York’s Medicaid system was on an unsustainable path. At the time, there were 5 million Medicaid recipients, incurring \$53 billion, with a 14% increase in spending over the prior 5 years. On a per member basis, New York’s Medicaid costs were twice the national average.³⁵ In that time period, the Commonwealth Fund’s 2009 edition of the *State Scorecard on Health System Performance* analyzed data from the prior few years and reported that New York ranked 50th in the nation for avoidable hospital use and costs, and 21st for overall health system quality. New York was slightly above the median rankings for access (18th), prevention and treatment (22nd), and healthy lives (17th),³⁶ and scored in the top quartile for equity (11th). Its lower ranking for overall system performance was driven by its low score for avoidable hospital use and costs.³⁷

³⁵ New York State Department of Health. (2011). A plan to transform the Empire State’s Medicaid program. Better care, better health, lower costs multi-year action plan. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/mrtfinalreport.htm

³⁶ The healthy lives measure comprised “indicators that measure the degree to which a state’s residents enjoy long and healthy lives, as well as factors such as smoking and obesity that affect health and longevity” (Commonwealth Fund, 2009, p. 25).

³⁷ Commonwealth Fund. (2009, October). Aiming higher: results from a state scorecard on health system performance, 2009. Retrieved from https://www.commonwealthfund.org/publications/fund-reports/2009/oct/aiming-higher-results-state-scorecard-health-system-performance?redirect_source=/publications/fund-reports/2009/oct/2009-state-scorecard

To address the Medicaid crisis, Governor Andrew M. Cuomo issued Executive Order No. 5 to create the New York Medicaid Redesign Team (MRT).³⁸ Its 27 stakeholders, representing diverse health care delivery system sectors, created a multi-year action plan comprising both a vision and a set of specific recommendations.³⁹ Guided by the Center for Medicare and Medicaid Services' (CMS) Triple Aim, the MRT concluded that the underlying problem is “not due to a lack of access to vital services” but instead that “for far too many people, care is not effectively managed” and that health disparities persist. The MRT also aspired that health care delivery system reforms from its Medicaid system redesign would spill over into New York’s overall health care delivery system, beyond Medicaid.

The activities outlined in the MRT’s multi-year action plan were organized along the Triple Aim:

- To **improve care**, New York worked towards creating fully-integrated care management for all Medicaid members, ensuring universal access to high quality primary care, implementing patient-centered medical homes (PCMH), developing a robust health care workforce for the 21st century, improving the interoperability of electronic health records, and improving behavioral health integration with primary care.
- To **improve health**, New York pursued strategies to reduce disparities in health outcomes, expanded access to affordable and supportive housing, and redesigned the Medicaid benefit to ensure access to clinically effective and efficiently delivered services.
- To **reduce costs**, New York developed a new statutory “global cap” on the state’s share of Medicaid spending, conducted activities to strengthen and transform the health care safety net, engaged in medical malpractice reform and payment reform, and revised state and local relationships around Medicaid financing.

Having established the MRT’s multi-year plan, New York sought a Medicaid Section 1115 waiver amendment to “both allow the state to reinvest in its health care infrastructure as well as to give the state the freedom to innovate.”⁴⁰ In April 2014, CMS approved New York’s Section 1115 Medicaid waiver amendment request allowing New York to reinvest \$8 billion of its anticipated \$17.1 billion federal savings over 5 years towards the MRT action plan, with \$6.42 billion of waiver funds allotted for its DSRIP program. The remainder of the MRT reinvestment was allocated to the Interim Access Assurance Fund (\$500 million) and other Medicaid Redesign purposes including supporting the development of health homes, and investments in long-term care, workforce, and enhanced behavioral health services (\$1.08 billion).⁴¹

³⁸ Cuomo, A.M. (2011, January 5). No. 5: Establishing the Medicaid Redesign Team [executive order]. Retrieved from <https://www.governor.ny.gov/news/no-5-establishing-medicaid-redesign-team>

³⁹ New York State Department of Health. (2011). A plan to transform the Empire State’s Medicaid program. Better care, better health, lower costs multi-year action plan. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/mrtfinalreport.htm

⁴⁰ Ibid, p. 41.

⁴¹ New York State Department of Health. (n.d.). DSRIP overview. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrp/overview.htm

New York's DSRIP program was not implemented in isolation. It was one of several New York initiatives to facilitate broader changes in the state's health care environment, and leveraged other programs and infrastructure. Other relevant activities included:

- A larger portfolio of MRT projects, encompassing over 400 MRT projects implemented in eight phases;⁴²
- The implementation of the Affordable Care Act;
- Continued focus on moving from fee-for-service to Medicaid managed care, including Health and Recovery Plans (HARPs) for adults with significant behavioral health needs;
- A Medicaid global spending cap;
- The Patient Centered Medical Home (PCMH) and Advanced Primary Care (APC) initiative;
- Ongoing progress towards health information connectivity through the Statewide Health Information Network for New York (SHIN-NY), the technology platform that connects Qualified Entities across the state to exchange electronic clinical information;
- A broader movement towards value based payment (VBP) modeling by government and private insurers; and
- Population health strategies such as the Prevention Agenda and the Ending the Epidemic initiative to achieve the end of HIV as an epidemic.

This *final* Summative Report focuses on New York's DSRIP program, but it is important to recognize that it was one mechanism in a broad set of programs and policies to achieve the Triple Aim. Caution is warranted when interpreting changes in performance metrics, as it is difficult to isolate the DSRIP program's impact from this broader context. The DSRIP program's influence on system transformation may have also facilitated the implementation of other programs; enabling other programs to be successful is an important outcome that is not captured in DSRIP performance metrics.

2.2. New York DSRIP Program Goals, Objectives, and Activities

2.2.1. Overview of Goals and Objectives

New York's DSRIP program was embedded within its MRT Waiver Amendment's overarching Triple Aim vision.⁴³ As the largest component of the MRT Waiver Amendment, the DSRIP

⁴² New York State Department of Health. (2018, August). MRT projects compilation table updates. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/progress_updates/projects_compilation_table.htm

⁴³ Information on the DSRIP program comes from the following New York State Department of Health sources, unless noted otherwise: (1) DSRIP frequently asked questions (FAQs), retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/dsrip_faq/section2_faqs.htm; (2) Special Terms and Conditions Attachment I – NY DSRIP program funding and mechanics protocol, retrieved from https://www.health.ny.gov/health_care/managed_care/appextension/docs/2017-07-20_rev_att1.pdf; (3) Special Terms and Conditions Attachment J – NY DSRIP strategies menu and metrics, retrieved from https://www.health.ny.gov/health_care/managed_care/appextension/docs/2018-01-18_attj_rev.pdf; (4) DSRIP

program aimed to achieve a 25% reduction in avoidable inpatient and emergency department hospital use over five years, drive system transformation, and improve clinical management and population health. Four core measures were used to evaluate the DSRIP program's success in meeting its avoidable hospital utilization goal: potentially preventable emergency room visits, potentially preventable hospital readmissions, adult prevention quality indicators, and pediatric prevention quality indicators. In addition to these measurable objectives, New York's DSRIP program aimed to leverage managed care payment reform to ensure that delivery system transformation would continue beyond the waiver period, provided near-term financial support for vital safety net providers at immediate risk of closure, and increased collaboration by requiring communities of eligible providers to partner on DSRIP projects.

To achieve its goals, New York's DSRIP program approved the final applications of 25 Performing Provider Systems (PPSs), coalitions of safety net hospitals, clinics, and other eligible providers with clear patient care relationships. The PPSs implemented DSRIP projects towards the primary goal of reduced avoidable hospital use, also targeting broader objectives of system transformation, improved clinical management, and improved population health. In selecting projects, PPSs were required to respond to their communities' needs. The PPSs were responsible for attributed Medicaid members and populations of uninsured people, which were assigned to them through an algorithm that considered characteristics such as geographic region and members' affiliations with providers.⁴⁴ Partners within each PPS earned incentive payments based on their documented performance towards measurable goals. Section 2.3 includes additional details on the attribution of Medicaid members to PPSs and project payments.

In addition to incentive payments for PPSs to reach their project-related performance goals, the PPSs were responsible for collectively meeting two of the four elements of the statewide accountability milestones (SWAM) regarding performance and project metrics. The SWAM target values changed across DSRIP Demonstration Years (DY), reflecting a desire for increasing performance over time. Failure to meet the SWAM would trigger funding penalties of 5% of funds from CMS in DY3, 10% of funds in DY4, and 20% of funds in DY5.⁴⁵

Statewide Accountability Milestones were as follows:

- **Statewide performance metrics:** At least 50% of measures must be determined to be improving or maintaining, versus worsening. Eighteen statewide measures were selected for this SWAM milestone.
- **Success of projects statewide:** At least 50% of eligible PPS-level measures must meet their Annual Improvement Target, thereby triggering awards to PPSs.

Project Toolkit, retrieved from

https://www.health.ny.gov/health_care/medicaid/redesign/docs/dsrip_project_toolkit.pdf.

⁴⁴ As described in section 2.3, only PPSs that selected project 2.d.i, or the "11th project," had uninsured or low/non-utilizing populations attributed to them for valuation and performance.

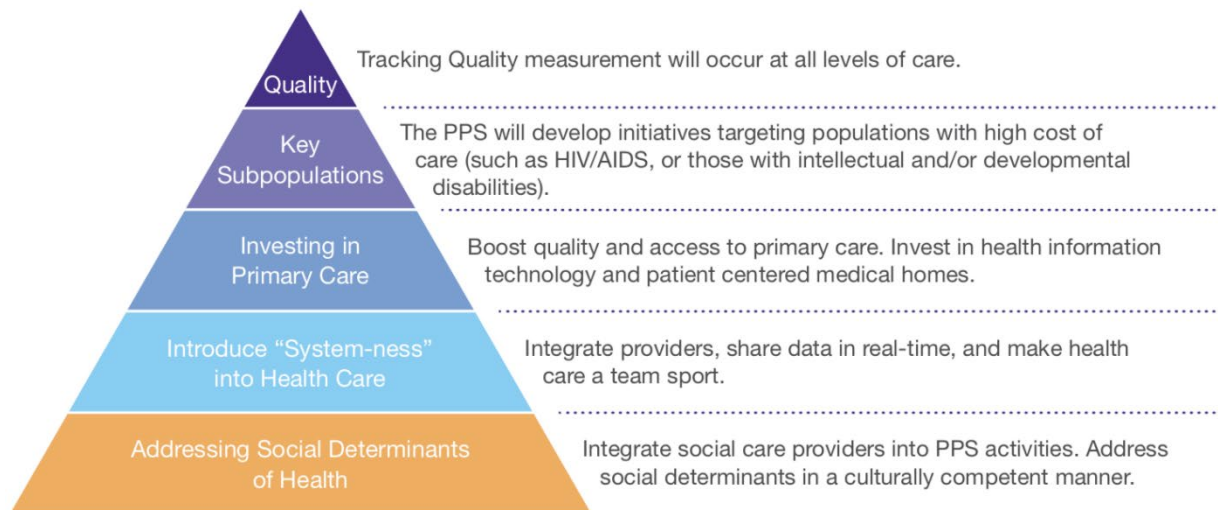
⁴⁵ New York State Department of Health. (2018, April 30). Statewide accountability milestones monthly status update (slide deck).

- **Total Medicaid spending:** Statewide total Medicaid spending (in DY4 and DY5) and total inpatient and emergency room spending (in DY3, DY4, and DY5) among attributed members must meet annual targets measured on a per member per month basis.
- **Managed care plan:** A minimum percentage of total Medicaid managed care organization expenditures must be in specific levels of VBP contracts.

2.2.2. Conceptual Framework Guiding New York DSRIP Program Activities

New York’s DSRIP program took a holistic approach to system transformation (see Exhibit 2.2.2.i). As described by the NYS DOH, the underlying conceptual framework placed the social determinants of health at the foundation.⁴⁶ The second level was to introduce “system-ness” into health care, emphasizing a focus on broader systems and cross-sector collaboration rather than working in silos. Higher levels included investing in primary care, such as investment in health information technology and PCMH; working with key subpopulations with high cost of care, such as people living with HIV/AIDS or with intellectual and/or developmental disabilities; and tracking quality measures at all levels of care.⁴⁷

Exhibit 2.2.2.i. Holistic approach to system transformation



Source: Adapted with permission from New York State Department of Health.

Ultimately, the DSRIP program expected to reduce total costs to New York’s Medicaid program by changing the mix of health care services delivered and facilitating the transition from fee-for-service to value based payment contracting. Exhibit 2.2.2.ii illustrates a high-level conceptual logic model of how the DSRIP program’s delivery system reforms were intended to reduce total costs by shifting health care services upstream, and achieve a value based health care system.

⁴⁶ Helgerson, J. (2016, October 17). *NYS DSRIP Whiteboard – An Eye toward the Future* [Video file]. Retrieved from <https://www.youtube.com/watch?v=gAUqU7RSers>

⁴⁷ Kiernan, D. and Cooper, J. (2017, April 10). DSRIP overview presentation to the DSRIP Independent Evaluator team, p. 20.

The DSRIP program's large emphasis on movement towards value based payment related to its objective of long-term sustainability.⁴⁸

Value in health care is a function of the health outcomes that matter to patients and the true cost.⁴⁹ Conceptually, improved value transcends several domains. In Exhibit 2.2.2.ii, the upward pointing orange arrows illustrate important outcomes that were expected to improve under the DSRIP program: patient and caregiver experiences, care coordination, patient safety, care for at-risk populations, and preventative health. Overall costs were expected to decrease as a result of *increased* use of less costly preventive services and coordinated primary care, and subsequent *reduced* use of emergency departments, inpatient hospital visits, pharmacy benefits, and institutional long-term care (downward pointing blue arrows). In the conceptual model, reductions in emergency department and inpatient visits are highlighted to reflect New York's core program objective to "reduce avoidable hospital use by 25% through transforming the New York State health care system into a financially viable, high performing system."⁵⁰

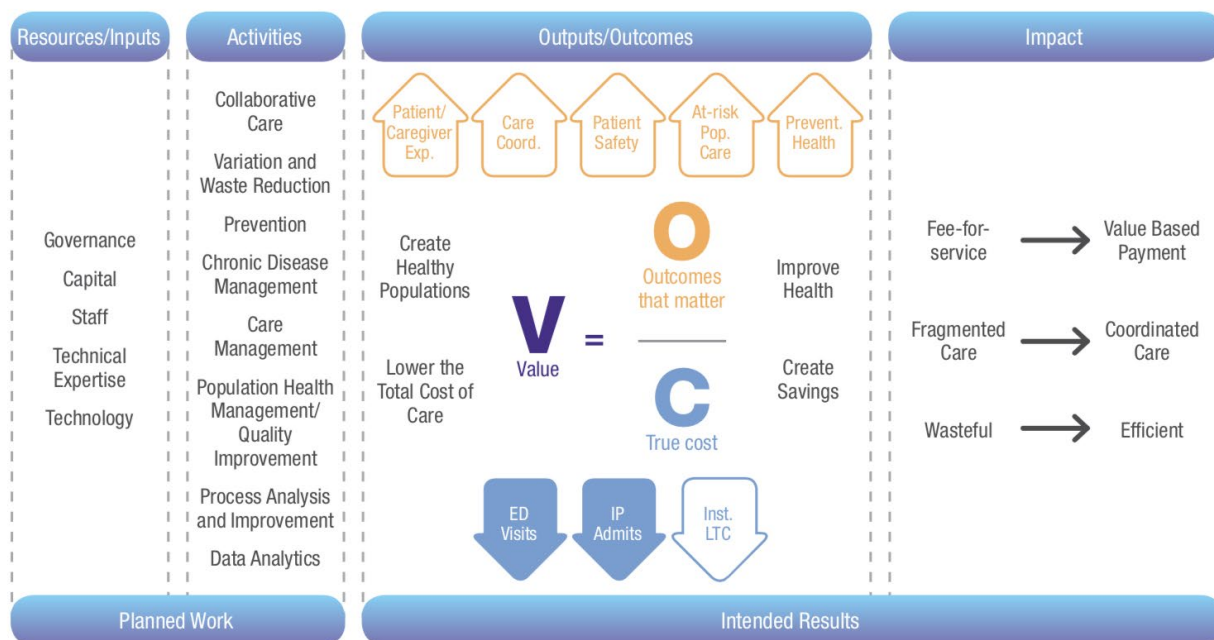
Investment in governance, staff, technical expertise, technology resources, and associated activities were intended to transition Medicaid providers to value based payment. Changing health systems in an environment where both fee-for-service and value based payment operate simultaneously is challenging, and requires organizational focus and capital. For example, shifting from a business model of ensuring daily patient visit volume to delivering health prevention strategies to prevent readmissions and expensive tertiary care (relevant to both DSRIP program Domains 3 and 4) require significant resources, including provider and staff time, to educate and build relationships between patients and providers. New York's DSRIP program was designed to enable a shift towards increased primary care services and decreased emergency and inpatient services, and the development of value based payment-focused infrastructure through: grant funding, technical assistance, data sharing, training and support to PPSs. Activities such as collaborative care, chronic disease management, and data analytics were intended to drive success on both health outcomes, and the total cost of care.

⁴⁸ A complete DSRIP-related website describing VBP and offering tools for DSRIP providers is accessible at https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/vbp_reform.htm

⁴⁹ Porter, M.E. & Lee, T.H. (2013). The strategy that will fix health care. *Harvard Business Review*. Retrieved from <https://hbr.org/2013/10/the-strategy-that-will-fix-health-care>.

⁵⁰ New York State Department of Health. (n.d.). DSRIP Project Toolkit, p. 2. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/docs/dsrip_project_toolkit.pdf

Exhibit 2.2.2.ii. Overview of DSRIP activities, outputs, outcomes, and impact



Source: Authors' synthesis of DSRIP program materials

Abbreviations: Emergency Department (ED), Experiences (Exp), Inpatient (IP), Institutional (Inst), Long-term Care (LTC)

2.2.3. Development of Performing Provider Systems

Following the DSRIP program's focus on "system-ness," entities pursuing DSRIP projects were required to develop integrated networks of public hospitals and safety-net providers who were collectively accountable for performance.⁵¹ The "Performing Provider Systems" terminology referred to the performance network of lead entities and their associated partners. An entity could be associated with a PPS as a partner or as an outside contractor. The distinction is that partners were in formal performance-based collaborative relationships to implement PPSs' project plans. Under leadership by the PPSs, the collective performance of PPS partners drove achievement of DSRIP milestones to enable payments to PPSs and their partners.

Each PPS was led by an entity that was either a safety net provider or a group of safety net providers that collaborated to form a new governing structure ("NewCo"). To qualify as a lead entity, safety net providers had to demonstrate qualifications to manage the PPS, such as prior collaborative experience, leadership and administrative capabilities, and financial stability. The PPS lead entities were required to form partnerships with community providers representing diverse partner types, including hospitals, health homes, skilled nursing facilities, federally qualified health centers, behavioral health providers, and community-based organizations. The inclusion of an array of partners, including providers of supportive services such as food

⁵¹ Entities without a safety-net provider designation could participate as members, but they were only eligible for up to 5% of the PPS's total performance payments.

security and housing, was intended to address the entire continuum of care including the social determinants of health. In some regions, a single provider was a member of multiple PPSs.

The STC specified that 95% of the PPS-achieved performance payments went to safety net providers. The PPS partners were eligible for performance payments (described in section 2.3) if they met safety net criteria.⁵² Hospitals were defined as “safety net” upon meeting at least one of the following criteria: (1) being a public hospital, critical access hospital, or sole community hospital; (2) having at least 35% of outpatient consumers *and* at least 30% of inpatient consumers with Medicaid, Medicaid/Medicare dual insurance, or no insurance; or (3) serving at least 30% of all members who have Medicaid, Medicaid/ Medicare dual insurance, or no insurance in their communities. Non-hospital providers received a CMS-approved safety net status, and were thus eligible for DSRIP performance payments, if they participated as part of a state-designated health home; or at least 35% of their consumers had Medicaid, Medicaid/Medicare dual insurance, or no insurance. Non-safety net providers including community-based organizations such as housing providers who had no Medicaid billing reports, private doctors, and independent practice associations who did not have sufficient Medicaid payor mix were allowed to join the PPSs. However, these non-safety net providers could only receive up to 5% of their PPSs’ performance payments.

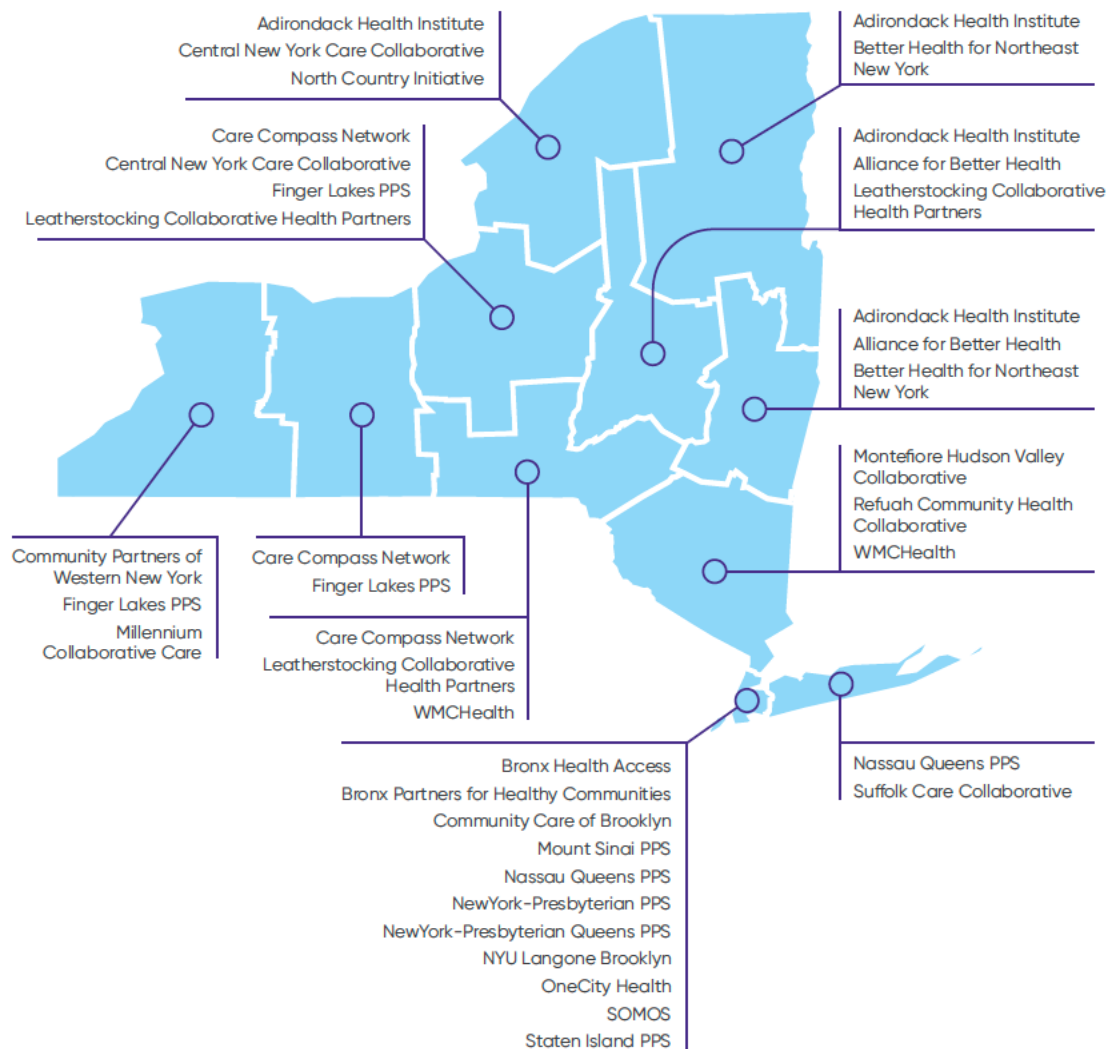
The PPSs were able to adjust their performance networks over time.⁵³ New partners were able to join PPSs during annual network re-openings until Measurement Year (MY) 5 began in July 2018. The PPSs were allowed to remove partners from their PPS network (up to 10%) only during the mid-point assessment in December 2016 before the start of MY 4 which began in July 2017.

In total, there were 25 final approved PPSs located across the state (see Exhibit 2.2.3.i), covering each of the 62 counties. In New York City and Long Island, some PPSs covered only one county and ten PPSs served the five boroughs with some overlap. In contrast, the PPSs in upstate New York regions served multiple counties that covered a larger and more diverse geographic area but with a lower population density, and in some cases were the only PPS in that county. (See the New York DSRIP Terminology Guide at the front of the report for a full list of PPSs and their counties served.)

⁵² On a case-by-case basis, “vital access provider” exceptions were made by CMS to allow non-safety net providers to be considered “qualifying safety net providers” for the purpose of the DSRIP program. The vital access providers had to meet one of three CMS criteria: (1) location in a community without a safety net provider willing or able to develop and lead a PPS; (2) hospitals with one or more unique qualifications to be PPS lead entities (available services, financial viability, community relationships, and/or past success in reducing avoidable hospitalizations); and (3) state-designated health homes.

⁵³ The DSRIP program distinguished performance and valuation networks. The annual network re-openings and one-time drop during the midpoint assessment period refer to the performance network of partners that actively collaborated on DSRIP projects to meet performance goals. The valuation network represents the PPS partner membership on December 1, 2014, and was used to attribute members for valuation. Unlike the evolving performance networks, the valuation networks did not change over time.

Exhibit 2.2.3.i Geographic distribution of New York’s Performing Provider Systems across the 11 DSRIP planning regions



Source: Authors’ synthesis of the PPS website.⁵⁴

Notes: See the New York DSRIP Terminology Guide at the front of the report for a list of the PPSs’ acronyms. The 11 regions were developed for DSRIP planning purposes only.

2.2.4. Selection of Projects by Performing Provider Systems

The DSRIP program’s projects were classified by domain, with Domain 1 focused on overall PPS organization and Domains 2, 3, and 4 focused on various areas of transformation.⁵⁵

⁵⁴ New York State Department of Health. (n.d.) DSRIP Performing Provider Systems (PPS): PPS by County. Available at https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/pps_map/index.htm

⁵⁵ A comprehensive list of DSRIP projects and descriptions is included in the DSRIP Project Toolkit, available at https://www.health.ny.gov/health_care/medicaid/redesign/docs/dsrip_project_toolkit.pdf

- **Domain 1** outputs were structurally-focused, related to setting up the PPS networks, projects, capacity, and structural changes that were foundational to program operations. Instead of projects, Domain 1 focused on organizational implementation milestones.
- **Domain 2** outcomes were related to system transformation. Project categories were: creating integrated delivery systems, implementing care coordination and transitional care programs, connecting settings, and “patient activation” to expand access to community-based care for special populations.
- **Domain 3** outcomes focused on clinical improvement. Projects were categorized by health condition: behavioral health, cardiovascular health, diabetes care, asthma, HIV/AIDS, perinatal care, palliative care, and renal care.⁵⁶ The DSRIP program had a special focus on behavioral health, and all PPSs were required to select a behavioral health project.
- **Domain 4** outcomes focused on population health. These DSRIP projects mirrored the goals, objectives, and strategies of the state’s Prevention Agenda.⁵⁷ New York’s 2013-2018 Prevention Agenda contained detailed goals and measurable objectives, recommended strategies (analogous to DSRIP projects), technical assistance, and a data dashboard that stakeholders could use to inform their community needs assessments and view progress towards their Prevention Agenda goals.⁵⁸

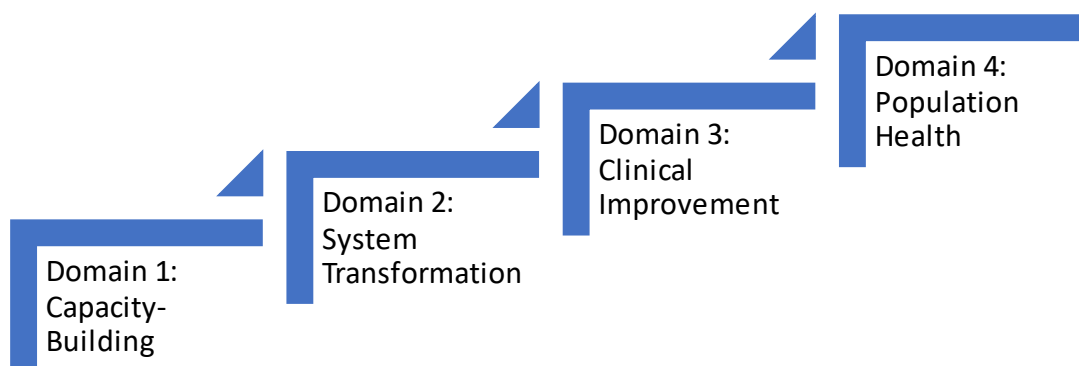
The four domains were deliberately additive (see Exhibit 2.2.4.i); for example, PPS capacity (Domain 1), organizational structures to facilitate system transformation (Domain 2), and clinical improvement interventions (Domain 3) are all pre-conditions for promoting population health (Domain 4). Domain 1 measurable objectives were *program outputs*, whereas measurable objectives from Domains 2, 3, and 4 represented short, medium, and long-term *program outcomes*.

⁵⁶ The PPSs chose projects in 7 of the 8 clinical categories in Domain 3. No PPS selected the project on renal care (project 3.h.i, specialized medical home for chronic renal failure).

⁵⁷ The Prevention Agenda 2013-2018 contained five priority areas and associated state and local action plans, as well as a focus on improving health equity. Its focus areas were: (1) preventing chronic diseases; (2) promoting a healthy and safe environment; (3) promoting healthy women, infants, and children; (4) promoting mental health and substance abuse; and (5) preventing HIV, sexually transmitted diseases, vaccine-preventable diseases, and health care-associated infections. These lined up with the DSRIP projects with the exception of promoting a healthy and safe environment; the recommended interventions for these projects (e.g., increasing the percentage of residents with fluoridated drinking water and improving the design and maintenance of home environments) could not be modified directly through DSRIP’s clinically-focused interventions. Retrieved from https://www.health.ny.gov/prevention/prevention_agenda/2013-2017/

⁵⁸ The 2013-2018 Prevention Agenda was later updated for the current 2019-2024 state health improvement plan. This *final* Summative Report references the past 2013-2018 Prevention Agenda because it aligned with the timing of the DSRIP program.

Exhibit 2.2.4.i Schematic of the additive effect of projects in four DSRIP domains



Source: Authors’ synthesis of NYS DOH program materials.

New York’s DSRIP program offered the PPSs a defined list of 44 projects. The 44 potential projects outlined in the Project Toolkit (see Exhibit 2.2.4.ii) were designed to meet the core DSRIP program goals of reducing avoidable hospital use and transforming the New York health care system into a financially viable, high performing system. A limited project list was required by CMS, and state administrators predicted that a focused project menu could improve overall success, project evaluation efforts, and state oversight.⁵⁹

Exhibit 2.2.4.ii. List of New York DSRIP program projects

Project No.	Description
Domain 2: System Transformation Projects	
A.	Create Integrated Delivery Systems
2.a.i	Evidence-based, Population Health Focused Integrated Delivery Systems
2.a.ii	Primary Care Certification (PCMH/APC Models)
2.a.iii	Health Home At-Risk Intervention Program
2.a.iv	Medical Village (Hospital)
2.a.v	Medical Village (Nursing Home)
B.	Implementation of Care Coordination and Transitional Care Programs
2.b.i	Ambulatory ICUs
2.b.ii	Primary Care Co-Location in ED
2.b.iii	ED Care Triage for At-Risk Populations
2.b.iv	Care Transitions Intervention for Chronic Health Conditions
2.b.v	Care Transitions Intervention for Skilled Nursing Facility (SNF) Residents
2.b.vi	Transitional Supportive Housing Services
2.b.vii	INTERACT: Inpatient Transfer Avoidance Program for SNF
2.b.viii	Hospital-Home Care Collaboration Solutions

⁵⁹ Bachrach, D., Bernstein, W., Augenstein, J., Lipson, M., & Ellis, R. (2016, April 21). Implementing New York’s DSRIP program: implications for Medicaid payment and delivery system reform, p. 13. Retrieved from <https://www.commonwealthfund.org/publications/fund-reports/2016/apr/implementing-new-yorks-dsrp-program-implications-medicaid>

Project No.	Description
2.b.ix	Implementation of Observational Programs in Hospitals
C.	Connecting Settings
2.c.i	Development of Community-Based Health Navigation Services
2.c.ii	Expansion of Telemedicine in Underserved Areas
D.	Utilizing Patient Activation to Expand Access to Community Based Care for Special Populations
2.d.i	Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care
Domain 3: Clinical Improvement Projects	
A.	Behavioral Health
3.a.i	Integration of Primary Care and Behavioral Health Services
3.a.ii	Behavioral Health Community Crisis Stabilization Services
3.a.iii	Medication Adherence Programs in Community-Based Sites for Behavioral Health Medication Compliance
3.a.iv	Development of Withdrawal Management and Enhanced Abstinence Services in Community-Based Addiction Treatment Programs
3.a.v	Behavioral Interventions Paradigm (BIP) in Nursing Homes
B.	Cardiovascular Health—Implementation of Million Hearts Campaign
3.b.i	Cardiovascular Disease Clinical Management
3.b.ii	Cardiovascular Disease Self-Management and Community Prevention
C.	Diabetes Care
3.c.i	Diabetes Disease Clinical Management
3.c.ii	Diabetes Disease Self-Management and Community Prevention
D.	Asthma
3.d.i	Asthma Medication Adherence Program Development
3.d.ii	Asthma Home-Based Self-Management Program Expansion
3.d.iii	Evidence-Based Asthma Management
E.	HIV/AIDS
3.e.i	HIV Prevention
F.	Perinatal Care
3.f.i	Maternal and Child Health Support Programs
G.	Palliative Care
3.g.i	Integration of Palliative Care into the PCMH Model
3.g.ii	Integration of Palliative Care into Nursing Homes
H.	Renal Care
3.h.i	Chronic Renal Failure Specialized Medical Home
Domain 4: Population Wide Projects: New York’s Prevention Agenda	
A.	Promote Mental Health and Prevent Substance Abuse (MHSA)
4.a.i	Promote Mental, Emotional and Behavioral Well-being in Communities
4.a.ii	Prevent Substance Abuse and Other Mental Emotional Behavioral Disorders
4.a.iii	Strengthen Mental Health and Substance Abuse Infrastructure Across Systems
B.	Prevent Chronic Diseases
4.b.i	Promote Tobacco Use Cessation
4.b.ii	Increase Access to Chronic Disease Preventive Care and Management
C.	Prevent HIV and STDs

Project No.	Description
4.c.i	Decrease HIV Morbidity
4.c.ii	Increase Early Access to and Retention in HIV Care
4.c.iii	Decrease STD Morbidity
4.c.iv	Decrease HIV and STD Disparities
D.	Promote Healthy Women, Infants and Children
4.d.i	Reduce Premature Births

Source: Reproduced from the New York DSRIP Project Toolkit.⁶⁰

The PPSs were required to perform stakeholder-engaged community needs assessments to understand their local demographics and health care needs, and available health care and community resources. Based on their findings, the PPSs chose between five and 10 projects for valuation and scoring purposes following decision criteria specified in the DSRIP Project Toolkit (see Exhibit 2.2.4.iii). With the exception of the behavioral health Domain 3 measures, if a PPS's pre-DSRIP initiation performance on the majority of Domain 3 measures relevant to a project was close to the high performance goal, the project was not approved. These decision criteria ensured that PPSs implemented projects in each domain, with an emphasis on behavioral health and tailoring projects to local community needs.

Each PPS submitted a DSRIP Project Plan comprising:

- A selection of Domain 2, 3, and 4 projects,
- A rationale for selecting the projects,
- Specific goals,
- A description of how the projects would change the system,
- A list of partners attesting to join their PPS network,
- A description of project activities, and
- A justification for the funding.

⁶⁰ New York State Department of Health. New York State Delivery System Reform Incentive Payment Program Project Toolkit. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/docs/dsr_ip_project_toolkit.pdf

Exhibit 2.2.4.iii. Decision criteria guiding the selection of DSRIP projects

Domain	Selection Requirements for Project Valuation and Scoring
Domain 2	<ul style="list-style-type: none">• Between two and four projects• Selection based on community needs assessment• At least one project from strategy sub-list A, and at least one project from strategy sub-lists B or C• If qualified, project 2.d.i. allowed as an additional project from this list (also referred to as the “11th project”)
Domain 3	<ul style="list-style-type: none">• Between two and four projects• Selection based on community needs assessment• At least one project from strategy sub-list A
Domain 4	<ul style="list-style-type: none">• Between one and two projects• Based on community needs assessment• Consistent with, but not duplicate, Domain 3 projects• Applicable to the full service area population

Source: Authors’ synthesis of the New York DSRIP Project Toolkit.⁶¹

Some PPSs, primarily the major public hospitals, received NYS DOH approval to pursue an 11th project in their area (project 2.d.i.). The goal of the 11th project was to incorporate uninsured members into the DSRIP program and to reach out to non-utilizing and low-utilizing Medicaid members who might otherwise end up in the hospital for a preventable visit. To be eligible for the 11th project, a PPS had to already be pursuing 10 projects, demonstrate its network had sufficient capacity to undertake the additional project, and have a network that was suitable for serving the uninsured and non-utilizing and low-utilizing Medicaid populations in its geographic area. If a PPS led by a public hospital was eligible for and received approval for the 11th project, no other PPS in the county could pursue it (“right of first refusal”). If a county did not have a public hospital PPS or the public hospital PPS elected to not pursue the 11th project, then one or more other PPSs could be approved to pursue it in that county.

The DSRIP project plan applications were reviewed in 2014 by the Independent Assessor to ensure their compliance with the DSRIP program’s STC. The Independent Assessor also scored each DSRIP project plan and provided its recommendations for their approval or rejection. The Project Approval and Oversight Panel, a panel of non-conflicted experts and public stakeholders, reviewed the Independent Assessor’s recommendations and made decisions to accept, reject or modify them. These were then passed on to the New York State Commissioner of Health for final determination. The projects selected by each PPS are shown in Appendix 1.

⁶¹ New York State Department of Health. New York State Delivery System Reform Incentive Payment Program Project Toolkit. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/docs/dsrrip_project_toolkit.pdf

2.3. Attribution and Project Valuation

Project payments were based on project performance, with funding disbursed to the PPSs who subsequently paid their PPS partners based on their individual contract terms.⁶² Domain 1 infrastructure-building payments were linked to reporting (Pay for Reporting) and payments for projects in domains 2, 3, and 4 were linked to performance (Pay for Performance). Over the five-year DSRIP program period, many Pay for Reporting payments transitioned to Pay for Performance, with some exceptions such as Domain 4 which were Pay for Reporting throughout all DSRIP years (see Exhibit 2.3.i).

Exhibit 2.3.i. Shift in funding from pay for reporting to pay for performance

Domain	Payment Type	Annual Funding Percentages				
		DY1	DY2	DY3	DY4	DY5
Domain 1: Project Process Milestones	P4R	80%	60%	40%	20%	0%
Domain 2: System Transformation and Financial Stability Milestones	P4P	0%	0%	50%	72%	93%
	P4R	20%	40%	10%	8%	7%
Domain 3: Clinical Improvement Measures	P4P	0%	30%	50%	70%	90%
	P4R	20%	10%	10%	10%	10%
Domain 4: Population Health Outcomes	P4R	20%	40%	60%	80%	100%
Total		100%	100%	100%	100%	100%

Source: Adapted from the Special Terms and Conditions (STC), Attachment I⁶³

Abbreviations: Demonstration Year (DY), Pay for Performance (P4P), Pay for Reporting (P4R)

Notes: The sum of the Domain 1 P4R percentage and the percentages of the P4R and P4P in each of the remaining Domains totals 100%. For example, total funding for Domain 2 in DY3 is based 40% on reporting Domain 1 milestones (P4R), 50% on Domain 2 performance (P4P), and 10% on reporting Domain 2 milestones (P4R).

The Independent Assessor determined project valuations for each PPS’s DSRIP project plan following a methodology specified in the STC. Maximum application values, the highest financial payment that each PPS could receive during their DSRIP program participation, were based on factors such as the projects selected, the DSRIP Project Plans’ application scores, “speed and scale” commitments (i.e., the number of sites, providers, and entities; percent of safety net providers; number of actively engaged members and the timelines for project implementation and patient engagement), and the size of the attributed Medicaid population for each project.⁶⁴ In setting their speed and scale commitments, PPSs considered trade-offs between setting aggressive targets that might calculate high potential payments versus the risk of underperforming and potentially missing payments altogether.⁶⁵

⁶² While PPSs could include non-safety net providers in their performance networks, at least 95% of the total DSRIP payments earned by PPSs had to be distributed to their safety net providers.

⁶³ Special Terms and Conditions Attachment I – NY DSRIP program funding and mechanics protocol, retrieved from https://www.health.ny.gov/health_care/managed_care/appextension/docs/2017-07-20_rev_att1.pdf.

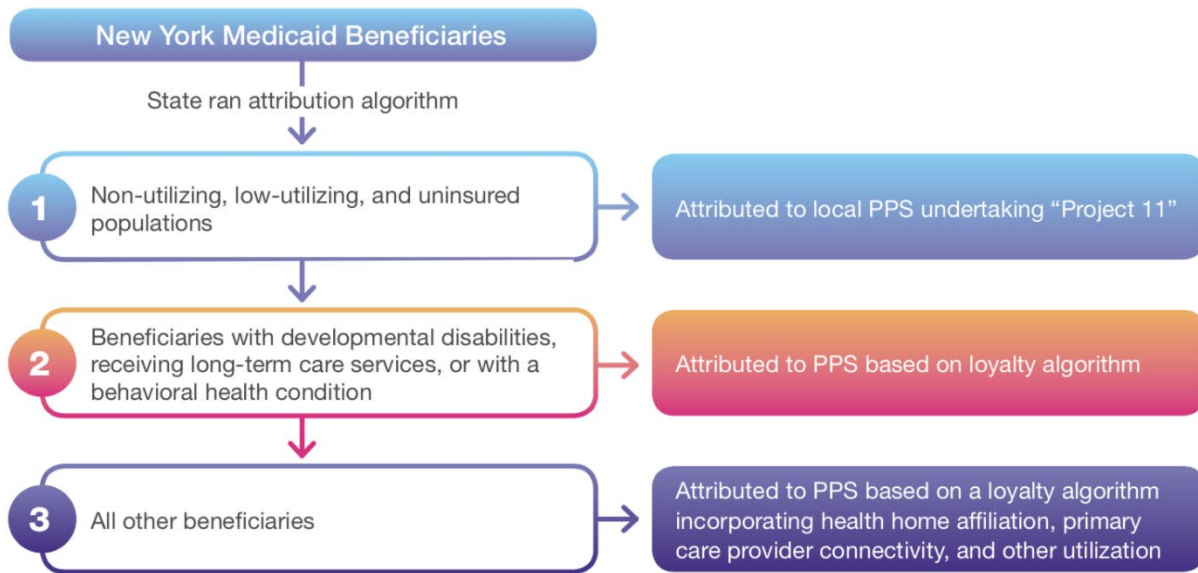
⁶⁴ The full project valuation methodology is outlined in the STC Attachment I, retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/docs/program_funding_and_mechanics.pdf.

⁶⁵ Helgerson, J. (2014, November 14). NYS DSRIP whiteboard – project plan scale and speed of implementation. [Video file]. Retrieved from <https://www.youtube.com/watch?v=f2UP3rQh1SQ&feature=youtu.be>

An attribution methodology assigned each Medicaid member and a portion of uninsured individuals in each region to one and only one PPS, with two separate attributions for valuation and performance. The attribution for valuation was based on membership on December 1, 2014; it represented the maximum funding that a PPS could receive over its DSRIP duration. This fixed amount did not change if the PPSs dropped or added partners over time (each year, PPSs were able to add new partners to their networks and they also had one opportunity to remove providers during the mid-point assessment). The attribution for performance, however, used prospective attribution to identify members in each PPS at the beginning of the performance period, and then a retrospective attribution at the end of the performance period to determine final member assignment for measurement performance. Because Medicaid members were attributed to PPSs on the basis of their loyalty to providers (among other factors) clinical and social case-mix could vary significantly across PPSs depending on the mix of providers in a PPS's network.

The basic features of the attribution logic are shown in Exhibit 2.3.ii, with additional details in Appendix 2. Medicaid members with partial Medicaid coverage or supplemental coverage from other insurances were not included in attribution. The non-utilizing, low-utilizing, and uninsured populations were attributed to the local PPS undertaking the 11th project. For the remainder of Medicaid members with full Medicaid coverage, geography, patient visit information, and patients' primary care provider assignments were used to first classify members into one of four health populations or "swim lanes" (developmental disabilities, long-term care, behavioral health, or other). A "loyalty" algorithm within each "swim lane" was then used to assign the member to the PPS that contained the providers with whom most of the member's services were received. In addition to the loyalty algorithm, some members were attributed to a PPS based on their total claims, their assigned primary care provider, or via their ZIP code.

Exhibit 2.3.ii. Overview of Performing Provider System attribution methodology



Source: Adapted with permission from Bachrach et al. 2016.⁶⁶ See Appendix 2 for additional details.

Notes: If a PPS was the sole PPS in a county, its attribution included all beneficiaries receiving a plurality of services in that county. Non-utilizing members were defined as Medicaid members who had not used services in a given year. Low-utilizing Medicaid members were defined as using three or fewer services per year and having no relationship with their primary care provider or care manager.

⁶⁶ Bachrach, D., Bernstein, W., Augenstein, J., Lipson, M., & Ellis, R. (2016, April 21). Implementing New York's DSRIP program: implications for Medicaid payment and delivery system reform. Retrieved from <https://www.commonwealthfund.org/publications/fund-reports/2016/apr/implementing-new-yorks-dsrip-program-implications-medicaid>

3. Independent Evaluation Study Design

3.1. Research Questions and Hypotheses

The Independent Evaluation is guided by seven overarching research questions (RQ) and corresponding hypotheses (see Exhibit 3.1.i).⁶⁷ Consistent with the mixture of Pay for Reporting and Pay for Performance payments (see Section 2.3), there are both process and outcome measures. All hypotheses and definitions of “improvements” are in comparison to the statewide pre-DSRIP program initiation trend. For example, if utilization of behavioral health care services (hypothesis 3) were increasing statewide in the pre-DSRIP program initiation period, there should be a more rapid rate of increase in the post-DSRIP program initiation period.⁶⁸ If total health care costs were increasing in the pre-DSRIP program initiation period, then the rate of cost growth would be slower in the post-DSRIP program initiation period (hypothesis 13). This might happen in a few ways: (a) the post-DSRIP program initiation trend could continue to increase but at a slower rate than in the pre-DSRIP initiation period, (b) the post-DSRIP program initiation trend could remain at a steady level thereby having a slower growth rate compared to the pre-DSRIP program initiation period, or (c) the post-DSRIP program initiation trend could decline.

Exhibit 3.1.i. Overarching research questions and hypotheses for the Independent Evaluation

<u>Research questions</u>
<ul style="list-style-type: none">• RQ-A: Was avoidable hospital utilization reduced as a result of the DSRIP program?• RQ-B: Did utilization of behavioral health care services increase as a result of the DSRIP program?• RQ-C: Did health care quality improve as a result of clinical improvements in the treatment of selected diseases and conditions?• RQ-D: To what extent did PPSs achieve health care system transformation, including increasing the availability of behavioral health care?• RQ-E: Did population health improve as a result of implementation of New York’s DSRIP initiative? (Sub-question: Were racial and ethnic disparities on specific population measures reduced following the DSRIP program?⁶⁹)• RQ-F: Did the DSRIP program reduce health care costs? (Sub-question: Was the DSRIP program cost effective in terms of New York and federal governments receiving adequate value for their investments?)• RQ-G: What were the successes and challenges with respect to PPS planning, implementation, operation, and plans for program sustainability from the perspective of

⁶⁷ Some of the research questions and hypotheses were edited slightly from the original Request for Proposals and CMS-approved Independent Evaluation plan. See Appendix 3 for a comprehensive crosswalk to the updated research questions and hypotheses and the rationale behind the changes.

⁶⁸ For the analysis of performance measures, nearly all time point observations in the study are during the period when the DSRIP program was underway. The “pre/post” language is standard for time series analysis. The “pre” period refers to the early stages when the PPS were forming, and the “post” initiation period refers to the middle stages of the DSRIP program when the PPS were implementing their projects.

⁶⁹ Specific measures for this sub-question are: premature deaths, newly diagnosed cases of HIV, preterm births, adolescent pregnancy rate per 1,000 females aged 15-17, percentage of unintended pregnancy among live births, and infants exclusively breastfed while in the hospital.

DSRIP program planners, administrators, and providers; and why were they successful or challenging?

Hypotheses

- **H1:** Avoidable hospital utilization will decrease.
- **H2:** Primary care utilization will increase.
- **H3:** Behavioral health care service utilization will increase.
- **H4:** Health care quality will increase in the following areas: (a) behavioral health, (b) cardiovascular health, (c) diabetes care, (d) asthma, (e) HIV/AIDS, (f) perinatal care, (g) palliative care, and (h) renal care.⁷⁰
- **H5:** Health care service delivery integration will increase.
- **H6:** Health care coordination will increase.
- **H7a:** Primary care, behavioral health, and dental service utilization among the uninsured, non-utilizing, and low-utilizing populations will increase.
- **H7b:** Emergency department utilization among the uninsured, non-utilizing, and low-utilizing populations will decrease.
- **H8a:** Population health measures will improve in the following areas: (a) mental health and substance abuse, (b) prevention of chronic diseases, (c) prevention of HIV and STDs, and (d) health of women, infants, and children.
- **H8b:** Racial and ethnic disparities in premature deaths, newly diagnosed cases of HIV, preterm births, adolescent pregnancy rates, percentage of unintended pregnancy among live births, and infants exclusively breastfed in the hospital will decrease.
- **H9:** Costs for primary care services will increase.
- **H10:** Costs for behavioral health care services will increase.
- **H11:** Costs for emergency department services will decrease.
- **H12:** Costs for hospital inpatient services will decrease.
- **H13:** Total cost of care will decrease.

Source: Adapted from the Request for Proposals. See Appendix 3 for a comprehensive crosswalk of the original RQs and hypotheses and their reordering and adaptation for the *final* Summative Report.⁷¹

Abbreviations: Hypothesis (H), Research Question (RQ)

Notes: All hypotheses reflect changes compared to the baseline trend, e.g., if costs were increasing pre-DSRIP program initiation then the total cost of care will either have a slower growth rate, remain constant, or decline.

A description of each RQ and associated hypotheses follows. There is some overlap among RQs, hypotheses, and DSRIP program domains: some hypotheses relate to multiple RQs, each domain is associated with one or more RQs, and some RQs relate to multiple domains.

⁷⁰ This hypothesis includes renal care per the Request for Proposal and CMS-approved Independent Evaluation plan. However, it should be noted that no PPS selected the Domain 3 project on renal care (Project 3.h.i, Chronic Renal Failure Specialized Medical Home).

⁷¹ Request for Proposals RFP # 16336, Independent Evaluation of the New York State Delivery System Reform Incentive Payment Program, issued December 29, 2015, pp. 6-7.

RQ-A: Was avoidable hospital utilization reduced as a result of the DSRIP program?

This RQ addresses the DSRIP program's primary goal of achieving a 25% reduction in avoidable inpatient and emergency department hospital utilization over five years. Its measures are not tied to specific projects, but conceptually if the Domain 2 and 3 projects are successful then patients with improved access to and utilization of high-quality primary care services will have fewer hospitalizations. It is linked to hypotheses H1 and H2.

RQ-B: Did utilization of behavioral health care services increase as a result of the DSRIP program?

Similar to RQ-C (below), this question is related to the Domain 3 clinical improvement projects but with a particular focus on behavioral health (Projects 3.a.i, 3.a.ii, 3.a.iii, 3.a.iv, and 3.a.v). Whereas RQ-C focuses on health care quality, RQ-B focuses on utilization. It is linked to hypothesis H3.

RQ-C: Did health care quality improve as a result of clinical improvements in the treatment of selected diseases and conditions?

This RQ is associated with Domain 3 clinical improvement projects. It is linked to hypothesis H4.

RQ-D: To what extent did PPSs achieve health care system transformation, including increasing the availability of behavioral health care?

This RQ is relevant to Domain 2 system transformation projects, including the patient activation project (Project 2.d.i.) and some Domain 3 clinical improvement projects. System transformation would also enable changes in population health (Domain 4). It is linked to hypotheses H3, H5, H6, H7a, and H7b.

RQ-E: Did population health improve as a result of implementation of New York's DSRIP initiative? (Sub-question: Were racial and ethnic disparities on specific population measures reduced following the DSRIP program?⁷²)

This RQ is related to Domain 4 population-wide projects, which align with New York's Prevention Agenda (with the exception of the "promote a healthy and safe environment" focus area, which is not a component of the DSRIP program). It is linked to hypotheses H8a and H8b.

RQ-F: Did the DSRIP program reduce health care costs? (Sub-question: Was the DSRIP program cost effective in terms of New York and federal governments receiving adequate value for their investments?)

⁷² Specific measures for this sub-question are: premature deaths, newly diagnosed cases of HIV, preterm births, adolescent pregnancy rate per 1,000 females aged 15-17, percentage of unintended pregnancy among live births, and infants exclusively breastfed while in the hospital. Disparities are measured as ratios.

This RQ is relevant to the Medicaid Redesign Team (MRT)'s alignment with the Triple Aim of improved care, improved health, and reduced costs. As access to and utilization of high-quality primary care increases, emergency department and inpatient hospital admissions will decline. It is linked to hypotheses H9, H10, H11, H12, and H13.

RQ-G: What were the successes and challenges with respect to PPS planning, implementation, operation, and plans for program sustainability from the perspective of DSRIP program planners, administrators, and providers; and why were they successful or challenging?

This RQ is relevant to Domain 1 (PPS capacity-building), and the overarching DSRIP program goal to make system transformation sustainable. For the purposes of the Independent Evaluation, these qualitative findings provide critical contextual information for interpreting the quantitative performance outcomes relevant to RQ-A through RQ-F. For example, PPSs reporting higher implementation challenges may have lower performance, or implementation delays common to all PPSs would lead to observed time lags in the time series analyses of performance measures.

Hypotheses are not applicable to the qualitative research conducted to answer this RQ (focus groups and interviews), or the descriptive analyses of the close-ended surveys completed by patients and PPS partners. No hypotheses are provided for RQ-G, as they are not appropriate for these analyses.

3.2. Study Design for Evaluation of DSRIP Program Performance Measures

3.2.1. Overview of the Time Series and Comparative Analysis of Performance Measures

For the *final* Summative Report, CMS RQ1 through RQ5 (reabeled as RQ-A through RQ-E) were assessed using administrative data developed by the NYS DOH for the purposes of the DSRIP program, covering the measurement period June 2014 through June 2019. These calendar dates correspond to the month before the start of the DSRIP program (June 2014) through the last measurement month of the DSRIP program (June 2019). These data contained information about PPS member attribution, member characteristics, project selection, service area, and the performance measures used for PPS valuation and DSRIP program payments. The performance measures comprised both monthly and annual data elements, depending on the underlying source (see Section 3.2.2 on how these were derived from member-level data).

Descriptive analyses examined trends for performance measures statewide and by PPS. For the monthly measures, interrupted time series regressions examined changes in post-DSRIP program initiation trends statewide, compared to the baseline pre-DSRIP program initiation trend. These regressions tested the hypotheses regarding whether performance measures increased or decreased after the DSRIP program's implementation, compared to trends in the pre-DSRIP program period. Each PPS is inherently different, due to variation in their provider network characteristics, member attribution size, lead entity type, patient mix, findings from their community needs assessments that influenced project selection, and other factors. The

PPS-level comparative regression framework examined how the extent to which variability in performance was associated with different PPS characteristics.

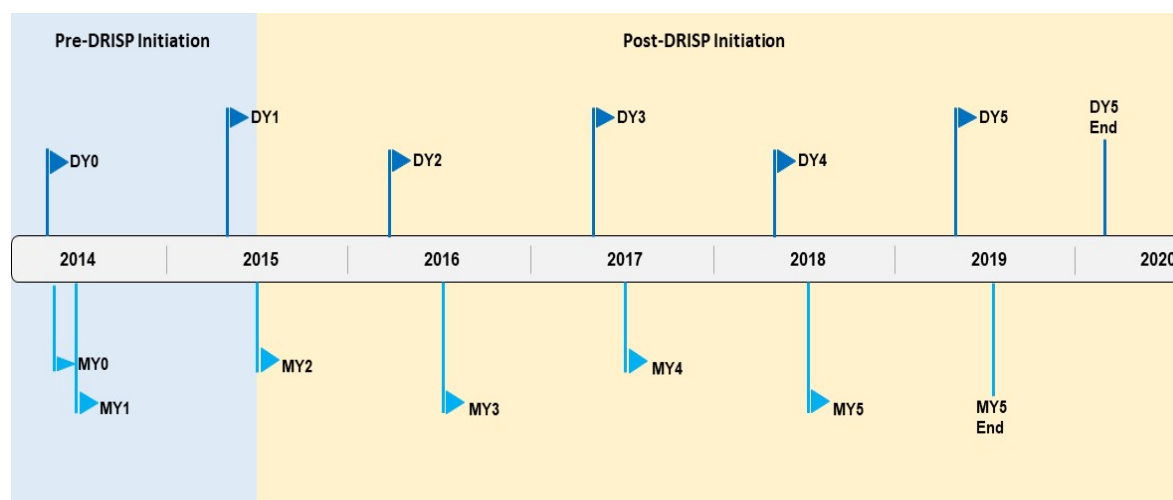
Analyzing performance differences pre- and post-DSRIP program initiation required selecting a specific month for the change point to denote the two periods.⁷³ As shown in Exhibit 3.2.1.i, New York's DSRIP program followed two timelines relevant for the evaluation: demonstration years (DY) and measurement years (MY). (See the New York DSRIP Program Terminology Guide at the beginning of this report for a detailed listing of DYs and MYs.) The six DYs (DY0 through DY5) cover the period from April 2014 to March 2020, with DY0 considered an early development and planning year for the PPS. There are five MYs (MY1 through MY5), starting July 2014 and ending June 2019. Although the DSRIP program started in April 2014 (DY0), the program's initial phase encompassed PPS formulation and infrastructure development (Domain 1). The first payments tied to Domain 2 activities (system transformation) used MY1 information, spanning July 2014 through June 2015. It is common in time series analysis to include a lag time for the "post" period to reflect the time to implement a program.⁷⁴ After conversations with DOH and early review of the implementation and process data, this analysis considered the start of MY2 (MY2 Month 1, July 2015) to be the first month of the post-DSRIP program initiation period, with all prior months assigned to the pre-DSRIP program initiation period. This provided 13 months of pre-DSRIP program initiation measurement time and 48 months of post-DSRIP program initiation measurement time.⁷⁵ Using the start of MY2 as the post-DSRIP initiation period, rather than selecting a month in the middle of a MY, also allowed for consistent time periods when evaluating monthly and annual measures. This decision was vetted with NYS DOH and is also consistent with findings from the implementation and process study, which identified delays in implementation times.

⁷³ The "pre/post" terminology is standard language for an interrupted time series research design, where the statistical analysis determines how an outcome changes after a major event (here, the implementation of the DSRIP program). The "pre" period refers to the first year with early activities for the PPSs to become operational. The "post" period refers to the time period when the PPSs have matured and are actively implementing their projects. Although additional specifications for the time trend were explored, a linear pre/post trend was used because explorations of the data did not reveal any clear patterns (such as a quadratic trend following a gradual phase-in period, or seasonality) and the implementation and process study findings did not reveal any additional considerations for how the pre and post periods should be modeled. Nonetheless, some measures had sharp shifts in the pre-DSRIP program period that may have been due to data anomalies or other factors.

⁷⁴ Bernal, J.L., Cummins, S., & Gasparrini, A. (2017). Interrupted time series regression for the evaluation of public health interventions: a tutorial. *International Journal of Epidemiology*, 46 (1) 348–355.

⁷⁵ There are 13 pre-DSRIP program months because the DSRIP Dataset contains one month of data from June 2014, prior to the MY1 start date of July 2014. The 48 post-DSRIP program months comprises 12 months in MY2 through MY5. The regression analyses on potentially preventable readmissions had fewer observations available due to data issues, as discussed within.

Exhibit 3.2.1.i. Timeline of DSRIP demonstration and measurement years



Source: Adapted from the New York State Department of Health DSRIP Timeline Poster.⁷⁶

Abbreviations: Demonstration Year (DY), Measurement Year (MY)

Notes: Nearly all time point observations in the study are during the period when the DSRIP program was underway. The “pre/post” language is standard for time series analysis. The “pre” period refers to the early stages when the PPSs were forming, and the “post” initiation period refers to the middle stages of the DSRIP program when the PPSs were implementing their projects.

Special Notes on the Limited Pre-DSRIP Program Time Period

The performance measures used in the regression analyses were derived from member-level data that were provided to the Independent Evaluator in aggregated format, at the PPS-month level.⁷⁷ The Independent Evaluator explored the possibility of using member-level data that were not pre-aggregated to reconstruct the measures for the study period and retroactively develop additional data points to provide a longer pre-DSRIP initiation period. However, it was determined that this was not feasible for several reasons.

Availability of Hospitalization Measures: First, core DSRIP program measures, particularly the 3M preventable hospitalization measures that aligned with the DSRIP program’s primary goal of reducing avoidable hospitalization by 25%, were not available prior to MY0 and could not be reconstructed. The NYS DOH elected to use the nationally-recognized, industry standard 3M definitions for the preventable utilization hospital measures. Due to limitations with the 3M grouper output, calculation of performance for these measures could not be replicated retrospectively. An alternative to these core metrics are Prevention Quality Indicators (PQIs) and Pediatric Quality Indicators (PDIs), which were in the original CMS evaluation plan and commonly-used health care quality metrics. In particular, the PQI 90 indicator (overall composite) could have served as a useful alternative to the 3M measures. However, the PQIs and PDIs could not be used as initially proposed in the CMS-approved evaluation plan due to

⁷⁶ New York State Department of Health (2016, January). Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/2016/docs/2016-01-29_dsrip_timeline_poster.pdf

⁷⁷ As noted elsewhere, the terms member-level and beneficiary-level are used interchangeably throughout this report to refer to individual level data.

the transition from the ICD-9 to ICD-10 disease classification system in billing codes in October 2015. That transition date occurred during the second year of the DSRIP program (MY2 Month 4) and CMS concurred with the NYS DOH that these measures cannot be trended for the purposes of the DSRIP program (see Appendix 4).

Availability of Other Measures: There were several CMS research questions related to areas beyond hospital utilization. Some of these measures were derived from a medical chart review conducted as part of the DSRIP program and were unavailable prior to MY1.

Churning and Other Program Changes: Even if some or all of the measures used in the Independent Evaluation were available for additional years prior to the DSRIP program, changes over time in the Medicaid population, benefits, and other features of the health care environment would make trending over a longer period of time difficult. As discussed briefly in Section 2 and in more detail in Section 6, New York's healthcare environment and Medicaid program experienced numerous changes leading up to the DSRIP program. Notable changes in the Medicaid environment that were experienced by members that would likely have been eligible for the DSRIP program are the implementation of Health Homes, the transition of many Medicaid members from fee-for-service long term care to managed long term care, children's waiver services, and the continued focus on moving from fee-for-service to Medicaid managed care, including Health and Recovery Plans for adults with significant behavioral health needs. Without being able to control for members' experiences with these other changes and their impact on health-related outcomes, it is impossible to isolate the independent effect of the DSRIP program from other events using a longer pre-DSRIP program time period. Adding to this complexity, like all Medicaid programs, New York's Medicaid population experiences substantial churning over time with members cycling on and off Medicaid eligibility. There were also changes in eligibility for the Medicaid program, such as the Medicaid expansion under the Affordable Care Act which increased the number of low-income childless adults in Medicaid. Extending the pre-DSRIP program period would conflate improvements due to shifts in Medicaid membership and changes due to the DSRIP program. A "consistent cohort" approach to retroactively track members who were enrolled in the DSRIP program and also receiving Medicaid benefits prior to the DSRIP program was considered. However, it was determined to be insufficient because a very small and non-representative portion of DSRIP program-eligible beneficiaries were consistently in the Medicaid program for a longer time period (e.g., five years prior to the DSRIP program and the five years of the DSRIP program).

Impact of Limited Pre-DSRIP Program Data and Use of Aggregated Measures: For the reasons stated above, it was deemed to be infeasible to include a longer pre-period in the analysis. The major limitations to the current approach, described in more detail in the limitations section, are the possibility of ecological fallacy and a limited ability to make *causal* inferences about the extent to which changes in the performance measures are due to the DSRIP program. As the Government Accountability Office (GAO) has documented, the lack of clear control groups and causal designs are common limitations of Medicaid demonstration waivers. Unfortunately, the GAO's report and guidance were made available several years after the DSRIP program's

initiation.⁷⁸ The Independent Evaluator concurs with calls from other researchers that it would be ideal to incorporate more randomized control trial designs or other causal identification strategies such as phased implementations to facilitate control groups for comparison.⁷⁹ Randomized control trial designs are an ideal strategy to address the challenges described above including issues with using longer pre-program periods that conflate the effects of the program, impact of past changes in the health care environment, and changes in Medicaid eligibility. Although this was infeasible for this evaluation, the Independent Evaluator recommends that future Medicaid demonstrations be developed in consultation with evaluators to consider implementation strategies that would allow for a better causal analysis of program effects.

Strategies to Lengthen the Pre-DSRIP Program Period

To offset the limitations described above, the Independent Evaluator took several steps to address the need for a longer pre-DSRIP program period. First, the Independent Evaluator worked with the NYS DOH to construct one additional month of pre-DSRIP data (MY0 Month 12). Although it was not possible to construct other performance measures or identify attribution for any earlier months, this month provides some additional information particularly considering that core measures such as PPR and PPV are 12-month moving averages and thus represent performance over the entire year prior to the DSRIP program. Second, Salient Management Company updated the dataset used for the cost analysis (see Section 3.3) to include a full 12 months of MY0 data. Although it was not possible to determine attribution from MY0 Month 1 through MY0 Month 11, these additional observations provide more complete information about shifts in cost during the program period. Looking at costs over a longer time period is meaningful because costs are directly related to utilization and integral to the overall DSRIP program goals.

3.2.2. Data Sources for Performance Measures

The *final* Summative Report used selected performance measures from the DSRIP Dataset, which at the time of analysis contained performance data for over 150 measures from Domains 2, 3, and 4. Domain 1 measures were project process milestones and not included in the DSRIP Dataset.

The Domains 2 and 3 data elements used in the Summative Evaluation came from multiple sources which were initially at the beneficiary level but aggregated to the PPS-month level for the purposes of the DSRIP program:

⁷⁸ U.S. Government Accountability Office. (2018). Medicaid demonstrations: Evaluations yielded limited results, underscoring need for changes to federal policies and procedures. GAO-18-220. <https://www.gao.gov/assets/690/689506.pdf>

⁷⁹ Underhill, K., Venkataramani, A., & Vopp, K.G. (2018). Fulfilling states' duty to evaluate Medicaid waivers. *New England Journal of Medicine*, 379(21), 1985-1988.

- Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey, documenting health care consumers’ experiences with their services with “clinicians and groups” (CG-CAHPS) and hospital inpatient care (HCAHPS)
- Medicaid Data Warehouse (MDW), with claims records for Medicaid members
- Medical record reviews
- Minimum Data Set (MDS), documenting comprehensive assessments of functional capabilities of residents in Medicare- or Medicaid-certified nursing homes
- New York State Perinatal Quality Collaborative Scheduled Delivery Form System (NYSPQC SDFS)
- New York State Provider Network Data System (PNDS)
- National Committee for Quality Assurance Recognition program organization-level measures of patient-centered medical home (PCMH) and Advanced Primary Care standards
- Statewide Planning and Research Cooperative System (SPARCS), with patient-level information on hospital inpatient and outpatient discharges across all payers
- Survey of Qualified Entities

The Domain 4 performance measures used in the *final* Summative Report were from New York’s 2013-2018 Prevention Agenda, which reports county and state-level measures on a public dashboard.⁸⁰ Its measures were available on an annual basis with data from the following sources. (Not all measures are relevant to New York’s DSRIP program, as Domain 4 projects do not cover the “promote a healthy and safe environment” Prevention Agenda focus area.)

- National Survey on Drug Use and Health
- NYS Behavioral Risk Factor Surveillance System and Expanded Behavioral Risk Factor Surveillance System
- NYS DOH HIV Surveillance System
- NYS DOH Office of Quality and Patient Safety
- NYS DOH STD Surveillance System
- NYS Hospital-Acquired Infection Program
- NYS Immunization Information System
- NYS Vital Records
- SPARCS

Performance measures for Domains 2 and 3 were available on a monthly or annual basis. The “monthly” measures were claims-based and reflect the past 12-month period (e.g., the MY2 Month 6 observation reflects data from MY1 Month 7 through MY2 Month 6).⁸¹ The annual measures comprised non-claims based measures (e.g., from CG-CAHPS patient surveys or

⁸⁰ New York State Department of Health. (n.d.). Prevention Agenda 2013-2018: New York State’s health improvement plan. Retrieved from https://www.health.ny.gov/prevention/prevention_agenda/2013-2017/

⁸¹ For example, the measures of potentially preventable emergency room visits and hospital readmissions have a denominator of the number of attributed members at the “period end date” (data observation month and year), and a numerator of the number of events that occurred among those members in the 12-month period ending on that date.

medical record reviews). All Domain 4 DSRIP program performance measures were reported annually.

There are two features of the monthly performance measures that were accounted for in the statistical analysis. First, as noted above these measures are moving averages, referred to by the NYS DOH as “rolling 12-month periods.” One issue is that effects from the DSRIP program will appear only gradually in the moving-average values of the outcome, and program effects will be misestimated without an adjustment in the regression model. A second technical issue with the moving averages data is that errors have serial correlation, in addition to that ordinarily found in interrupted time series models. The regression models adjust for both of these data characteristics.

A second important feature of the monthly performance data is that all events used for the performance measure are based on the number of members attributed to the PPS in the “period end date.” For example, the observation for the period end date of December 31, 2015 (corresponding to MY2 Month 6) is based on the activities of members that were attributed to the PPS for the month of December 2015. Attribution was a fluid process, with members having shifting attribution throughout the period including large shifts at the start of each MY when there were changes to provider networks. This data measurement process means that a member who was in a different PPS for part of the look-back year has all of his or her activity attributed to the PPS they were attributed to at the period end date. This requires a more nuanced interpretation of PPS-level aggregate performance indicators, as they are based on persons (in the denominators) whose attribution to specific PPSs might change over time.

Following consultation with NYS DOH, a limited list of approximately 60 measures were identified for detailed analysis in the *final* Summative Report. The following considerations guided the selection of these measures:

- Clear connection to the five quantitative research questions and associated hypotheses (excluding the cost research question, which uses different data; see section 3.3)
- Available for all PPS involved in the projects
- Ability to be trended over multiple years (for example, some measures were only available starting in MY3, and others had changes to their operational definitions midway through the study period)

In addition to the performance measures, the DSRIP Dataset contained information on the following PPS characteristics:

- Demographics of attributed members (age, gender, race/ethnicity, and county of residence)
- Number of attributed members per month
- Health status of attributed members (based on the 3M Clinical Risk Groups)
- Project selection (specific projects selected and total number of projects selected)

3.2.3. Data Analysis

3.2.3.1. Regression Analyses for Monthly Performance Measures

A full interrupted time series analysis and comparative regression analysis was performed on measures associated with avoidable hospital utilization (RQ-A) and utilization of behavioral health services (RQ-B). All PPSs were included in these analyses because avoidable hospital utilization is an overall DSRIP program goal and all PPSs had to select at least one behavioral health project.

The analysis of the monthly measures comprised:

- Descriptive analyses to illustrate statewide trends
- Interrupted time series regressions to quantify changes in statewide performance in the four MY following DSRIP program initiation
- Comparative regressions to examine: (1) how PPS-level characteristics were associated with inter-PPS differences in performance throughout the study period, and (2) how PPS-level characteristics were associated with changes in performance after DSRIP program initiation

Descriptive Analyses of Monthly Performance Measures

For the monthly measures, the descriptive analyses encompassed visual presentations of statewide trends. Fitted lines illustrate the overall statewide trends across the pre- and post-DSRIP program initiation period.⁸² Additional clustered bar charts displayed PPS-level values for each outcome in the last month of MY0, MY1, MY2, MY3, MY4, and MY5. Those visualizations allow for a more detailed understanding of how the values of each outcome differed across PPSs, and variation in trends over time within PPSs. As each monthly observation is a moving average, typically with a 12-month look-back period, the monthly value from the last month of a MY represents the performance from the entire MY.

Interrupted Time Series Regression Framework for Statewide Trends

For the monthly performance measures, an interrupted time series regression framework quantified changes in the statewide trends before and after the DSRIP program's initiation. Following the schematic of the distinct pre- and post-DSRIP program initiation periods (Exhibit 3.2.1.i), changes following the DSRIP program's initiation were assessed using a segmented regression whereby there is a linear trend for the pre-DSRIP program initiation period, a dummy variable to capture a level change after implementation, and a time interaction term to capture a slope change after implementation. The models adjusted for serial correlation. These "impact models" are a common framework to evaluate public health interventions, particularly

⁸² Nearly all time point observations in the study were during the period when the DSRIP program was underway, but the "pre" period was believed to include primarily start-up and organizational activities. The "pre/post" language is standard for time series analysis. The "pre" period refers to the early stages when the PPSs were forming, and the "post" implementation period refers to the later stages of the DSRIP program when the PPSs were implementing their projects.

when there is no clear control group.⁸³ For the statewide interrupted time series, the level of analysis was at the state-level using the total attributed Medicaid population.

If the outcomes were point-in-time values and not moving averages, then a typical interrupted time series regression framework follows:

$$y_t = \beta_0 + \beta_1 Time_t + \beta_2 DSRIP_t + \beta_3 (Time_t * DSRIP_t) + \epsilon_t$$

In the equation, y_t is the value of a performance measure such as *Potentially Preventable Readmissions*, where t subscripts the month. The $DSRIP_t$ variable is an indicator that is equal to 1 in MY2 through MY5, and equal to 0 otherwise; that captures whether a given monthly observation is in the pre- or post-DSRIP program initiation period. The coefficient β_1 measures the linear trend in the pre-DSRIP program initiation period. The coefficient β_2 measures whether there is a level change, or immediate decline in the outcome values, in the post-DSRIP program initiation period. The coefficient β_3 evaluates whether there is a change in the slope in the post-DSRIP program initiation period. The constant term, denoted by β_0 , is the intercept of the fitted line at the start of the study period (MY0 Month 12). The error term ϵ_t represents the effect of all unobserved factors that could not be measured.

To address the moving averages in the outcome data, the statewide interrupted time series in the *final* Summative Report uses a modified model:

$$y_ma_t = \beta_0 + \beta_1 ma12(Time_t) + \beta_2 ma12(DSRIP_t) + \beta_3 ma12(Time_t * DSRIP_t) + ma(\epsilon_t)$$

where $ma12(x_t)$ is the 12-month trailing moving average of the variable x in time period t .

In essence, this model has a moving average of the outcome as the dependent variable (as provided in the data supplied to the Independent Evaluator), moving averages of the independent variables, and a moving average error term. It can be shown algebraically that this allows the coefficients to be interpreted in the same manner as in a classic interrupted time series model without moving average outcome data. The regression assumed a linear functional form for time.

For ease of interpretation, the time variable is numbered so that the final pre-intervention month (MY1 Month12) is month number $Time = 0$, and the first intervention month number (MY2 Month 1) has a value $Time = 1$. Pre-intervention values are thus in the range of -12 through 0, and post-intervention values are numbered 1 through 48. This allows for the interpretation of the coefficients to be that β_2 is the initial level change immediately following DSRIP initiation, and that β_3 is the slope change (compared to the pre-DSRIP program slope) after DSRIP program initiation.⁸⁴

⁸³ Bernal, J.L., Cummins, S., & Gasparrin, A. (2017). Interrupted time series regression for the evaluation of public health interventions: a tutorial. *International Journal of Epidemiology*, 46(1), 348-355.

⁸⁴ Starting the slope-change variable in the period after DSRIP program initiation rather than in the period of DSRIP program initiation allowed this interpretation.

To account for serial autocorrelation, all models presented in the *final* Summative Report use a first-order autoregression model (AR(1)).

Exploratory and Sensitivity Analyses: Several exploratory data analyses and sensitivity analyses were performed to inform modeling decisions, assess the potential impact of the regression assumptions mentioned above, and aid in the interpretation of results.

First, extensive exploratory data analysis was conducted on all measures including examining their numerators, denominators, and measure values. The exploratory work encompassed both visual inspections (e.g., PPS-level and statewide trajectory plots to examine trends and box plots by PPS to examine outliers) and summary statistics. These insights were used to ensure a correct understanding of the data, inform the statistical modeling choices, and assist with the interpretation of results. For example, when looking at the raw data for the outcome of potentially preventable readmissions at the statewide level (Exhibit 3.2.3.1.i), the measure result (blue line) followed a decline with a large spike for five months in 2018. This finding resulted in a series of conversations between the Independent Evaluator and the NYS DOH to understand the data artifact. The spike corresponded with a period when a large insurance company submitted duplicate claims. While this was corrected, the potentially preventable readmissions monthly measure was not updated for these five months after the data were refreshed to reflect correct billing. Further exploratory data analysis revealed no impact on other measures examined, which was consistent with the assessment provided by NYS DOH. This led to a modeling decision to exclude the affected five months from the potentially preventable readmissions regressions.⁸⁵ A second finding from Exhibit 3.2.3.1.i is the increasing denominator (red line) in the first half of the period, corresponding to the implementation of the Affordable Care Act. While that could not be addressed statistically in the analysis, this insight was considered in the interpretation.

Another example from exploratory data analysis that led to detailed conversations with data and program experts to inform modeling decisions and interpretation is that the denominators for the behavioral health measures (not shown) had a sharp increase during MY1-MY2, which was associated with some “jumps” in the measure results (see sections 4.1.1 and 4.2.1). Again, while there was no analytic solution this visual exploration and conversations with the program and data experts was useful for ensuring a correct interpretation of findings.⁸⁶

⁸⁵ Adding a dummy variable for these five observations was considered. However, it was deemed insufficient for two reasons. First, the magnitude of the higher statewide value compared to that expected differed by month rather than being a clear fixed difference in each year. An appropriate correction through a dummy variable approach would have required a more complex set of model parameters. Second, the effect of the billing effort differed across PPSs due to local variation in health insurance markets. The PPS-level comparative regressions would have required a more complex solution with an interaction term between the dummy variable and a measure of the proportion of claims from that insurance company.

⁸⁶ A potential solution for the behavioral health measures would have been to omit observations during the early years when there was an influx in the denominators (i.e., number of members with specific behavioral health conditions). This was not pursued as a viable strategy because that would have yielded insufficient time points to create a pre-DSRIP trend and to avoid “cherry picking” data points for removal. The choice to drop the five PPS observations affected by the billing error was different conceptually because the unexpected outcome values during that short were clearly linked to the data artifact.

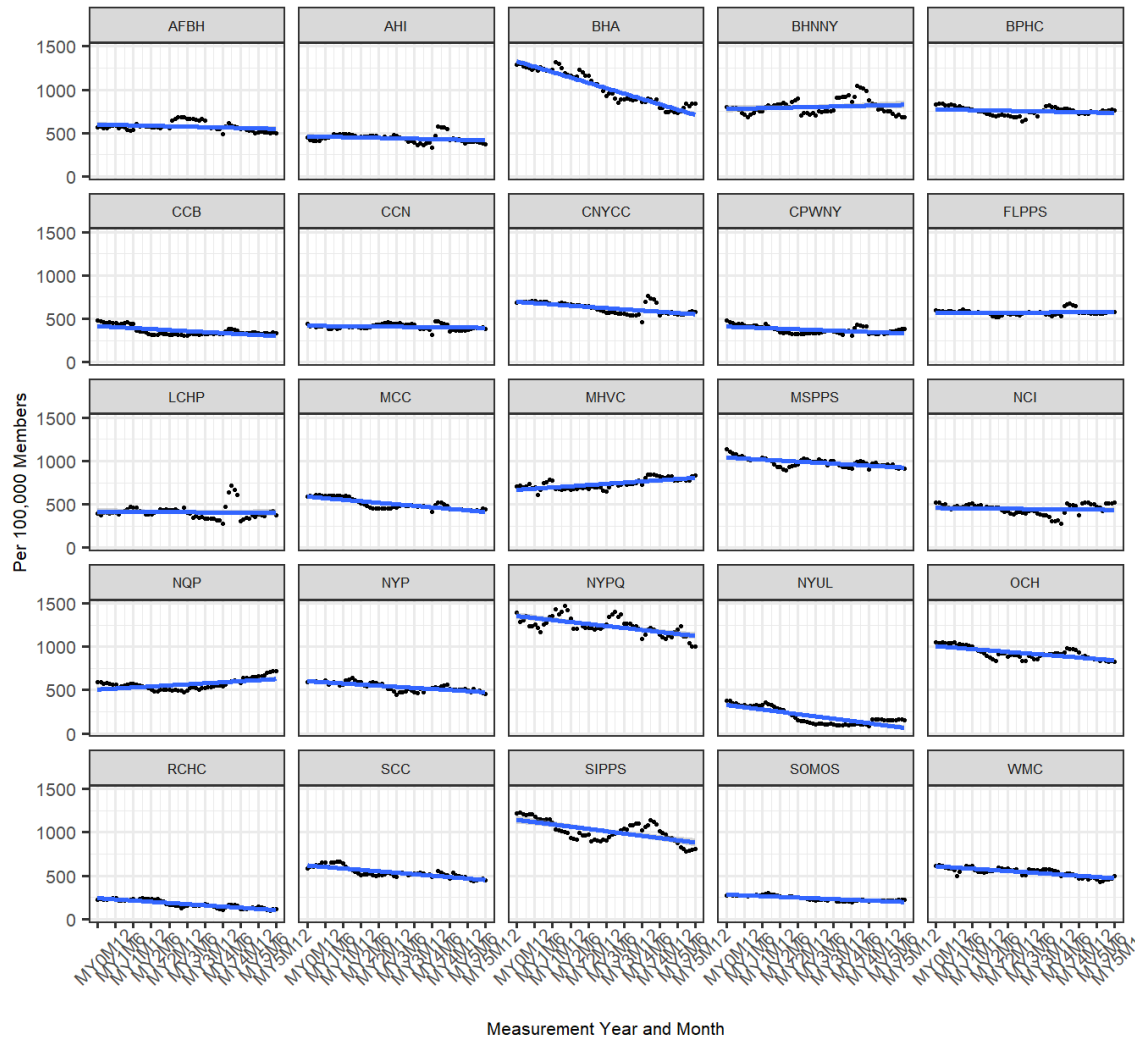
Exhibit 3.2.3.1.i. Exploratory analysis of the numerator, denominator, and measure result for the outcome of potentially preventable readmissions in the statewide interrupted time series



Notes: This measure comprises a numerator (number of PPR events) and a denominator (number of members). On the Y-axis, the three lines are indexed to have an equivalent value at the start of the DSRIP program to facilitate easy comparison.

The exploratory data analyses also included careful examination of PPS-level trajectories. Exhibit 3.2.3.1.ii provides a facet plot from the exploratory data analysis for the same PPR example, with each PPS’s trajectory in one box. A careful examination of this visualization identified two key findings. The first is that the average trajectories (blue lines) differed across PPSs in terms of slopes and magnitudes; the extent to which these differences are associated with PPS characteristics such as size and geography are assessed in the comparative regressions (described in more detail below). The second is that there are occasionally disruptions in these PPS-level data series, which resulted in a series of conversations with data and program experts. The reason is that attribution changes and within a geographical region with multiple PPSs, Medicaid members may be re-attributed to a different PPS. Again, while there was no analytic solution given the aggregate nature of the data, this was an important insight for interpreting the data and listed as a limitation.

Exhibit 3.2.3.1.ii. Exploratory analysis of the numerator, denominator, and measure result for the outcome of potentially preventable readmissions in the statewide interrupted time series, by PPS



Source: Authors' analysis of the DSRIP Dataset. Each box represents the trajectory of an individual PPS. The X-axis is in measurement year months. This is one example of a chart used for early exploratory data analysis to gain a better understanding of the data to inform modeling choices and interpretations of results.

Second, other functional forms including non-parametric specifications (no functional form assumed) and non-linear specifications (including logarithmic time transformation, inverse time (i.e., $1/t$), and a quadratic time (i.e., t^2)) were also considered in earlier versions of the model. The exploratory analyses described above included numerous visual inspections of the raw data to assess whether pre-DSRIP program initiation trends were systematically non-linear for all outcome measures included in the analysis. The linear form was used in the final models because it generally was the best fit to model pre- and post-DSRIP program initiation statewide performance and the simplest to present. The qualitative data from the implementation and process study did not provide strong evidence that a different functional form would be more appropriate based on how projects were implemented. The Independent Evaluator prioritized making decisions based on theoretical and conceptual considerations in addition to empirical

considerations (i.e., only specifying models based on findings from the data explorations). Conversations with data and program experts, in combination with exploratory data analyses, did not provide any conceptual or theoretical justification for having a different time specification by outcome.

Third, analyses were run to assess the impact of incorporating the moving averages (the approach presented here) versus not incorporating methods to adjust for that data feature. The moving averages issue is described above under “Interrupted Time Series Regression Framework for Statewide Trends.” The adjusted approach is better than the unadjusted approach due to the nature of the moving averages data that were available for the analysis. The purpose of this sensitivity analysis was therefore to understand the size of the impact of failing to adjust for the moving average nature of the data. As expected, results were not fully consistent between the unadjusted and adjusted approaches to handling the moving average outcome measures, and the decision was made to present the present approach because it is appropriate given how the measures were developed. Differences in coefficients between a regression specification with, and without, adjustment for the moving averages was not examined for all outcomes because this exercise was tautological. Seeing the difference between results for a couple outcomes with and without the adjustment simply reaffirmed that failure to adjust for this data feature could lead to inappropriate conclusions. The data were available in a “moving averages” format and could not be converted into a point-in-time format. The only analytic solution available was to include this adjustment in the statistical analysis.

Fourth, different serial correlation approaches were examined. While auto regressive integrated moving average (ARIMA) models with autocorrelation at lag 1 are presented here (AR(1)), for each outcome measure, additional models were run for a simple ordinary least squares (without adjustment for serial autocorrelation), and “auto ARIMA” models where the software selected the serial autocorrelation adjustment (e.g., AR(1) and AR(2), as well as moving averages terms) primarily by minimizing an Akaike information criterion statistic. See Exhibit 3.2.3.1.iii for sample output for the outcome of potentially preventable readmissions. After examining each permutation, the ARIMA AR(1) models were selected because they generally fit very well, there were no notable differences across specifications, and it was preferred to have similar model strategies for each outcome measure.

Exhibit 3.2.3.1.iii. Comparison of three model specifications for the outcome of potentially preventable readmissions in the statewide interrupted time series

Variable	ARIMA with AR(1)	Auto ARIMA	OLS with Moving Average
	b (SE)	b (SE)	b (SE)
Trend	-3.33*** (0.85)	-3.23*** (0.58)	-3.37*** (0.57)
DSRIP	-48.35*** (13.19)	-50.20*** (9.04)	-46.90*** (8.59)
Trend*DSRIP	3.04*** (0.84)	2.92*** (0.59)	3.04*** (0.56)

Variable	ARIMA with AR(1) b (SE)	Auto ARIMA b (SE)	OLS with Moving Average b (SE)
Constant	620.29*** (9.71)	621.86*** (6.86)	619.77*** (6.32)
Observations	56	56	56

Source: Authors' analysis of the DSRIP Dataset.

Notes: *p<0.1, **p<0.05, ***p<0.01. All measures are, in effect, twelve-month moving averages. Potentially preventable readmissions are measured per 100,000 members. The potentially preventable readmissions measure has five missing data points due to a large insurance company submitting duplicate claims in MY4 Month 7 through MY4 Month 11.

PPS-level Comparative Regression Framework

For the monthly performance measures to assess avoidable hospital utilization (RQ-A) and behavioral health utilization (RQ-B), the comparative analysis extended the statewide interrupted time series to examine how PPS-level characteristics were associated with overall differences in performance. The lack of data on time-varying characteristics of PPSs made it impractical to develop models designed to uncover causality, and this component of the analyses used pooled ordinary least squares regression models intended to examine how PPS characteristics were associated with DSRIP measures. The models used standard errors clustered by PPS with a correction for the small number of clusters.

The PPS-level characteristics evaluated in the *final* Summative Report follow. Descriptive statistics for these characteristics are shown in Appendix 5.

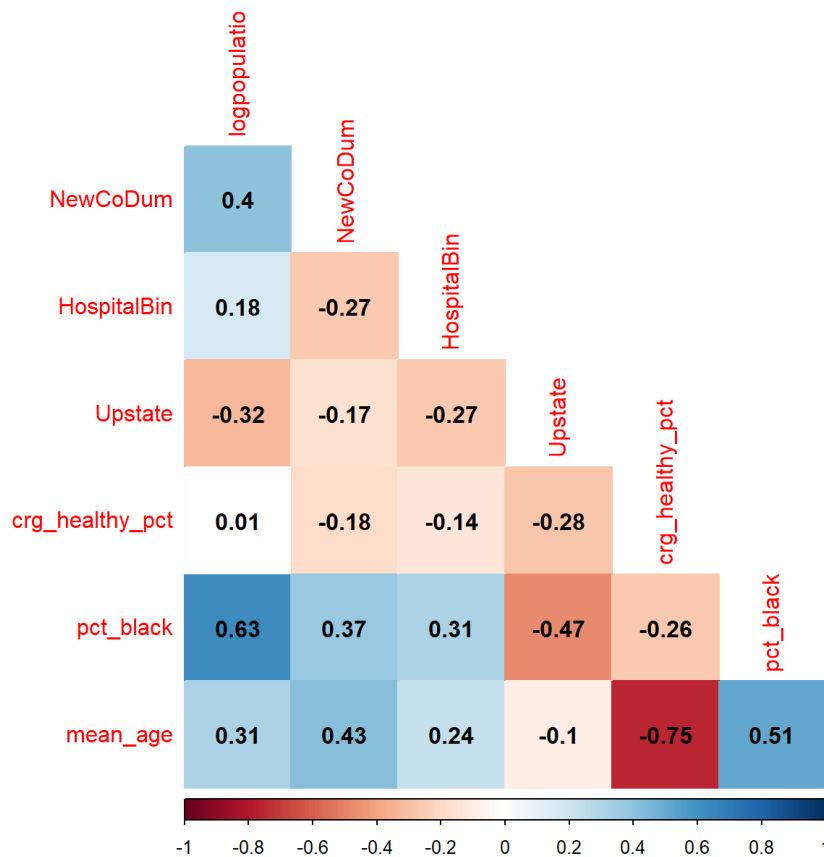
- **PPS size:** This time-varying characteristic was measured as the number of PPS members attributed each month. This was log-transformed, to account for the distribution not being normally distributed.
- **NewCo:** Of the 25 lead entities, 10 elected to form separate legal corporate entities (“NewCos”) for the collaborative efforts of their PPSs. This was a fixed (time-invariant) characteristic, with a reference group of pre-existing entities.
- **Lead entity type:** The lead entities comprised: 6 hospital systems, 8 multiple unaffiliated hospitals, 6 single hospitals, and 5 that were either non-hospital or multiple unaffiliated providers. This was a fixed (time-invariant) characteristic. Although the four categories were initially explored as a set of three dummy variables, the final models compared hospital systems to all other types as a dichotomous variable based on model fit and early insights from the implementation and process study that hospital systems differed.
- **Geography:** This was coded as three regions: New York City (five boroughs), NYC Metro (comprising Mid-Hudson and Long Island regions), and Upstate (all other regions). This was a fixed (time-invariant) characteristic, with Upstate as the reference group.
- **Health Status:** This was based on the 3M Clinical Risk Groups (CRG). The nine CRGs were collapsed into a dichotomous indicator of percent of PPS members with a healthy/acute score (CRG categories 1 and 2) versus those with higher scores (3 through 9). Alternative model specifications such as a three-level measure (healthy/acute, minor needs, and chronic needs) were explored but the simplified model was selected based on model fit

and a desire for a simpler interpretation. Consultation with medical experts at the NYS DOH confirmed this was an appropriate categorization.

- **Race:** This was coded as the percent of PPS members with self-reported “Black/African American” race. Hispanic ethnicity was also considered but not included due to missing data and inconsistencies in how it is recorded.
- **Age:** This was coded as the mean age of members in each PPS.

In developing the model framework, correlations and variance inflation factors were used to assess potential concerns with including all coefficients. Exhibit 3.2.3.1.iv shows the correlogram of the independent variables used in the regression with their specifications described above (e.g., log population). The most notable correlation was between mean age (mean_age) and health status (crg_healthy_pct) ($r = -0.75$, $r^2 = 0.56$). Conceptually, this fits expectations as older members are likely have more chronic conditions. The variance inflation factors were also examined in a model that included all predictors. For the PPS-level characteristics, all variance inflation factors were 5 or lower, which indicates no significant concerns with multicollinearity. While there was insufficient evidence to determine that any PPS characteristic should be excluded, the finding about the inverse relationship between mean age and health status was discussed in the model interpretations in sections 4.1.2 and 4.2.2.

Exhibit 3.2.3.1.iv. Correlogram of PPS-level characteristics used in the comparative regressions



Source: Authors’ analysis.

The model followed the same general specification as the time series, with several modifications.

First, the units of observation were the PPS-month (N=1,525 observations, or fewer for certain measures for which we excluded anomalous data points), rather than 1 statewide observation per month (interrupted time series, N=61 observations).

Second, the standard error estimates accounted for heteroscedasticity of error terms across each PPS and the clustering of monthly observations within each PPS. When data are subdivided into groups, the observations within each group often are unlikely to be independent of each other. Errors within each group, or cluster, are likely to be correlated violating a core assumption of many estimation procedures. Often this leads to underestimated standard errors, in turn causing overestimates of the significance of coefficients. The comparative regression analysis has observations clustered within PPSs. Outcome measures and regressors are likely to be highly correlated within PPSs, requiring that the model accounts for possible within-cluster correlation. One approach, which was *not* taken here, is to model the within-cluster correlation. Multilevel modeling and generalized estimating methods aim to provide separate marginal and cluster level estimates by specifying a model to account for possible unknown correlation. However, this approach requires strong assumptions about the distribution of error terms. Often, as with the DSRIP performance measures, information is not available to support these assumptions.⁸⁷ Thus, it is common to use a second approach of cluster-robust standard errors, which we used. This does not require making distributional assumptions about the errors when building the model, but instead adjusts estimated standard errors for potential correlation. Cluster-robust standard errors are usually larger than unadjusted standard errors and reduce estimates of coefficient significance. We clustered standard errors by PPS, using a heteroscedasticity-consistent covariance matrix to calculate the standard errors. A related consideration is that simple standard error adjustments can produce standard errors that are too small when the number of clusters is small, although there is no definitive rule about the minimum number of clusters needed to avoid this concern.⁸⁸ The authors of the seminal paper on accounting for small numbers of clusters argued in favor of a bootstrap method (estimating standard errors through repeated sampling of the data) known as the “wild cluster bootstrap” and also noted that non-bootstrap adjustments that incorporate small-sample corrections can be appropriate alternatives.⁸⁹ We examined both the wild cluster bootstrap approach and the small-sample correction approach; for the latter we used the “HC3” (heteroscedasticity-consistent, variant 3) estimator, which has been found to have excellent performance in small samples, and works well when the number of clusters is small.^{90,91} We found that both approaches produced extremely similar results, and for purposes

⁸⁷ A. Colin Cameron & Douglas L. Miller. (2015). A practitioner’s guide to cluster-robust inference. *Journal of Human Resources*, 50 (2), 317-72.

⁸⁸ A. Colin Cameron & Douglas L. Miller. (2015). *Ibid.*

⁸⁹ A. Colin Cameron, Jonah B. Gelbach & Douglas L. Miller. (2008). Bootstrap-based improvements for inference with clustered errors. *The Review of Economics and Statistics*, 90(3), 414-427.

⁹⁰ J. Scott Long & Laurie H. Ervin. (2020). Using heteroscedasticity consistent standard errors in the linear regression model. *The American Statistician*, 54(3), 217-224.

⁹¹ Achim Zeileis. (2004). Econometric computing with HC and HAC covariance matrix estimators. *Journal of Statistical Software*, 11(10), <https://www.jstatsoft.org/article/view/v011i10>.

of this report we have used HC3-adjusted standard errors. In general, robust standard errors reduced the significance of coefficients on several variables compared to model results with no adjustment. The three models presented in Exhibit 4.1.2.3.i (comparative regression results for the outcomes of PPR, PPV, and PPVBH) had a total of 23 coefficients (excluding intercepts). Of those 23 coefficients, compared to the non-robust-standard-errors model (not shown in the exhibit), the robust standard errors reduced 3 coefficients in significance, changed 2 coefficients from significant to insignificant, and increased the significance level of one coefficient. These kinds of changes are both expected and, importantly, appropriate. Adjusting for correlation among errors was necessary with our data and our method of calculating standard errors appropriately accounts for the small number of clusters.

Third, the model contained additional covariates for each of the PPS characteristics described above to examine associations with differences in performance. Several models were examined in the exploratory model-building process: 1) seven bivariate models which only included one PPS characteristic each; 2) a model that contained all PPS characteristics; 3) a model that was developed with an automated forward stepwise regression procedure, with coefficients added based on a criterion of $p < 0.1$; and 4) a model that was developed with an automated backwards stepwise regression procedure, starting with all coefficients and removing them based on a criterion of $p < 0.1$. The models presented here are based on the backwards selection models, which were determined to be the best fit and representation of the data in a parsimonious model. Stepwise regression was used because there was no theoretical reason to require that specific variables be included; rather, all seven PPS characteristics were identified as potential factors that might be related to performance outcomes based on the implementation and process findings and discussions with NYS DOH content experts. The regression models were intended to examine correlations.

Sensitivity Analyses: The general functional form with coefficients for *Time*, *DSRIP*, and *Time*DSRIP* was used for consistency with the statewide interrupted time series. The models were run with and without clustered standard errors and the models presented here use clustered standard errors because they are more appropriate. As noted above, different versions of the PPS characteristics (e.g., using two versus three variables to capture differences in CRG scores) were explored and the version of the PPS characteristics presented here were selected based on model fit, conceptual considerations (e.g., the implementation and process study identified differences in PPSs in the three regions of NYC, NYC Metro, and Upstate), and ease of interpretation (e.g., using a more granular lead entity type did not yield different conclusions and was more difficult to interpret). A more complex version of the model with interaction terms between each PPS characteristic and the three DSRIP coefficients (*Time*, *DSRIP*, and *Time*DSRIP*) was considered, but the simplified approach was selected because the more complex models with interaction terms were difficult to interpret, did not yield major differences in conclusions about which PPS characteristics were most important for describing inter-PPS variability, and there were too many coefficients to reasonably enter into the model in a multivariable approach (i.e., there were insufficient degrees of freedom to allow for all PPS characteristics and their complete set of interaction terms to be included in the model simultaneously in a stepwise procedure).

Special Notes on Prevention Quality Indicators, Pediatric Quality Indicators, and Potentially Preventable Readmissions

The Prevention Quality Indicators (PQIs) and Pediatric Quality Indicators (PDIs) are commonly-used quality metrics. However, as noted above, they could not be used to evaluate the DSRIP program's impact on health care quality as initially proposed in the CMS-approved evaluation plan due to the transition from the ICD-9 to ICD-10 disease classification system in billing codes in October 2015. That transition date occurred during the second year of the DSRIP program (MY2 Month 4) and CMS concurred with the NYS DOH that these measures cannot be trended for the purposes of the DSRIP program (see Appendix 4). In the absence of trendable PQI and PDI measures, the *final* Summative Report focuses primarily on the 3M preventable hospitalization measures (to answer the research question on hospitalization outcomes) and process indicators that are important components of high-quality clinical care but not direct health outcomes.

For the PPR measure, five observations were omitted from the analyses (corresponding to MY4 Month 6 through MY4 Month 11, or calendar months January 2018 through May 2018) due to a large insurance provider submitting duplicate claims. While this was corrected and reflected in the annual MY4 measure, the PPR monthly measure for these five months was not updated after the data were refreshed to reflect correct billing. Consequently, all statistical analyses of the PPR measure have 56 observations in the interrupted time series analysis (at the statewide level, instead of 61) and 1,400 observations in the comparative regression analysis (at the PPS-month level, instead of 1,525).

The cost data, described in Section 3.3, were not affected by this billing error because duplicate encounters submitted had zero dollars reported.

Special Notes on Aggregation of Monthly Measures to the Statewide Level

All monthly measures were derived from claims data, and included both numerators and denominators (e.g., the measure of follow-up care for children prescribed ADHD medications in the initiation phase has a numerator of "children who had one follow-up visit with a practitioner within the 30 days after starting the medication" and a denominator of "number of children, ages 6 to 12 years, who were newly prescribed ADHD medication").⁹² The statewide averages were calculated by first summing the numerators and denominators across PPSs and then dividing. This is equivalent to a population-weighted average, although the population for each measure may differ depending on the denominator (e.g., the population for the measure of potentially preventable readmissions is all attributed members, whereas the population for the ADHD measure is children who were newly prescribed ADHD medication among the attributed population).

⁹² See the DSRIP Measure Specification and Reporting Manuals.

3.2.3.2. Descriptive Analyses of Other Performance Measures

For the annual measures, not available on a rolling 12-month basis, a regression analysis was inappropriate due to an insufficient numbers of data points. They were summarized descriptively as values in each year, changes over time, and differences across PPS. Many of these measures were not relevant to all 25 PPSs, as they were associated with specific projects. For measures that were not applicable to all 25 PPSs, the data were first filtered to the PPSs that selected the relevant projects.⁹³

Several measures that are available more frequently were presented descriptively in an annual fashion because there was little variation over time (e.g., the adults' and children's access to preventive care measures were already at high levels at the start of the DSRIP program) or else they were relevant to projects selected by few PPSs (e.g., the HIV measures were only relevant to one PPS).

Special Notes on Aggregation of Annual Measures to the Statewide Level

Most annual measures were derived from patient surveys (such as the Clinician and Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS)), medical record reviews based on random samples, or other non-claims sources. For these measures it was not appropriate to calculate the statewide average as the sum of numerators divided by the sum of denominators among the PPSs selecting the project. Instead, a population weight was used with the population equivalent to the number of members in the PPS at the end of the MY. Three exceptions where the statewide average was calculated as the sum of numerators divided by the sum of denominators for annual measures were: (1) non-use of primary/preventive care (derived from Medicaid claims), (2) percent of ED visits that were self-pay (derived from hospital discharge data), and (3) potentially preventable admissions.

3.3. Study Design for Evaluation of DSRIP Program Costs

3.3.1. Overview of the Cost Analysis

The sixth research question is to evaluate the DSRIP program's costs (RQ-F):

Did the DSRIP program reduce health care costs? (Sub-question: Was the DSRIP program cost effective in terms of New York and federal governments receiving adequate value for their investments?)

This question is associated with five hypotheses that distinguish types of costs. If the DSRIP program were "cost effective," then it is expected that there will be an increase in primary care and behavioral health services costs, and a decrease in emergency and hospital inpatient costs.

- **H9:** Costs for primary care services will increase.

⁹³ Filtering to the PPSs selecting the relevant projects was not relevant to the monthly measures used in the regression analyses, as the monthly measures were reported for all PPSs.

- **H10:** Costs for behavioral health care services will increase.
- **H11:** Costs for emergency department services will decrease.
- **H12:** Costs for hospital inpatient services will decrease.
- **H13:** Total cost of care will decrease.

The Independent Evaluator and NYS DOH determined that this question was best answered by an analysis of changes in expenditures⁹⁴ over time, and how they varied by service categories.

3.3.2. Data Source for Cost Analysis

Data for the cost analysis were based on New York Medicaid claims and encounter data maintained by Salient Management Company on behalf of the NYS DOH. The study time period for the cost analysis is 72 months, from MY0 Month 1 (July 2013) through MY5 Month 12 (June 2019) of the DSRIP program. That comprises an additional one year period prior to the start of the DSRIP program, and the five-year demonstration period. Salient provided the data to the Independent Evaluator based on specifications developed by the Independent Evaluator and discussed with Salient and the NYS DOH to address several technical aspects of the data. Salient produced the data files based on: 1) the same member-level attribution tables used to develop the DSRIP program performance metrics, 2) paid Medicaid fee-for-service claims and managed care plan reported encounter data using logic from prior New York analyses, and 3) output of the 3M “preventables” grouper combined with dollars from the paid claims and encounters.

Spending was categorized using revenue codes, specialty codes, claim class codes, bill type codes, diagnostic related groups (APR DRGs), New York State rate codes, and claim type codes into several categories (see Exhibit 3.3.2.i): inpatient, emergency department, behavioral health (outpatient mental health and substance use disorder treatment), pharmacy, primary care, ambulatory care, long-term care, ancillary care, Health Home, managed care, Graduate Medical Education, and other expenditures not captured in these categories. Total expenditures represent the sum of all spending categories.

In the expenditures dataset prepared by Salient, inpatient and emergency department expenditure categories were further broken down into spending on potentially preventable hospital admissions (PPA), potentially preventable readmissions (PPR), and potentially preventable emergency department visits (PPV) identified using 3M’s software algorithm. Specifically, inpatient spending was grouped into five mutually exclusive categories: PPA only, PPR only, both PPA and PPR (calculated for PPAs and PPRs that overlapped), neither PPA nor PPR, and other inpatient spending. A similar approach was used to categorize emergency department spending into three mutually exclusive categories: PPV only, non-PPV, and other emergency department spending. The “other” inpatient and emergency department spending categories represent claims that were received after the cutoff date used to identify the preventable events. It could not be determined if these claims were for preventable or non-preventable events and were therefore placed in a separate category. Total expenditures for

⁹⁴ While the CMS question uses the term “costs,” the *final* Summative Report uses the term “expenditures” as it is a better representation of the budgetary outlay that was assessed in the analysis.

inpatient and emergency department services represent the sum of these detailed inpatient and emergency department categories.

In developing the categories, claims were classified using the following hierarchy: 1) inpatient (PPA and PPR), 2) inpatient (PPR only), 3) inpatient (PPA only), 4) inpatient (neither PPA nor PPR), 5) emergency department (PPV), 6) emergency department (non-PPV), 7) prescription, 8) primary care, 9) Health Home, 10) mental health, 11) substance use, 12) managed care, 13) other inpatient, 14) Graduate Medical Education, 15) other emergency department, 16) ambulatory, 17) ancillary, 18) long term care, and 19) other.

Expenditures represent the expenditures in a given month. This contrasts with the “rolling year” performance measures in the DSRIP Dataset.

Exhibit 3.3.2.i. Details on expenditures included in cost category groupings

Category		Items included
Inpatient hospitalizations	PPA-only	Includes only hospital admissions that could have potentially been prevented and that were not also flagged as PPRs.
	PPR-only	<ul style="list-style-type: none"> • Initial Admission • Readmission • Readmission – Transfer
	PPA and PPR	See above. This category comprises expenditures that are dually-classified as both PPA and PPR expenditures.
	Neither PPA nor PPR	Identifies all inpatient claims present in the 3M source tables that are not flagged as either a PPA or a PPR.
	Other inpatient	<p>This category comprises inpatient expenditures that could not be classified as a preventable or non-preventable event, and without a GME rate, based on known information.</p> <ul style="list-style-type: none"> • Institutional claims (claims class code 61) • 11, 12, and 41 inpatient bill type codes, further filtered on room and board revenue codes
Graduate Medical Education	GME	This category comprises claims that meet the inpatient criteria but were not identified in the other inpatient categories above, and which have a GME rate code.
Emergency department	PPV	<p>This category identifies emergency department visits that could have otherwise been treated in a nonemergency setting.</p> <ul style="list-style-type: none"> • At Risk, Potentially Preventable (RP)
	Non-PPV	<p>This category identifies the emergency department visits that do not classify as potentially preventable.</p> <ul style="list-style-type: none"> • At Risk, Not Potentially Preventable (RN) • Excluded, Not Potentially Preventable (EN) • Excluded, But Would Have Been Potentially Preventable (EP)
	Other emergency	<p>This category comprises expenditures that could not be classified as a preventable or non-preventable event, based on known information.</p> <ul style="list-style-type: none"> • Institutional claims with either a revenue code, procedure code, or rate code specific to emergency room use

Category		Items included
Behavioral health	Mental health	Identifies claims for outpatient mental health treatment that are not also flagged as PPR, PPV, health home, or primary care. <ul style="list-style-type: none"> • OMH Substance Use Disorder rate with OMH Diagnosis • OMH Rates • Mental Health Procedure with Mental Health Diagnosis Code • Mental Health Specialty Code on Practitioner or Clinic Claim/Encounter • Mental Health Specialty Code with Mental Health Diagnosis on Practitioner or Clinic Claim/Encounter
	Substance use disorder	Identifies claims for outpatient substance use disorder treatment that are not also flagged as PPR, PPV, health home, primary care, or mental health. <ul style="list-style-type: none"> • OASAS Rates • OASAS/OMH Rates with OASAS Diagnosis • OASAS Procedure code • Procedure code with OASAS Diagnosis • OASAS Specialty Code • Specialty Code with OASAS Diagnosis
Pharmacy		Identifies costs related to prescription and non-prescription drugs. <ul style="list-style-type: none"> • Claim Class Category 62
Primary care		Identifies costs related to primary care services provided by a primary care physician that are not also flagged as PPR or PPV. <ul style="list-style-type: none"> • Primary Care Specialty Code • Family Medicine Specialty Code • Multiple specialty codes with majority of claims under primary care specialty • Primary care visits and costs are further defined based on evaluation and management codes, immunizations, and screenings provided by a primary care provider
Managed care		This category identifies costs for managed care capitation payments and add-ons that are not also flagged as Health Home. This category should not be combined with any other category in the analysis to avoid duplication. <ul style="list-style-type: none"> • Invoice Type Category = 21 'Managed Care Capitation'
Health home		Identifies costs for care management services provided by a Health Home that are not also flagged as PPR, PPV, or primary care. <ul style="list-style-type: none"> • Health Home Rates
Ambulatory		Includes claims not identified in other categories and that have the following claim types: <ul style="list-style-type: none"> • Practitioner • Clinic • Dental • Referred Ambulatory • Undefined Professional • Eye Care
Ancillary		Includes claims not identified in other categories and that have the following claim types:

Category	Items included
	<ul style="list-style-type: none"> • Laboratory • Transportation • Supply Medical (Durable Medical Equipment)
Long-term	<p>Includes claims not identified in other categories and that have any of the following claim types:</p> <ul style="list-style-type: none"> • Residential Health Care (Nursing Home) • Home Health Agency – Personal Care • Child Care • Intermediate Care Facility Developmentally Disabled
Other costs	Includes claims not identified in the other categories.

Source: Salient’s design document for the expenditure dataset prepared for the Independent Evaluator
Abbreviations: Graduate Medical Education (GME), Potentially Preventable Admissions (PPA), Potentially Preventable Readmissions (PPR), Potentially Preventable Emergency Department Visits (PPV), New York State Office of Addiction Services and Supports (OASAS), New York State Office of Mental Health (OMH)

3.3.3. Data Analysis

The expenditures analysis comprises:

- Charts of monthly expenditures, overall and by category
- Charts of annual expenditures, overall and by category
- Charts of hospitalization expenditures, separated by the categories of emergency department and inpatient
- Charts of primary care and behavioral health expenditure categories

Each expenditure outcome is presented as both total expenditures and on a per member per month (PMPM) basis. All expenditures are adjusted for inflation using the medical consumer price index and presented in 2019 dollars, the last year of the DSRIP program. The main charts used to answer the research question focus on the annualized expenditures, which are the average expenditures over the 12-month MY periods. This was done for improved ease of interpretation and to smooth out the natural month-to-month fluctuations.

The population for the cost analysis is DSRIP program-eligible members, including both attributed and non-attributed populations. This differs from the population used in the interrupted time series and comparative regressions of performance measures, which is limited to Medicaid members that were both eligible for the DSRIP program and attributed to a PPS. The cost analysis should therefore be interpreted as an “intent-to-treat” analysis compared to the “as-treated” analysis for the performance measures. This analytic decision was made due to the inclusion of 12 months of data prior to the DSRIP program’s initiation. For MY1 through MY5, it was possible to distinguish expenditures associated with attributed versus non-attributed populations. For the pre-DSRIP program time period (MY0), the DSRIP program was not yet operational and the PPSs did not exist; consequently, it was infeasible to retroactively

assign PPS attribution.⁹⁵ Using the less granular DSRIP program-eligible population for the MY1-MY5 period allowed the pre- and post-DSRIP program populations to be comparable.

For the analysis, capitation payments made by the New York State Medicaid program to managed care organizations were excluded; payments made by managed care organizations to providers for services provided to Medicaid members are captured in their respective spending categories. Including the managed care capitation payments would have “double-counted” those expenditures, as those expenditures paid by NYS DOH are passed through the managed care organizations to the providers who delivered the services. Expenditures among Medicaid/Medicare dual-eligibles and Graduate Medical Education expenditures were also excluded from the analysis.

The analysis of hospital expenditures includes additional charts that break down inpatient and emergency department expenditures into preventable versus non-preventable categories. The inpatient “preventable” expenditures include those that are classified as potentially preventable admissions (PPA) and/or readmissions (PPR) based on the 3M grouper. The inpatient “non-preventable” expenditures are those that are classified as neither PPA nor PPR. The emergency department “preventable” expenditures comprise those classified as potentially preventable emergency department visits (PPV) using the 3M grouper, and “non-preventable” expenditures are non-PPV. Some inpatient and emergency department expenditures (inpatient: 10.2%, emergency department: 8.7%) could not be classified using the 3M grouper and are excluded from the exhibits. These exhibits only display expenditures for January of each MY. Although the PPA, PPR, and PPV measures reflect 12-month periods, the PPA grouper was only run once annually by the data vendor. January was selected to present the preventable versus non-preventable detail because this month had the most complete data with respect to adjudicated claims.

Deviation from the CMS-approved evaluation plan: The initial evaluation plan called for an evaluation of cost-effectiveness that included assessment of the “incremental costs of each life-year gained or of hospital readmissions of the traditional and DSRIP Medicaid programs.” After reviewing available data and preliminary findings from the implementation and process study, the Independent Evaluator and the NYS DOH jointly concluded that this early approach was not feasible. An incremental cost-effectiveness ratio requires a comparison group receiving the “status quo” medication or intervention, which in this case would be the traditional Medicaid program. In this circumstance, there was no comparison group as Medicaid members eligible for the DSRIP program were included in the program. The DSRIP program did not use random assignment, a phased-in eligibility, or other mechanisms to allow for a control group of an equivalent Medicaid population that was eligible for the DSRIP program but not yet enrolled. A comparison of attributed and non-attributed populations for the cost analysis was not appropriate for the comparison of two groups to create an incremental cost-effectiveness ratio because these populations are inherently different, with non-attributed populations typically

⁹⁵ Specifically, the only month of the pre-DSRIP program period (MY0) with available information on PPS-attribution was MY0M12. Attribution was not available for the remaining 11 months of the pre-DSRIP program period, as PPSs were not yet operational.

being non- or low-utilizing populations. They were not attributed to a PPS because they did not have sufficient services to be assigned to a provider. Adding an additional 12 months of pre-DSRIP program data (MY0 Months 1 through 12) allowed for a longer time period of analysis but as noted earlier, it was not feasible to distinguish whether members presumed to be DSRIP program-eligible during MY0 would be attributed or non-attributed because PPSs were not yet in existence. Even if the DSRIP program had used a random assignment or phased eligibility to create equivalent treatment and control groups for analysis, an incremental cost-effectiveness ratio using hospital readmissions would have required tracking a consistent cohort of members in the treatment and control groups. This was impractical due to churning in the Medicaid program (i.e., members changing their Medicaid status over time due to gaining or losing private health insurance, transitioning to different Medicaid eligibility categories such as low-income parents, etc.), the increase in Medicaid eligibility under the Affordable Care Act Medicaid expansion, programmatic changes prior to the DSRIP program (e.g., advent of the Health Home program; increased enrollment in Medicaid managed care, including Health and Recovery Plans) and churning within the Medicaid program between managed care plans. The wide variety of clinical quality projects whereby PPSs focused on different diseases, combined with the ICD-9 to ICD-10 transition that prevent an ability to trend over time, make it impractical to focus on changes in clinical outcomes and translate those into life years saved.

Although the current analysis differs from the original plan, it is informative as it provides detailed information on how New York progressed in its efforts to reduce avoidable hospital use and its focus on behavioral health care. Examining changes in expenditures by category allows for a nuanced view of specific services that had higher or lower utilization over time. The method to develop the cost data also allowed for an additional 12 months of pre-DSRIP data.

3.4. Study Design for Evaluation of the Implementation and Process

3.4.1. Overview of Implementation and Process Study Design

The evaluation of the implementation and process comprises a detailed description of the DSRIP program's evolution. This serves several purposes. First, this component of the independent evaluation highlights successes and challenges with the DSRIP program's implementation and operations to share with the PPSs, NYS DOH, CMS, and other stakeholders. Second, it provides valuable context for interpreting the DSRIP program performance metrics, such as inter-PPS differences and the anticipated timing of observed changes in outcomes.

While the analysis of DSRIP program performance metrics (see Section 3.2) and costs (see Section 3.3) uses administrative data prepared by NYS DOH for the purposes of the DSRIP program, the implementation and process study synthesizes information from four data sources: PPS key informant interviews, regional partner focus groups, a statewide partner survey, and a patient survey. These capture the experiences of diverse DSRIP program stakeholders. The Independent Evaluator collected the first three data sources, while the fourth was collected by the NYS DOH and made available to the Independent Evaluator.

Exhibit 3.4.1.i summarizes the key data sources, and Exhibit 3.4.1.ii describes the areas of inquiry covered by each. These are each described in detail in Sections 3.4.2 through Section 3.4.5.

Exhibit 3.4.1.i. Overview of data sources used to study the implementation and process

	PPS Key Informant Interviews	Regional PPS Partners Focus Groups	Statewide Partner Survey	Patient Survey (Clinician & Group CAHPS Survey version 3.0)
Topic Addressed	PPS organizational development (cycle 1), project implementation (cycle 2), preparation for value based payment (cycle 3), and perceived performance (cycles 1 through 3)	PPS perceptions of the DSRIP program	Functioning of individual projects	Patient experiences with health care providers and services
Method	Semi-structured telephone interviews	In-person facilitated focus groups	Web-based survey	Mail and phone surveys
Data collection periods	DY3: 07/2017-08/2017 DY4: 06/2018-08/2018 DY5: 06/2019-07/2019	DY3: 11/2017 DY4: 08/2018 DY5: 08/2019-09/2019	DY3: 09/2017-11/2017 DY4: 09/2018-10/2018 DY5: 09/2019-10/2019	MY1: 09/2015-10/2015 MY2: 09/2016-11/2016 MY3: 09/2017-12/2017 MY4: 09/2018-12/2018 MY5: 09/2019-01/2020
Target population	DY3: PPS administrators who were most knowledgeable about DSRIP program start-up, implementation, and ongoing operations DY4: PPS administrators and staff directly responsible for launching DSRIP program projects and overseeing project implementation DY5: PPS administrators most knowledgeable about DSRIP program operations. Served as an update to interviews conducted in DY3.	Partners engaged in PPS projects	Partners engaged in PPS projects	Medicaid members ages 18-64 who were attributed to a PPS and had at least one visit with a primary care provider in the PPS network
Sample size	DY3: 25 PPS, with 1 to 10 informants per PPS	DY3: 33 DY4: 58 DY5: 144	DY3: 897 (RR: 32.1%) DY4: 1,071 (RR: 49.3%) DY5: 835 (RR: 34.4%)	MY1: 10,884 (RR: 30.8%) MY2: 7,915 (RR: 28.1%). MY3: 10,238 (RR: 29.8%)

PPS Key Informant Interviews		Regional PPS Partners Focus Groups	Statewide Partner Survey	Patient Survey (Clinician & Group CAHPS Survey version 3.0)
DY4: 25 PPS, with 2 to 18 informants per PPS DY5: 25 PPS, with 2 to 9 informants per PPS				MY4: 9,105 (RR: 26.4%) MY5: 8,817 (RR: 25.4%)
Geographic scope	Statewide	DY3: Capital District and North Country DY4: New York City and Long Island DY5: Western New York/Finger Lakes, Southern Tier, Hudson Valley, North Country, and Mohawk Valley/Central New York	Statewide	Statewide

Abbreviations: Demonstration Year (DY), Measurement Year (MY), Response Rate (RR).

Notes: This table aligns with the tables on pages 12-14 of the CMS-approved Independent Evaluation plan. The patient survey comprises the Clinician & Group Consumer Assessment of Healthcare Providers and Systems Survey (version 3.0) (CG-CAHPS). To assess patient experiences section as part of the implementation and process study, the Independent Evaluator analyzed CG-CAHPS data made available by NYS DOH in an aggregate format, as prepared by another vendor (DataStat). Some of the same CAHPS measures are available in the DSRIP Dataset as performance measures and were analyzed.

Exhibit 3.4.1.ii. Areas of inquiry covered by each data source in the implementation and process study

Topics Covered	PPS Key Informant Interviews	Regional Partner Focus Groups	Statewide Partner Survey	Patient Survey
Program planning, operations, and effectiveness	X	X	X	
Program outcomes and challenges	X	X	X	
Plans for program sustainability	X		X	
Effectiveness of governance structure and provider linkages	X	X		
Facilitators and barriers to PPS achieving progress on P4R/P4P metrics	X	X	X	
Contractual and financial arrangements	X	X	X	
Challenges in the delivery of patient care	X	X	X	
Effect of other ongoing health care initiatives on DSRIP program implementation and operation	X	X		
Progress and perceived effectiveness of projects focused on system transformation	X	X	X	
Progress and perceived effectiveness of projects focused on behavioral health	X	X	X	
Progress and perceived effectiveness of projects focused on clinical improvement and population health			X	
Patient satisfaction and experience	X	X	X	X

Abbreviations: Pay for Performance (P4P), Pay for Reporting (P4R)

Notes: The data sources and the topics in this table align with pages 12-13 of the CMS-approved Independent Evaluation plan.

3.4.2. Data Collection and Analysis for Key Informant Interviews

3.4.2.1. Sampling and Recruitment

There were three cycles of key informant interviews with PPS administrators and staff. Purposive sampling was used in the first and third cycles to identify executive leadership at each of the 25 PPSs who were knowledgeable about DSRIP program start-up, implementation, administration components, operations, and challenges, and in the second cycle to identify administrators and staff who were directly responsible for launching DSRIP program projects

and overseeing project implementation. Unlike random sampling which is commonly used for population surveys, purposive sampling deliberately selects participants who have particular characteristics or represent diverse viewpoints in order to explore a phenomenon in detail and capture a range of perspectives.^{96,97,98} Consequently, the findings are a description of the implementation process, projects, successes, and challenges; and should not be interpreted as representative beliefs.

To recruit study participants, the Public Consulting Group (PCG) DSRIP Account Support Team (AST) identified a contact at each PPS who would assist in identifying key informants. Telephone calls were scheduled directly by the researchers with these contacts to explain this component of the independent evaluation and request the e-mail addresses of these staff. These contacts also assisted in scheduling the interviews.

During the first research cycle, the Independent Evaluator identified administrators at each of the 25 PPSs who were most knowledgeable about the DSRIP program's start-up, implementation, ongoing processes, administrative components, and challenges in the first two DY. A similar approach was used during the third research cycle to collect updated information on DY3 through DY5. If a single person did not possess the necessary knowledge and background in each of these areas, additional people were included in the interview. Generally, the sample included one or more of the following individuals within each PPS:

- Chief Executive Officer,
- Chief Operating Officer, or the individual currently responsible for all operations,
- Someone with authority who was involved in PPS start-up,
- Fiscal officer or individual involved in financial transactions, and
- Other individuals identified by either the NYS DOH or the PPS who were vital to the ongoing operations of the PPS.

During the second cycle, the Independent Evaluator recruited individuals who were directly responsible for launching DSRIP program projects and overseeing project implementation. These were typically project managers during the implementation phase. By DY4, most PPSs had restructured, and many project managers were phased out. Consequently, the key informants for the second cycle had a variety of job titles.

All 25 PPSs participated in the key informant interviews in each cycle. There were between one to 10 key informants from each PPS in the first cycle, between two to 18 key informants in the second cycle, and between two to nine key informants in the third research cycle. In the first

⁹⁶ Bryman, A. (2012). *Social Research Methods* (4th ed.). Oxford, UK: Oxford University Press.

⁹⁷ Creswell, J.W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

⁹⁸ Patton, M.Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

cycle an additional interview was conducted with an existing leader at one PPS who was deemed to have pivotal information about the formation and development of the PPS.

3.4.2.2. Data Collection Procedures

Semi-structured interview guides (see Appendix 6) were developed for each key informant interview cycle. The interview guides for each cycle contained questions about the following topics: (1) operations, (2) challenges and successes, and (3) perceived outcomes and recommendations. The interview guide for cycle 1 also contained questions about initial formation of the PPS and administrative issues and structural configurations while the interview guide for cycle 3 included additional questions on shifts to value based payment. Each question included a series of prompts to generate more specific examples or experiences. The interview guide was designed to align with the scope of the DSRIP program evaluation research question (RQ-G; see Section 3.1) and received input and final approval from NYS DOH.

Prior to each interview, the interview guide was tailored to each key informant's individual role and PPS. For example, some PPSs had legacy staff who were with the project since initial formation and other PPSs experienced full turnover. As such, questions were developed to be flexible within the knowledge scope of interview participants. Prior to each interview, the interviewers prepared by reviewing relevant publicly available documents such as PPS Quarterly Reports and the Mid-Point Assessment Reports to understand the context of each PPS. For the second research cycle, the key informants received a pre-interview survey. These brief surveys collected information about each participant's role in project implementation to help prepare evaluation staff for the interview.

Interviews were conducted via telephone, with at least two interviewers participating in each interview to improve reliability. Interviews were recorded and subsequently transcribed by one of the researchers. The interviewers supplemented the audio files with hand-written notes. Interviews lasted on average one hour.

3.4.2.3. Data Analysis

Familiarization with the data, including the transcripts and the interview guide, yielded a list of important topics that arose from the data. These topics were sorted into a hierarchy of themes and subthemes, creating an initial thematic framework.⁹⁹ This process generated nine major themes that were relevant to each research cycle: formation, challenges, successes, committees, data, technical assistance, value based payment, health care, and governance. Transcripts were indexed to themes and sub-themes to identify initial commonalities, repeating themes, and items not discussed by all PPSs.

⁹⁹ Spencer, L., Ritchie J., O'Connor W., Morrell, G., & Ormston, R. (2003). Analysis in practice. In Ritchie, J., Lewis, J., McNaughton Nicholls, C., & Ormston, R. (Eds.), *Qualitative research practice: A guide for social science students and researchers* (pp. 295-345). Thousand Oaks, CA: Sage Publications, Inc.

Analytic matrices were developed for each theme, and organized in spreadsheets.¹⁰⁰ Each theme's matrix comprised a case identification column (indicating the PPS's name) as well as columns for each subtheme. Data were extracted from interview transcripts and entered into their respective subtheme columns as data summaries and/or direct quotes. After all transcripts were indexed and data extracts were inputted into the matrices, the researchers read through each case, pulling detected elements within each subtheme's response, and entered them into a separate column. Detected elements identified the range of perceptions, experiences, and behaviors that were collected and the aspects that differentiated them.

Multiple researchers were engaged in all aspects of the analysis to discuss findings iteratively and improve inter-rater reliability.

3.4.3. Data Collection and Analysis for Regional Partner Focus Groups

3.4.3.1. Sampling and Recruitment

A series of regional focus groups with project-associated partners was conducted to elicit information about how the DSRIP program and its system transformation outcomes affected various partners. In contrast to one-on-one interviews, the inter-participant interaction within focus groups allows for a wider range of responses, as respondents collectively discuss topics and react to others' comments. These guided discussions can activate forgotten details of participants' experiences and release inhibitions.

Focus groups function best when groups are somewhat homogenous, which fosters greater cooperation, greater willingness to communicate, and less conflict among group members.¹⁰¹ Thus, the initial plan to host one focus group per PPS was replaced with a hybrid geographic and provider-category based plan. Nine PPS regional service areas were defined based on the integration of New York's Economic Development map with service areas provided by PPSs. Exhibit 3.4.3.1.i shows the regions, number of participants, and number of PPSs represented each year.

¹⁰⁰ Miles, M.B., Huberman, A.M., & Saldana, J. (2013). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

¹⁰¹ Stewart, D.W., & Shamdasani, P.N. (2015). *Focus Groups: Theory and Practice* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Exhibit 3.4.3.1.i. Overview of focus group regions and participation

Research Cycle	New York Regions Covered	Focus Group Locations	Number of participants	Number of PPSs represented
1	Capital District	Albany	33	4
2	North Country New York City Long Island	Lake Placid Bronx Brooklyn Manhattan Staten Island Queens	58	15
3	Western New York/ Finger Lakes Southern Tier Hudson Valley North Country Mohawk Valley/Central New York	Buffalo Syracuse Elmira Watertown Poughkeepsie	144	14

Within each region, there were separate focus groups for categories of partners.¹⁰² These categories were developed based on the types of project partnerships, the categories of partners derived from the Medicaid Analytics Performance Portal (MAPP) network tool, and stakeholder commonalities. The four categories are:

- Group 1: Primary care physicians, clinic managers, health home organizations, and specialists
- Group 2: Mental health and substance use professionals
- Group 3: Hospitals, nursing home, hospice, and home care professionals
- Group 4: Community-based organization professionals

For each focus group, partners were identified based on lists of engaged partners created for the statewide partner survey (described in detail in Section 3.4.4). Focus group invitations were sent electronically to engaged providers identified in each focus group region. The invitation emails contained a link to an online sign-up form that allowed participants to select a preferred focus group date and location from a list of available slots within their provider type. In some regions, different provider types were combined because there were too few participants to hold separate groups.

3.4.3.2. Data Collection Procedures

Four customized focus group guides were developed by the IE team and reviewed and approved by NYS DOH, one for each provider group (see Appendix 7). The focus group guides were designed to align with the scope of the DSRIP program evaluation research question, with prompts to generate more specific examples or experiences for some questions. Specifically, the focus group guides contained questions about the following topics:

- Engagement with DSRIP program activities and projects
- Reflections on what worked well and less well
- Value based payment
- Recommended changes

Focus groups were conducted in-person, with two qualitative researchers participating in each focus group. A trained facilitator conducted each focus group while a separate note taker recorded details and impressions. With permission of the participants, focus groups were audio-recorded using digital voice recorders. Refreshments were provided for each focus group as an incentive, and to convey appreciation for the participants' time. Each focus group lasted approximately 1.5 hours.

3.4.3.3. Data Analysis

All focus groups recordings were transcribed, coded, and analyzed for patterns and themes using the same process for the key informant interviews (see Section 3.4.2). The primary eight themes were: successes, challenges, infrastructure, partnerships, value based payment, funds flow, health care, and sustainability.

3.4.4. Data Collection and Analysis for Statewide Partner Survey

3.4.4.1. Sampling, Recruitment, and Data Collection Procedures

Annual electronic partner surveys collected information about perceptions of the DSRIP program and the function of individual projects. The key informant interviews and focus groups had flexible interview guides designed to allow participants to elaborate on topics for a deeper understanding, and used purposive sampling. In contrast, the partner web-based surveys were designed to collect information through a uniform survey (i.e., all participants received an identical survey) and invitations for all PPS engaged partners to participate.

To identify respondents in the first survey cycle, the Independent Evaluator built a unique contact list of partners for each of the 25 PPS by merging the Medicaid Analytics Performance Portal (MAPP) network tool with the Provider Export/Import Tool (PIT)/Provider Export/Import

Tool-Revised (PIT-R). The list reflected PPS networks in DY2. Each PPS primary contact was sent the list of partners generated for their PPS and asked to: (1) identify which partners were engaged with projects, and (2) provide contact and engagement status information for any additional partners engaged with projects. Twenty-four of the 25 PPSs responded and returned an updated list of engaged partners. For the remaining PPS, survey invitations were sent to all partners in the DSRIP program DY2 network list.

A similar approach was used to identify respondents in the second survey cycle. A new list of partners, based on PPS networks in DY3, was obtained from the NYS DOH's vendor that manages the Medicaid Data Warehouse. The new lists were compared to the lists used in the first survey cycle to identify any new providers. Each PPS was asked to review the updated list that included engaged partners identified the previous year as well as new providers, identify additional engaged partners that were not yet on the list, and indicate if any partners were no longer engaged. All 25 PPSs responded for research cycle 2 and returned an updated list of engaged partners.

In the third survey cycle, PPSs were sent the lists they returned the previous year and were again asked to update the lists by identifying partners who were no longer engaged as well as adding newly engaged partners. All 25 PPSs returned updated lists of engaged partners.

A survey invitation was sent to each email address corresponding to an engaged provider, with a personalized link to the web-based survey in Qualtrics. In total, survey links were sent to 2,794 valid email addresses in the first cycle, 2,171 valid email addresses in the second cycle, and 2,428 valid email addresses in the third cycle.¹⁰³ Fewer invitations were sent in the second and third cycles because PPSs were better able to specifically identify engaged partners and all PPSs returned an updated list of engaged partners. As some partners were part of several PPSs, in the first data collection cycle they received multiple requests for the survey. These multi-PPS partners were asked to respond to one survey only. Simultaneously, contacts at each PPS were encouraged to alert their provider network to the survey and encourage completion. This partner survey reminder was shared via PPS newsletters, Project Advisory Committee meetings and other PPS events. As an incentive to complete the Independent Evaluation survey, participants in the first cycle were informed that three respondents would win a \$100 Amazon gift card.

Providers could be individual practitioners or organizations. In some cases, only one email address was available for multiple providers (e.g., a medical practice may have provided one contact email for multiple staff doctors, or a community-based organization with multiple involved staff members may have used one business email). Because of this, participants were allowed to forward the invitation to other members of their organization. As such, there is no direct correlation between email address and individual respondents.

¹⁰³ As some partners were part of several PPSs, in the first data collection cycle they received multiple requests for the survey. These multi-PPS partners were asked to respond to one survey only.

For the first cycle, the survey launched in September 2017 on the Qualtrics online survey platform and closed in November 2017. Potential participants who had not completed the survey were sent eight reminders over the response period; some PPSs also elected to send reminders of their own. A total of 897 completed surveys from unique individuals were returned, for a final response rate of 32.1%. Individual respondents could answer project evaluation questions for up to three projects, resulting in a total of 1,689 project-based evaluations.

The survey launched in September and closed in October 2018 and 2019 for the second and third cycles, respectively. Approximately eight reminder emails were sent during the second and third cycles. A total of 1,071 completed surveys from unique individuals were returned in the second cycle, for a final response rate of 49.3%. A total of 835 completed surveys from unique individuals were returned in the third cycle, for a final response rate of 34.4%. For the second and third cycles, individual respondents could answer project evaluation questions for all the projects they were actively involved with, rather than just three projects as in the first cycle. This resulted in a total of 3,621 project-based evaluations in the second cycle and 2,697 project-based evaluations in the third cycle.

3.4.4.2. Survey Design

The partner survey (see Appendix 8) was developed to gather information on progress within individual projects, barriers and facilitators to project implementation, perceived effectiveness of the projects, and the DSRIP program overall. The NYS DOH provided feedback on and final approval for the Independent Evaluator's designed survey. Most questions were Likert scales, with supplemental open-ended questions where participants could elaborate on their responses.

Survey topics included:

- Service provision and project operations
- Factors that helped or hindered their implementation
- Level of satisfaction with project operations
- Reflections on what worked well and less well
- Overall perception of the DSRIP program
- Overall perception of DSRIP program projects
- Preparations for value based payment

Each respondent was allowed to select projects to evaluate individually. Thereafter, they received a battery of questions corresponding to each project they selected. This yielded more project-based responses than number of participants.

Most survey items were kept consistent across cycles to allow for interpretation of changes over time. Some questions were modified in the second cycle, based on feedback from the first cycle and emerging topics. Changes included adjusted time frames and dropping questions about early implementation; these changes were retained in the third cycle (see Appendix 8).

3.4.4.3. Data Analysis

Survey responses were first de-duplicated. In each cycle, about 100 respondents opened the survey multiple times. In the case of multiple responses from one person (same name and organization provided), the more complete response was kept, but if they completed similar amounts each time, the first response was kept. If a participant in the first cycle had multiple survey entries and responded about different projects in each, the first three evaluations were kept. For example, if a participant responded about two DSRIP program projects in one survey entry, then retook the survey and answered regarding another different project, the responses from the second survey were added to those of the first, and the second survey record was deleted.

Response data quality was then examined by PPS and project. In the first cycle, of the 1,753 potentially usable individual project evaluations received, 265 (15.1%) were for a project that had not been implemented in the selected PPS. For example, across the sample, 70 (4.0%) responses were received for Project 2.a.ii in PPSs that were not implementing 2.a.ii. When possible, these responses were recoded.

Respondents were first assumed to have selected the correct PPS but the wrong project: if the organization or PPS was involved in a similar project in the same subdomain or grouping, the response was recoded. If the selected PPS was not involved in a similar project but the participant had also responded about another PPS which was involved in that project, the PPS name was corrected. Using these procedures, 201 responses were corrected. A total of 64 responses were unable to be recoded and so these were not included in any further analyses, leaving 1,689 project-based responses, inclusive of all 25 PPSs.

The final set of 1,689 project-based evaluations (see Exhibit 3.4.4.3.i) in cycle 1 covered all DSRIP program projects and included all 25 PPSs across New York. A total of 3,621 project-based evaluations were received in cycle 2 and 2,697 in cycle 3. In Cycle 2, total of 34 of these responses were for a project that the selected PPS was not implementing. These responses were recoded as described above.

Exhibit 3.4.4.3.i. Number of usable responses received for the statewide partner survey

PPS	Cycle 1		Cycle 2		Cycle 3	
	N Responses	N Project Evaluations within PPS	N Responses	N Project Evaluations within PPS	N Responses	N Project Evaluations within PPS
Adirondack Health Institute	55	105	63	167	32	67
Advocate Community Providers/SOMOS	40	47	72	231	51	128
Alliance for Better Health	29	48	33	88	35	91
Better Health for Northeast New York	40	63	41	115	41	92
Bronx Health Access	14	16	34	57	36	69
Bronx Partners for Healthy Communities	23	36	50	143	54	120
Care Compass Network	48	87	83	188	31	82
Central New York Care Collaborative	77	149	64	241	46	119
Community Care of Brooklyn	43	63	75	155	99	188
Community Partners of Western New York	66	92	109	260	53	137
Finger Lakes PPS	65	138	104	314	67	220
Leatherstocking Collaborative Health Partners	33	49	47	89	39	81
Millennium Collaborative Care	80	113	107	248	51	119
Montefiore Hudson Valley Collaborative	45	68	56	188	53	118
Mount Sinai PPS	52	64	59	104	59	100
Nassau Queens PPS	33	43	40	72	41	75
New York-Presbyterian PPS	10	14	37	49	34	36
New York-Presbyterian Queens PPS	23	36	29	54	24	47
North Country Initiative	35	78	46	179	42	155
NYU Langone Brooklyn	24	32	36	57	47	95
OneCity Health	101	135	128	238	116	178
Refuah Community Health Collaborative	17	22	23	39	20	27
Staten Island PPS	38	61	41	111	42	125
Suffolk Care Collaborative	49	70	32	66	39	80

	Cycle 1		Cycle 2		Cycle 3	
PPS	N Responses	N Project Evaluations within PPS	N Responses	N Project Evaluations within PPS	N Responses	N Project Evaluations within PPS
WMCHealth	45	60	63	168	62	148

Total Number of Unique Usable Responses and Project Evaluations

897	1,689	1,071	3,621	835	2,697
-----	-------	-------	-------	-----	-------

Source: Authors' analysis of the 2017, 2018, and 2019 statewide partner survey.

Abbreviations: Number (N), Performing Provider System (PPS)

Notes: The totals at the bottom of columns 1, 3, and 5 are the total number of unique usable responses in each research cycle and not the sum of these columns. Individual respondents could respond about multiple PPS if they were engaged with more than one PPS. The number of responses for each PPS in columns 1, 3, and 5 are the number of responses relevant to that PPS. In research cycle 1 respondents could answer project evaluation questions for up to three projects; in research cycles 2 and 3 respondents could answer project evaluation questions for all projects with which they were actively involved.

Exhibit 3.4.4.3.ii shows the distribution of survey respondents by organization type in research cycles 2 and 3. In 2018 and 2019, the partner survey provided respondents with a drop-down list of organizations and respondents were explicitly asked to self-select the type of organization where they worked. This information was not collected the same way in research cycle 1 and therefore cannot be compared.

Exhibit 3.4.4.3.ii. Partner survey respondents by organization type

Type of Organization	2018		2019	
	N	Percent	N	Percent
Community-based organization	280	26.3	200	24.0
Primary care provider	239	22.4	157	18.8
Skilled nursing facility/ nursing home	119	11.2	59	7.1
Hospital	100	9.4	92	11.0
Clinic	63	5.9	31	3.7
Behavioral health organization	59	5.5	67	8.0
Federally Qualified Health Center	*	*	45	5.4
Home care agency	43	4.0	29	3.5
Government office	35	3.3	21	2.5
Substance use treatment organization	32	3.0	32	3.8
Health home/ care management program	29	2.7	23	2.8
Non-primary care practitioner	13	1.2	16	1.9
Hospice/ palliative care center	12	1.1	8	1.0
Pharmacy	4	0.4	5	0.6
Other	38	3.5	50	6.0

Source: Authors' analysis of the 2018 and 2019 statewide partner survey.

Abbreviations: Number (N)

Notes: Five participants did not select an organization type in 2018. Respondents were able to self-select their organization type. The survey did not define each organization type for respondents (see Appendix 8 for survey instrument). Federally Qualified Health Center was not a survey option in 2018; these participants were classified as "other."

Survey responses were summarized descriptively as means and the percentage of respondents selecting each item in the five-point scales. The "do not know" responses were not combined with the neutral response (e.g., "did not improve or worsen") because conceptually, they are distinct.

Responses were not compared across PPSs due to two important considerations. First, the PPSs have variable response rates. If there were systematic reasons why some PPSs had higher percentages of participants overall and by partner type (e.g., different levels of engagement with the Independent Evaluation team's initial outreach to refine the participant lists, additional inducements to participate or higher motivation to participate), nonresponse bias and non-representativeness of partners who completed surveys might affect results. Given the nature of the sampling design, it is infeasible to quantify the nonresponse bias in a manner that could be adjusted for in a comparative analysis. Second, there were instances of only one or

several project-specific responses for a specific PPS which results in insufficient statistical power to compare project differences across PPSs.

3.4.5. Data Collection and Analysis for Patient Survey

3.4.5.1. Sampling, Recruitment, and Data Collection Procedures

The Clinician & Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS) (version 3.0) survey was used to assess patient perspectives among the Medicaid population in New York. The CG-CAHPS survey is conducted annually for each of the 25s PPS through a CAHPS certified vendor (i.e., DataStat). The vendor generates a random sample from the eligible Medicaid members for each PPS in August, then deploys the survey between September and December, and provides results in the spring of the following year. The results are provided to the PPSs with PPS specific reports. Some CG-CAHPS items are also used in calculating DSRIP program performance metrics, as described in Section 3.2.

The surveys were administered to a sample of Medicaid members, aged 18 to 64, who were attributed to a PPS and had at least one visit with a primary care provider from January to June prior to the survey administration. Each year's survey targeted 1,500 adults from each of the 25 PPSs. Surveys were sent to 37,500 members with a combined mail and phone methodology (three mailings, with a phone call follow-up to non-responders). Some intended survey respondents were deemed ineligible for participation and were excluded from the total sample population size when determining the response rate. Intended participants were considered ineligible if they were deceased, had a language barrier that prevented them from completing the survey, were mentally or physically unable to complete the survey, or responded that they did not receive care from the provider indicated in the first survey question in the last six months.

The CG-CAHPS data presented in this report were collected by DSRIP program Measurement Year. The MY1 survey was conducted between September 14, 2015 and December 7, 2015. A total of 10,884 usable responses were received out of a total of 35,356 eligible participants, resulting in a response rate of 30.8%. The MY2 survey was conducted between September 16, 2016 and November 30, 2016. A total of 7,915 usable responses were received, resulting in a response rate of 28.1%. The MY3 survey was conducted between September 18, 2017 and December 3, 2017. A total of 10,238 usable responses were received, resulting in a response rate of 29.8%. The MY4 survey was conducted between September 25, 2018 and December 10, 2018. A total of 9,105 usable responses were received, resulting in a response rate of 26.4%. The MY5 survey was conducted between September 9, 2019 and January 10, 2020. A total of 8,817 usable responses were received, resulting in a response rate of 25.4%.

3.4.5.2. Survey Design

The survey included the CG-CAHPS (version 3.0) core survey, a nationally vetted tool to assess the performance of clinicians and medical groups. Items addressed several domains of patient experiences, such as receipt of timely care, communication with doctors, and overall satisfaction with their provider. In addition, the survey included 18 supplemental questions of interest to NYS DOH concerning health literacy, health promotion, and care coordination. The survey is in Appendix 9.

3.4.5.3. Data Analysis

The CG-CAHPS data for the Medicaid population were made available to the Independent Evaluator in aggregate form, with results reported by PPS. For example, responses to the CG-CAHPS survey question “How often did this provider explain things in a way that was easy to understand?” were provided to the Independent Evaluator as the percentage of survey participants selecting a response of “usually” or “always”. To control for inter-PPS differences in member populations, the CG-CAHPS vendor’s aggregate results were case-mix adjusted for age, health status, and education.

Data from all measurement years were summarized focusing on the composite scores for the following variables:

- Getting timely appointments, care, and information
- How well providers communicate with patients
- Care coordination

In addition, the following variables were reported:

- Patients’ ongoing relationships with their providers (having a usual source of care, and seeing the same provider for at least one year)

Statistical tests of significance for comparisons between groups were not conducted because individual-level data were not available for analysis. Following consultation with the CG-CAHPS vendor and the NYS DOH Office of Quality and Patient Safety, data were not trended across years because of potential changes in the population case mix which cannot be adjusted for in statistical analysis.

3.5. Study Limitations

There are several limitations to the implementation and process study:

- The implementation process data are subject to the standard interview and focus group limitations, such as non-response bias and social desirability bias.
- Key informant interviews were conducted in a small group via telephone. There is potential that interviewees moderated their contributions to the discussion based on the other people present.
- While many of the PPSs had members of the original team present for the interview, there were a number of entities where there had been full turnover, and no respondent was able to accurately provide historical data on start-up related questions.
- Engaged partners who were invited to participate in the partner survey and focus groups were identified by PPSs, and a complete list may not have been provided.
- While qualitative conclusions are supported by stakeholder quotes, there is a possibility that some experiences in the DSRIP program will not be represented by the findings.
- The perspectives of patient care within the DSRIP program design were not fully informed because data were not directly collected from patients. The patient experiences reported in the *final* Summative Report are based on the CG-CAHPS data made available to the Independent Evaluator.
- As survey, focus group, and key informant interview data were retrospectively focused on DSRIP program activities over many years, there is a possibility that some information was not recalled correctly.
- Due to the data collection methodology for the CG-CAHPS survey by the DOH vendor, the patient surveys cannot be trended over multiple years.
- The implementation and process data provided important contextual information about the DSRIP program's implementation and operations. However, no clear and consistent themes emerged from the data that could explain some of the statewide trends in the performance measures (e.g., sharp increases or decreases in some of the avoidable hospital measures).

The following limitations apply to the analysis of the DSRIP program performance measures:

- A small number of pre-DSRIP program observations limits the assessment of the DSRIP program's effect on statewide trends. The Independent Evaluator explored the possibility of using beneficiary-level administrative data to provide a longer pre-DSRIP program initiation period but it was determined that this was not feasible. The NYS DOH elected to use the nationally-recognized, industry standard 3M definitions for the preventable utilization measures (PPA, PPV, and PPR). Due to limitations with the 3M grouper output, calculation of performance for these measures could not be replicated retrospectively. Other non-claims based measures, such as those based on medical chart reviews or patient surveys conducted as part of the DSRIP program, also could not be reconstructed for the pre-DSRIP program period. Even if some or all of the measures

used in the Independent Evaluation were available prior to MYO Month 12, changes over time in the Medicaid population, coding, measure specifications, and benefits would make trending over a longer period of time difficult. For example, other candidate measures for preventable hospitalizations, the primary focus of the DSRIP program, could not be trended due to the ICD-9 to ICD-10 transition that occurred during the demonstration program period. (See *Special Notes on the Limited Pre-DSRIP Time Period* in Section 3.2.1 for additional details.)

- The analysis only includes data for New York. Although the comparative regression framework to identify the PPS characteristics associated with improved performance explicitly controls for statewide trends, internal validity would be higher with an external comparison group. Conceptually, it is difficult to identify an ideal “control” state as comparison, given large inter-state variations in Medicaid implementation and ongoing waivers. States that are typically used as comparisons for New York based on program size or similar region (e.g., California, New Jersey, and Texas) already have DSRIP waivers.
- There was no appropriate New York control group that could be used as a comparison because the program was not implemented using randomized program assignment or phased implementation. This limits the ability of the evaluation to determine causality.
- Many of the monthly measures have changing denominators. For example, three of the behavioral health measures had steep increases in their denominators (e.g., number of children prescribed an ADHD medication) particularly in the first two years. These population shifts affected the measure results, likely masking true trends.
- Interrupted time series analysis is most useful when a policy change occurs abruptly or with a clear phase-in period. It was not possible to define an abrupt starting point or well-defined phase-in period for DSRIP program activities. This is particularly notable for the DSRIP program demonstration, which occurred in the context of many other changes in the healthcare environment that could not be isolated because the DSRIP program did not use a random assignment or other phase-in method to allow for comparison of identical groups of DSRIP program-eligible members that were enrolled versus not yet enrolled in the program.
- The analysis assumes that pre- and post-DSRIP program initiation trends are linear. In most cases, this trend does not fully capture the changes in the data. For example, some measures had unusually steep slopes in the pre-DSRIP program period, potentially due to changes in the denominators, and other measures had oscillations around the fitted linear trend line that could not be explained by seasonality. This raises concerns about the linear trend assumptions of the interrupted time series models although different specifications were explored.
- The monthly DSRIP program performance measures are in effect 12-month moving averages; and as such, effects during the DSRIP program period will appear gradually and with a lag. The regression analysis adjusts for this data feature.
- The annual performance measures cannot be analyzed in a regression framework due to an insufficient number of data points for a robust multivariate regression, limiting their analysis to a more descriptive presentation.

- During the study period, the billing codes changed from the International Classification of Diseases (ICD) version 9, to ICD-10. Following consultation with NYS DOH, measures affected by this change were not included in the analyses; see Appendix 4 for associated documentation from CMS.
- Most DSRIP program performance measures are process outcomes rather than clinical outcomes, due to the nature of the underlying data. This is understandable, and it is expected that many process outcomes would be affected sooner than their potentially associated clinical outcomes which have longer lag times. These lags and data limitations make it more difficult to reach conclusions about clinical outcomes.
- *Potentially Preventable Readmissions* are defined as 30-day readmissions in the total attributed population, rather than 30-day admissions as a percentage of index admissions. Changes in this measure could reflect higher or lower index admissions, irrespective of readmissions.
- Five monthly observations for *Potentially Preventable Readmissions* (MY4 Months 6-11) were dropped because of a billing error in a large managed care organization.
- A change in the health plan encounter intake system (EIS) in October 2015 (between MY1 and MY2) led to differences in how emergency room encounters were reported and could, in particular, affect assessment of the level change immediately after DSRIP program initiation (between MY1 and MY2) in the regression analyses.
- The DSRIP program is implemented concurrently with other important New York initiatives to achieve the Triple Aim, making it difficult to isolate its marginal effect on system transformation. Due to its large size, it is presumed that much of the observed difference is due to the DSRIP program although external policies and activities may also play a role in facilitating changes in performance measures.
- One of the DSRIP program's overall goals is to enable broader system transformation, beyond Medicaid. Enabling other aspects of the health care system to move towards the Triple Aim is an important goal but is not fully captured in the performance measures available in the DSRIP Dataset.
- The implementation of the Affordable Care Act during the DSRIP program period increased the number of persons eligible for Medicaid, as well as their characteristics. The performance measures include clinical outcomes among newly enrolled Medicaid members, who may have come from a long period without insurance.
- For the population health disparities measures, there are known limitations to the reliability of recorded racial and ethnic information. Due the high amount of missing data on Hispanic ethnicity, only "percent Black" was included in the models.
- It was infeasible to use a consistent cohort approach to look at longitudinal changes pre- and post-DSRIP program among the same group of members after they entered the DSRIP program. Due to data availability, the program's structure, and churning in members' continuous Medicaid eligibility, the analysis takes an ecological approach of examining aggregate changes at the statewide and PPS levels. There is a risk of ecological fallacy, in which changes in individuals are masked when examining aggregated group information. This problem is most acute for the comparative analysis because members shifted across PPSs over time, and also in the early half of the

program period when there was an influx in Medicaid members due to the Affordable Care Act's Medicaid expansion.

The following limitations apply to the cost analysis:¹⁰⁴

- The analysis focuses on changes in expenditure categories for spending on direct service delivery, and the costs of administering the DSRIP program including performance payments are not included.
- The analysis does not follow an experimental or quasi-experimental design with a pre- and post-intervention period and external comparison group.
- The cost analysis focuses on aggregate expenditures for all members eligible for the DSRIP program each month, which does not allow for detailed analysis of how expenditures changed over time for specific members. Given the nature of the DSRIP program, with some members having their attribution shifted over time, it was not feasible to do a cohort analysis of members who were consistently eligible for the DSRIP program and attributed to a PPS during the entire five-year period. Furthermore, there was churn in Medicaid enrollment (a phenomenon that is common for all Medicaid programs as members' eligibility status changes over time), an influx of members following implementation of key provisions of the Affordable Care Act, and Medicaid members transitioning into and out of managed care or among managed care plans which had different care management approaches that were not evaluated by the study design. The aggregate-level analysis does not control for these underlying changes in Medicaid and DSRIP program eligibility or variation in Medicaid managed care plans.
- Following the above limitation, the analysis of aggregate expenditures does not adjust for changes in member characteristics, broader changes in the health care environment, and other socioeconomic changes that may have affected utilization and expenditures.
- The ICD-9 to ICD-10 transition occurred during the study period, and its impact on the classification of expenditures is unknown.
- Expenditure data are limited to a five-year period, with an additional year prior to the start of the DSRIP program; a longer pre-period than the analysis of performance measures. Expanding the pre-period beyond the year prior to the start of the DSRIP program would introduce even more confounding due to programmatic changes. For example, a longer pre-period would overlap with the early years of the transition from fee-for-service to managed care, resulting in a much higher proportion of members in fee-for-service Medicaid, which would not be an adequate comparison to the DSRIP program period. Many changes were also introduced to the New York Medicaid program based on the adoption of several Medicaid Redesign Team recommendations prior to the creation of the DSRIP program (e.g., adoption of Health Homes, movement from fee-for-service long term care to managed long term care, increased enrollment in

¹⁰⁴ The initial evaluation plan called for an evaluation of cost-effectiveness that included assessment of the "incremental costs of each life-year gained or of hospital readmissions of the traditional and DSRIP Medicaid programs." This was determined to be infeasible for the reasons outlined in Section 3.3.3. The limitations presented here focus on the limitations of the cost analysis conducted for this report.

Medicaid managed care, including Health and Recovery Plans), with differences in the Medicaid program increasing in significance as the DSRIP program pre-period is extended.

- For the pre-DSRIP program period (12 months in MY0), the DSRIP program was not yet in place and it was not possible to classify members as being DSRIP program-attributed versus non-attributed. Consequently, the cost analysis uses the “DSRIP program-eligible” population for the full study time period (“intent to treat” analysis) which differs from the other quantitative analyses based on the performance measures which use the attributed population (“as-treated” analysis).
- For the detailed analysis of preventable versus non-preventable hospital expenditures, data come from one month (January) of each MY because the potentially preventable admissions (PPA) 3M grouper was run once annually and that month was determined to have claims with the largest proportion of adjudicated claims that could be classified into preventable versus non-preventable expenditures.
- The analysis excludes persons who are dually eligible for Medicaid and Medicare.
- Encounter data have missing data in limited circumstances and have some data quality issues, but given the limited and non-material nature of these issues, the data have been found by the NYS DOH to be satisfactory for payment of quality rewards.
- Annual adjustments to Medicaid benefits during the DSRIP program period (e.g., coverage of new treatments, changes in the amounts of a given service covered) could impact expenditures.

4. Findings and Conclusions

This section provides the findings and conclusions from the seven overarching research questions. Section 4.1 through Section 4.6 summarize the main findings for the six quantitative research questions (RQ-A through RQ-F), with relevant qualitative findings included to provide additional context. Section 4.7 summarizes the main findings from the analysis of the implementation and process (RQ-G).

4.1. Assessment of Changes in Hospital Utilization

Section Overview

This section addresses RQ-A:

Was avoidable hospital utilization reduced as a result of the DSRIP program? (CMS RQ5)

Its associated hypotheses are below:

- **H1:** Avoidable hospital utilization will decrease.
- **H2:** Primary care utilization will increase.

Summary At-A-Glance

To assess the avoidable hospital utilization hypothesis, the **final** Summative Report focused on changes in potentially preventable admissions (PPA), potentially preventable readmissions (PPR), potentially preventable emergency department visits (PPV), and PPV among the behavioral health population (PPVBH). To assess the primary care utilization hypothesis, the **final** Summative Report looked at changes in adults' access to primary care, children's access to primary care, and patient experiences with primary care.

Statewide Summary

The table below summarizes findings from the hospitalization measures examined in the interrupted time series. Key statewide observations follow:

- All four measures had an overall improvement between the start and end of the period, and most PPSs also experienced improvements.
- In the time series models that assessed whether the trends changed in the post-DSRIP program initiation period, the PPR measure had some improvement with an initial decrease.

Measure	Statewide Changes			PPS Changes and Variation	
	% Change ¹	Trend Pre-DSRIP Program Initiation ²	Changes Post-DSRIP Program Initiation ²	No. PPSs Improved ¹	PPS Range ³
Potentially preventable readmissions (PPR), per 100,000	-18.1%	Declined (improved)	Initial decrease (improvement) and thereafter declining trend flattened	22	MY0: (225.8, 1388.9) MY5: (99.5, 1237.8)
Potentially preventable emergency department visits (PPV), per 100	-3.5%	No change	No change	19	MY0: (8.1, 60.9) MY5: (5.1, 57.3)
PPV among the behavioral health population (PPVBH), per 100	-5.8%	Declined (improved)	Initial increase (worsened), and no subsequent change to trend	19	MY0: (49.5, 132.7) MY5: (25.8, 130.9)
Potentially preventable admissions (PPA), per 100,000	-26.1%	Not assessed with statistical tests, as this measure was only available on an annual basis		23	MY0: (738.4, 4130.3) MY5: (392.8, 2693.6)

Source: Authors' analysis of the DSRIP Dataset.

Abbreviations: Measurement Year (MY), Number (No.), Performing Provider System (PPS)

¹ Comparing the start to end of the study period (MY0 Month 12 to MY5 Month 12).

² Based on the results of the interrupted time series regression.

³ For PPR, PPV, and PPVBH, which are monthly measures, the MY5 range reflects values across all 12 months of the year.

Key statewide observations for the primary care measures follow:

- Adults' access to primary care started at a high level and remained steady throughout the period (MY0 starting values: 84.9%, 91.1%, and 89.2% for ages 20-44 years, 45-65 years, and 65 years and older respectively).
- Children's access to primary care started at a high level and remained steady throughout the period (MY0 starting values: 95.8%, 93.2%, 96.8%, and 94.7% for ages 12-24 months, 25 months-6 years, 7-11 years, and 12-19 years, respectively).
- For patient experiences with primary care, there was an improvement from MY1 to MY5 in the percentage of patients reporting their providers were their usual source of care (from 81.9% to 88.2%); the composite measure of receiving timely appointments, care, and information (from 83.0% to 84.9%); and seeing their provider for at least one year (from 73.4% to 75.9%).

PPS Comparison and Variability

A distinguishing feature of the DSRIP program is variation of PPS characteristics and activities that may have impacted performance outcomes. Each PPS conducted its own community needs assessment, selected specific PPS projects with unique speed and scale commitments, and implemented activities with partners on different timelines. This is reflected in the variability in PPSs starting and ending values for the hospitalization measures. To determine whether certain

PPS characteristics were correlated with higher or lower values of the performance measure outcomes, the *final* Summative Evaluation examined seven PPS characteristics in a comparative regression analysis: PPS attributed membership size, whether the PPS was led by a NewCo versus pre-existing entity, whether the PPS was led by a hospital system, regional location (New York City, New York City Metro, and Upstate), the percentage of attributed members classified as healthy or with acute conditions (versus minor or chronic needs), the percentage of attributed members reporting Black race, and the mean age of attributed members.

The table below summarizes key findings from the PPS characteristics examined in the comparative regression analyses. Key PPS comparative findings follow:

- PPS size was associated with all preventable hospitalization outcomes (PPR, PPV, and PPVBH). Larger PPSs had lower rates of potentially preventable events.
- PPSs with a higher percentage of Black members had more potentially preventable events (PPR, PPV, and PPVBH).
- PPSs located in Upstate regions had higher rates of potentially preventable emergency department visits in both the full and behavioral health populations (PPV and PPVBH).
- PPSs with a higher average age of members had higher PPR and PPVBH rates, and PPSs with a higher percentage of members who were healthy or with acute conditions (versus minor or chronic needs) had fewer PPV events. Average age and health status were strongly correlated, so a more general interpretation is that PPSs with older and/or sicker members had higher rates of preventable hospitalization events.
- PPSs led by hospital systems had a higher PPV rate, although that association was not found for the other preventable hospitalization measures (PPR and PPVBH).

Measure	Associations Between PPS Characteristics and PPS Performance	
	<i>Characteristics Associated with Lower (Better) Preventable Hospitalizations</i>	<i>Characteristics Not Associated with Preventable Hospitalizations</i>
Potentially preventable readmissions (PPR)	<ul style="list-style-type: none"> • Larger size • Less racial diversity (i.e., lower percent of Black members) • Younger average age of members 	<ul style="list-style-type: none"> • NewCo versus pre-existing lead entity • Hospital system versus other lead entity type • Region • Health status of members
Potentially preventable emergency department visits (PPV)	<ul style="list-style-type: none"> • Larger size • Led by lead entity that was not a hospital system • NYC or NYC Metro region • Healthier members • Less racial diversity (i.e., lower percent of Black members) 	<ul style="list-style-type: none"> • NewCo versus pre-existing lead entity • Average age of members
PPV among the behavioral health population (PPVBH)	<ul style="list-style-type: none"> • Larger size • NYC or NYC Metro region • Less racial diversity (i.e., lower percent of Black members) • Younger average age of members 	<ul style="list-style-type: none"> • NewCo versus pre-existing lead entity • Hospital system versus other lead entity type • Health status of members

Source: Authors' analysis of the DSRIP Dataset.

Abbreviations: New Corporation (NewCo), Performing Provider Systems (PPS)

Notes: Lead entity type included two categories: hospital system versus other types (multiple unaffiliated hospitals, single hospital, non-hospital, or multiple unaffiliated providers). Region included three categories: New York City (five boroughs), New York City Metro (Mid-Hudson and Long Island regions), and Upstate (all other regions) (reference category: Upstate).

PPS Partner Survey Feedback on Hospital Utilization

About half of partner survey respondents believed that the DSRIP program reduced preventable hospital utilization in 2019. Partners and PPS key informants cited improved care coordination and primary care interventions as the main drivers for reductions. Challenges in reducing preventable hospital utilization included health care providers lacking incentives to change, difficulties in changing emergency department culture to focus on long-term outcomes, and primary care shortages.

Limitations and Caveats

There are several important caveats for interpreting these findings:

- There was an increase in the number of attributed members (relevant to PPR and PPV) and attributed members with behavioral health diagnoses (relevant to PPVBH), particularly during the MY1 and MY2 periods. Changes in these populations may have had an impact on some of the performance measures.
- For the PPR measure, monthly data was missing for five months of MY4 due to a data error, resulting in more weight being placed on the other MY particularly during the post-DSRIP program initiation period.
- There was a change in the health plan encounter intake system that occurred in October 2015 (between MY1 and MY2). This change led to differences in how emergency room encounters were reported. The lack of evidence for a level shift in PPV rates from MY1 to MY2 may be in part due to this change.
- The PPA measure was only available on an annual basis, unlike the other hospitalizations measures which were available on a monthly basis. Consequently, it could only be analyzed descriptively and not in a statistical model to assess changes following the DSRIP program's initiation.
- A review of qualitative findings for possible further insight into statewide trends of avoidable hospital utilization did not yield any clear or consistent themes that would explain the trends.

4.1.1. Statewide Trends in Hospital Utilization

Hospital utilization was assessed with four potentially preventable events measures from 3M: potentially preventable readmissions (PPR), potentially preventable emergency department (ED) visits (PPV), PPV among the behavioral health population (PPVBH), and potentially preventable admissions (PPA). Although PPAs were not in the original evaluation plan, they were examined as an additional measure because they have a higher frequency of events representing hospital use, were an important component of the DSRIP program's main goal of a

25% reduction in avoidable hospital use, and are a useful supplement to the PPR and PPV rates. The 3M “preventables” software algorithm identifies “avoidable” health care services from admissions to ancillary services. The preventables suite are widely-used, pre-validated measures. As described on its website, 3M is “an industry-validated, single-vendor solution to address readmissions, complications, ED visits, ancillary services, and hospital admissions.”¹⁰⁵ The PPR, PPV, and PPVBH measures were available on a monthly basis, and the PPA measure was available on an annual basis. Consequently, the PPA measure could not be used for a regression analysis and is summarized descriptively.

4.1.1.1. Visualizations of Statewide Trends

Exhibits 4.1.1.1.i to 4.1.1.1.iii illustrate the monthly statewide trends in the rates of potentially preventable readmissions (PPR) among attributed members, potentially preventable ED visits (PPV) among attributed members, and PPV among the behavioral health population (PPVBH). The PPR measure is expressed as the number of readmissions per 100,000 members, and the PPV and PPVBH measures are expressed as the number of readmissions per 100 members. These measures are in effect 12-month moving averages; as such, effects during the DSRIP program period will appear gradually and with a lag. The regression analysis adjusts for this data feature.

These plots have a fitted linear trend line to illustrate changes in performance at the statewide level during the study period, from the end of MY0 (June 2014) through the end of MY5 (June 2019). The interrupted time series model, described in more detail below, tests whether there is a level and/or slope change in the post-DSRIP program initiation period. That corresponds to the study hypotheses and research questions regarding whether these measures improved following the DSRIP program’s initiation. To be consistent with the regression specification, these plots have a disjuncture at the start of the post-DSRIP program initiation period to illustrate early differences after the implementation of the DSRIP program. The pre- and post-DSRIP program initiation periods have separate fitted lines to show whether there are slope changes after the DSRIP program’s initiation. The immediate drop following the implementation corresponds with the level change.

PPR notes: For the PPR measure, five observations are omitted (corresponding to MY4 Month 7 through MY4 Month 11, or calendar months January 2018 through May 2018) due to a large insurance provider submitting duplicate claims. While this was corrected, the PPR monthly measure was not updated for these five months after the data were refreshed to reflect correct billing.

¹⁰⁵ 3M. (nd). 3M solutions for potentially preventable readmissions. Retrieved from https://www.3m.com/3M/en_US/company-us/all-3m-products/~/3M-Solutions-for-Potentially-Preventable-Events/?N=5002385+3290603246&rt=rud

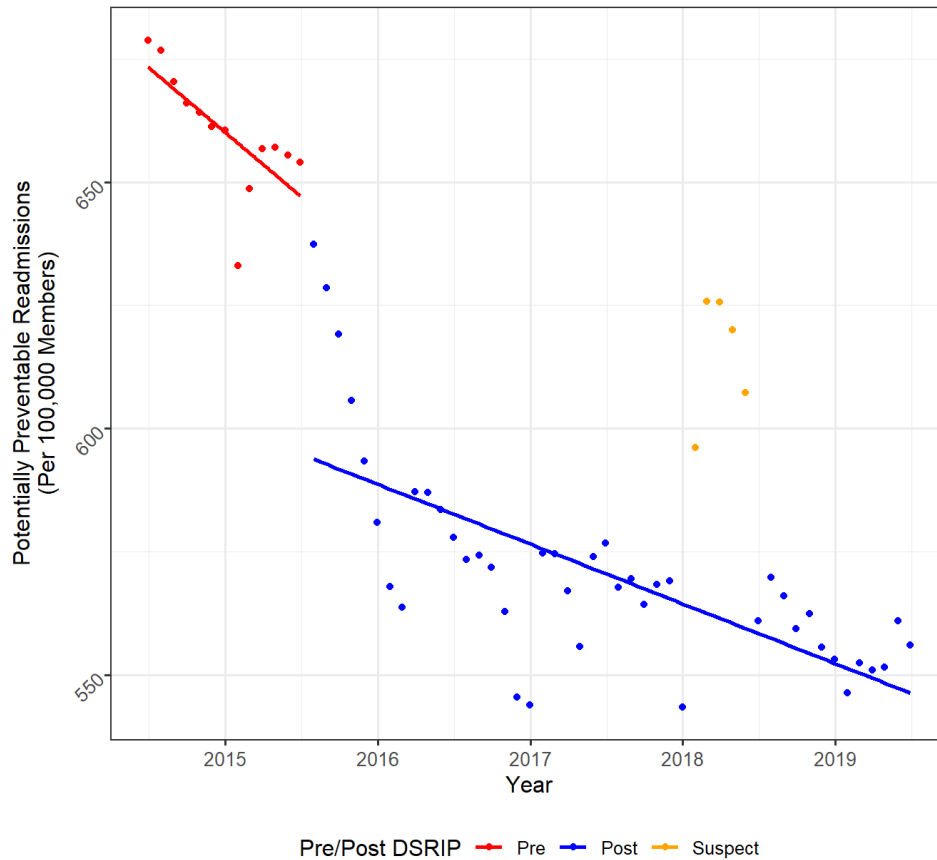
PPA notes: The PPA measure was only available on an annual basis and is presented descriptively without statistical analysis.

The PPR rate (see Exhibit 4.1.1.1.i) follows a decline in the pre-DSRIP program period (red line), from a baseline level of 678.7 readmissions per 100,000 members at the end of MY0 to 654.0 readmissions per 100,000 members by the end of MY1 (3.6% reduction).¹⁰⁶ There is an initial level change after the implementation of the DSRIP program, with a rapid drop in the rate of readmissions. Thereafter, the post-DSRIP program initiation trend (blue line) appears to have a similar slope to the pre-DSRIP program trend, with a final value of 556.0 readmissions per 100,000 members by the end of MY5 (18.1% reduction throughout the entire period from the MY0 Month 12 starting value).

PPVBH notes: This measure uses a different population denominator of members with behavioral health conditions. The time series has a different appearance because there was a large influx in members with behavioral health conditions (denominator) during MY1-MY2.

¹⁰⁶ These percentages were rounded following calculation from the unrounded baseline and follow up variables, and therefore may not match calculations using the rounded baseline and follow up values presented here.

Exhibit 4.1.1.1.i. Statewide monthly changes in potentially preventable readmissions

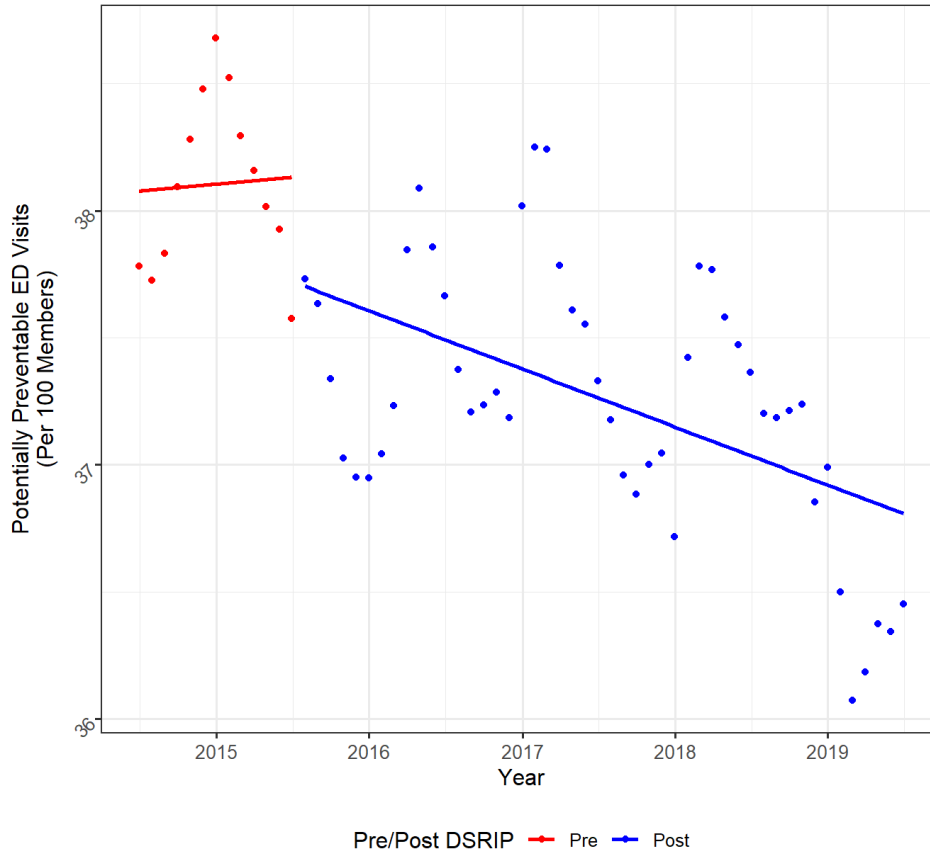


Source: Authors' analysis of the DSRIP Dataset.

Notes: Potentially preventable readmissions is measured per 100,000 members. June 2014 through June 2015 (MY0 and MY1) data are pre-DSRIP program, and July 2015 through June 2019 (MY2-MY5) are post-DSRIP program initiation. All measures are in effect 12-month moving averages. The potentially preventable readmissions measure has five missing data points due to a large insurance company submitting duplicate claims.

In the full population of all attributed members, the PPV rate (Exhibit 4.1.1.1.ii) remained at a somewhat similar level throughout the period with some oscillations. There was a small decline in the pre-DSRIP program period (red line), from a baseline level of 37.8 visits per 100 members at the end of MY0 to 37.6 visits per 100 members by the end of MY1 (0.6% reduction), although in the pre-DSRIP program period there was an initial small increase followed by a decline. In the post-DSRIP program implementation period (blue line), this rate fluctuated with a slight overall decline to 36.5 visits per 100 members by the end of MY5 (3.5% reduction throughout the entire period from the MY0 Month 12 starting value).

Exhibit 4.1.1.1.ii. Statewide monthly changes in potentially preventable emergency department visits

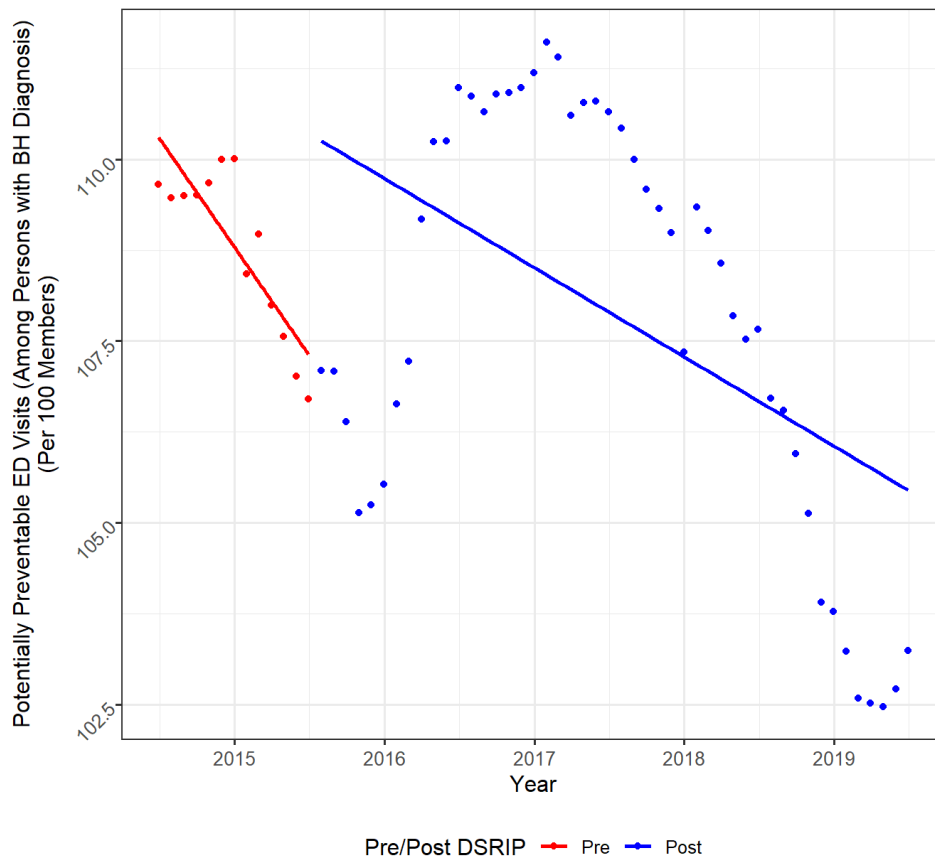


Source: Authors' analysis of the DSRIP Dataset.

Notes: Potentially preventable ED visits is measured per 100 members. June 2014 through June 2015 (MY0 and MY1) data are pre-DSRIP program, and July 2015 through June 2019 (MY2-MY5) are post-DSRIP program initiation. All measures are in effect 12-month moving averages.

The PPVBH rate (Exhibit 4.1.1.1.iii) decreased in the pre-DSRIP program period (red line), from a baseline level of 109.7 visits per 100 members at the end of MY0 to 106.7 visits per 100 members by the end of MY1 (2.7% decrease). In the post-DSRIP program implementation period (blue line), this rate had an initial continued decline, followed by an increase and then a decline at a rate that appears similar to the initial pre-DSRIP program trend. The PPVBH rate had an ending value of 103.3 visits per 100 members by the end of MY5 (5.8% reduction throughout the entire period from the MY0 Month 12 starting value).

Exhibit 4.1.1.1.iii. Statewide monthly changes in preventable emergency department visits among the behavioral health population

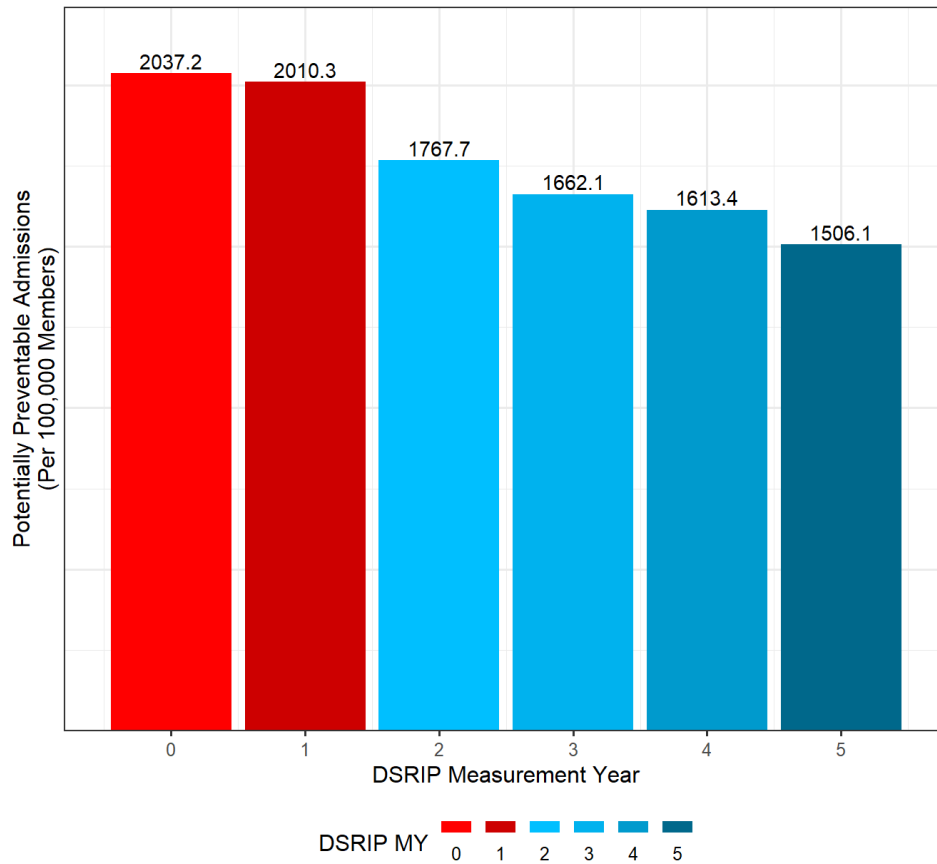


Source: Authors' analysis of the DSRIP Dataset.

Notes: Potentially preventable ED visits is measured per 100 members. This PPV measure is limited to the behavioral health population. June 2014 through June 2015 (MY0 and MY1) data are pre-DSRIP program, and July 2015 through June 2019 (MY2-MY5) are post-DSRIP program initiation. All measures are in effect 12-month moving averages.

Exhibit 4.1.1.1.iv shows the statewide trend in PPA rates by year. This measure declined by 26.1% throughout the study period, from 2,037.2 events per 100,000 members in MY0 to 1,506.1 events per 100,000 members in MY5. There was a sharp drop from MY1 to MY2, with steady improvement thereafter.

Exhibit 4.1.1.1.iv. Statewide annual changes in potentially preventable admissions



Source: Authors' analysis of the DSRIP Dataset.

Notes: The PPA measure is only available on an annual basis, unlike the PPR, PPV, and PPVBH measures.

4.1.1.2. Statewide Interrupted Time Series Regressions

The statewide interrupted time series (see Exhibit 4.1.1.2.i) quantified the magnitude and statistical significance of post-DSRIP program initiation changes in rates of PPR, PPV, and PPVBH across the 61-month study period duration.¹⁰⁷ There is one column per outcome variable. The interrupted time series has three main coefficients: (1) a *Trend* that captures the slope in the pre-DSRIP program period, (2) a *DSRIP* dummy variable that is coded as 1 in the post-DSRIP program initiation period and 0 in the pre-DSRIP program period to estimate the level shift in the post-DSRIP program initiation period, and (3) a *Trend*DSRIP* coefficient that assesses whether the slope changed in the post-DSRIP program initiation period. The *Constant* term refers to the baseline level at the start of the study period (last month of MY0; also referred to as the intercept). For the coefficients, a p-value of $p < 0.01$ is considered strong evidence, $p < 0.05$

¹⁰⁷ For the PPR measure, there are only 56 time points as data for MY4 Month 7 through MY4 Month 11 were inflated due to a billing error with a large managed care organization submitting duplicate claims and thus five months were excluded from analysis.

is considered moderate evidence, and $p < 0.1$ is not statistically significant but provides suggestive evidence.

Exhibit 4.1.1.2.i. State-level time series regression model for potentially preventable readmissions and emergency department visits

Variable	Potentially Preventable Readmissions b (SE)	Potentially Preventable Emergency Department Visits, Full Population b (SE)	Potentially Preventable Emergency Department Visits, Behavioral Health Population b (SE)
Trend	-3.33*** (0.85)	-0.03 (0.04)	-0.34*** (0.13)
DSRIP	-48.35*** (13.19)	0.42 (0.70)	8.54*** (2.19)
Trend*DSRIP	3.04*** (0.84)	0.00 (0.04)	0.13 (0.14)
Constant	620.29*** (9.71)	37.47*** (0.53)	104.32*** (1.71)
Observations	56	61	61
AIC	413.50	13.19	125.50

Source: Authors' analysis of the DSRIP Dataset.

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. All measures are, in effect, twelve-month moving averages. Potentially preventable readmissions are measured per 100,000 members and potentially preventable emergency department visits are measured per 100 members. The potentially preventable readmissions measure has five missing data points due to a large insurance company submitting duplicate claims in MY4 Month 7 through MY4 Month 11.

Potentially Preventable Readmissions

For the PPR measure, the model indicates that throughout the period there was a steady trend of declining rates of readmissions; post-DSRIP program initiation, there was a level shift signaling an immediate drop in readmissions rates. Thereafter, the post-DSRIP program initiation trend is higher than the pre-DSRIP program trend and while the slope decreased (see Exhibit 4.1.1.2.i), there is a slower rate of improvement (i.e., the decline is less pronounced). In the pre-DSRIP program period, the rate of readmissions declined by 3.33 readmissions per 100,000 members each month (*Trend*, $b = -3.33$, $p < 0.01$). After the initiation of the DSRIP program, there was an initial level shift and the rate of readmissions dropped by 48.35 per 100,000 members ($p < 0.01$). However, in the post-DSRIP program initiation period the trend was higher than the pre-DSRIP trend program – still improving, but at a slower rate (*Trend*DSRIP*, $b = 3.04$, $p < 0.01$).

Potentially Preventable Emergency Department Visits

For the PPV measure (full attributed population), the model provides no evidence for substantial changes during the period. In the pre-DSRIP program initiation period, there was no statistically significant increase or decrease (*Trend*, not significant), and in the post-DSRIP program initiation period there was neither an initial level shift (*DSRIP*, not significant) nor evidence for a statistically significant slope change (*Trend*DSRIP*, not significant).

Potentially Preventable Emergency Department Visits among Behavioral Health Populations

For the PPVBH measure (limited to the attributed population assigned to the behavioral health swim lane), the model indicates that in the pre-DSRIP program initiation period potentially preventable emergency department visits were significantly declining by 0.34 visits per 100 members each month (*Trend*, $b = -0.34$, $p < 0.01$). After the initiation of the DSRIP program, there was a significant initial level shift, and the rate of potentially preventable emergency department visits increased by 8.54 visits per 100 members per month immediately following the DSRIP program initiation period. The *Trend*DSRIP* interaction term ($b = 0.13$), which quantifies the slope change in the post-DSRIP program initiation period, was not statistically significant. This suggests there was an initial worsening but then the trend thereafter continued to decline at the same rate as during the pre-DSRIP program period.

Potentially Preventable Admissions

This measure was not examined with the interrupted time series model because it was only available on an annual basis and thus could only be analyzed descriptively.

Caveats

For all three measures examined in the time series analysis, findings should be interpreted cautiously as there was also an increase in the denominator of attributed members (PPR and PPV) and attributed members with behavioral health diagnoses (PPVBH), particularly during the MY1 and MY2 periods. Changes in these populations may have had an impact on some of the performance measures. An additional caution in interpreting the PPV and PPVBH findings is a change in the health plan encounter intake system that occurred in October 2015 (between MY1 and MY2) that led to differences in how emergency department encounters were reported. The PPV reduction from MY1 to MY2, which are visible in the data but not statistically significant in the regression model, may be in part due to this change. Health plans were specifically directed to change the way they reported emergency department encounter claim lines.

The Independent Evaluator reviewed qualitative findings from the implementation and process component of the evaluation for possible further insight into the quantitative findings from analyses of statewide trends in avoidable hospitalization. However, there were no clear and consistent themes from the focus group, key informant interview, or PPS partner survey data

that could explain some of the trends in the quantitative data such as the sharp decline (improvement) in the rate of potentially preventable readmissions at the start of the DSRIP program's implementation before improving more gradually.¹⁰⁸

4.1.2. Comparative Analysis of Hospital Utilization Among Performing Provider Systems

4.1.2.1. Visualizations of PPS Variation

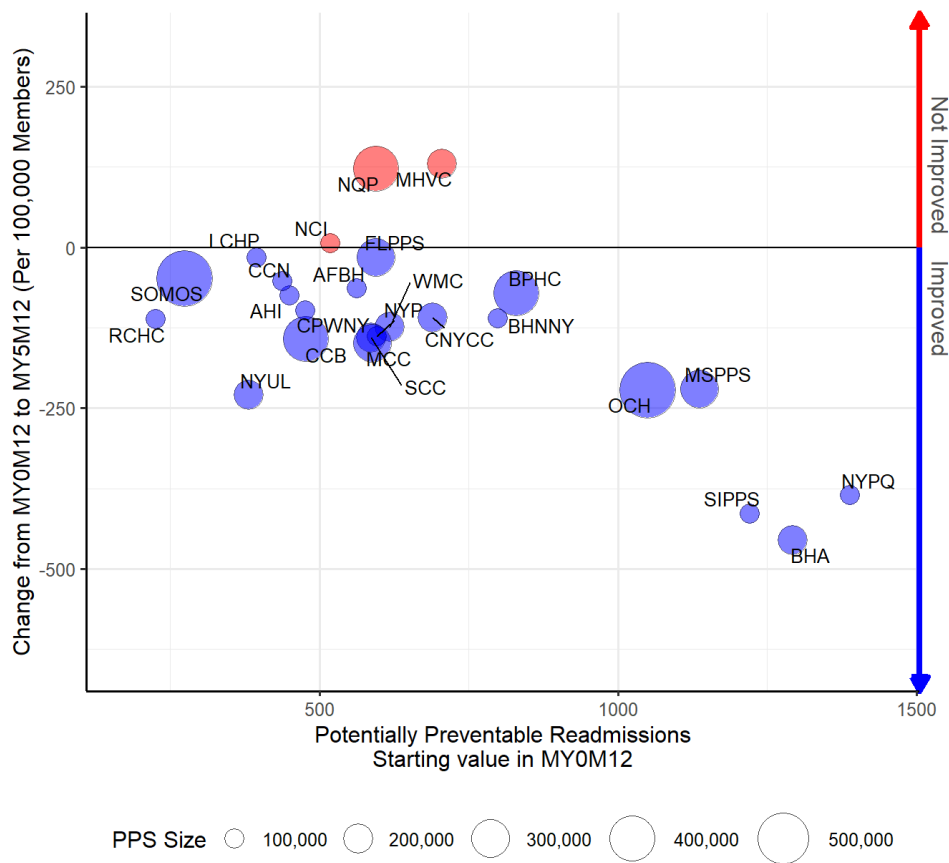
The bubble charts in Exhibits 4.1.2.1.i through 4.1.2.1.iv show, for each measure, the overall change throughout the entire period (from MY0 Month 12 through MY5 Month 12) for each PPS. The X-axis is the measure value at the start of the study time period (MY0 Month 12, corresponding to June 2014) and the Y-axis is the change in the measure value at the end of the study time period (MY5 Month 12, corresponding to June 2019).¹⁰⁹ A value below the horizontal line (zero value) means that the measure value declined during the period, while a value above the horizontal line means that the measure value increased. Improvements are displayed in blue and trends that worsened are in red. For each measure (PPR, PPV, PPVBH, and PPA), a decline denotes an improvement and thus values below the zero horizontal line are in blue. The size of the bubble corresponds to the number of members in each PPS, with larger bubbles for PPSs with more members.

In the PPR bubble chart (Exhibit 4.1.2.1.i), most PPSs except Nassau Queens PPS (NQP), Montefiore Hudson Valley Collaborative (MHVC), and North Country Initiative (NCI) had an improvement throughout the period, consistent with the interrupted time series showing an overall decline in this value over the DSRIP program period. The largest improvements occurred among Bronx Health Access (BHA), New York-Presbyterian Queens PPS (NYPQ), and Staten Island PPS (SIPPS). These PPSs started out with the highest rates of potentially preventable readmissions and had the highest room for improvement. However, due to their smaller populations they did not have as much influence on the overall statewide average. Montefiore Hudson Valley Collaborative, Nassau Queens PPS, and North Country Initiative were outliers with respect to having a worsening trend over time; Montefiore Hudson Valley Collaborative and Nassau Queens PPS also exhibited worsening trends on the PPV and PPVBH measures.

¹⁰⁸ A strength of the evaluation is that qualitative data provided important contextual information about the DSRIP program's implementation and operations. The qualitative data were also reviewed for any additional insight or explanations of the statewide interrupted time series trends seen in avoidable hospital use and behavioral health care service use. However, there were no clear or consistent themes from the qualitative data that would explain some of the statewide trends seen, including some of the more unexpected trends.

¹⁰⁹ The PPA measure was only available on an annual basis, so the changes reflect MY0 to MY5 differences and are not associated with a specific month.

Exhibit 4.1.2.1.i. Bubble charts of the changes in potentially preventable readmissions, by PPS from MY0 to MY5

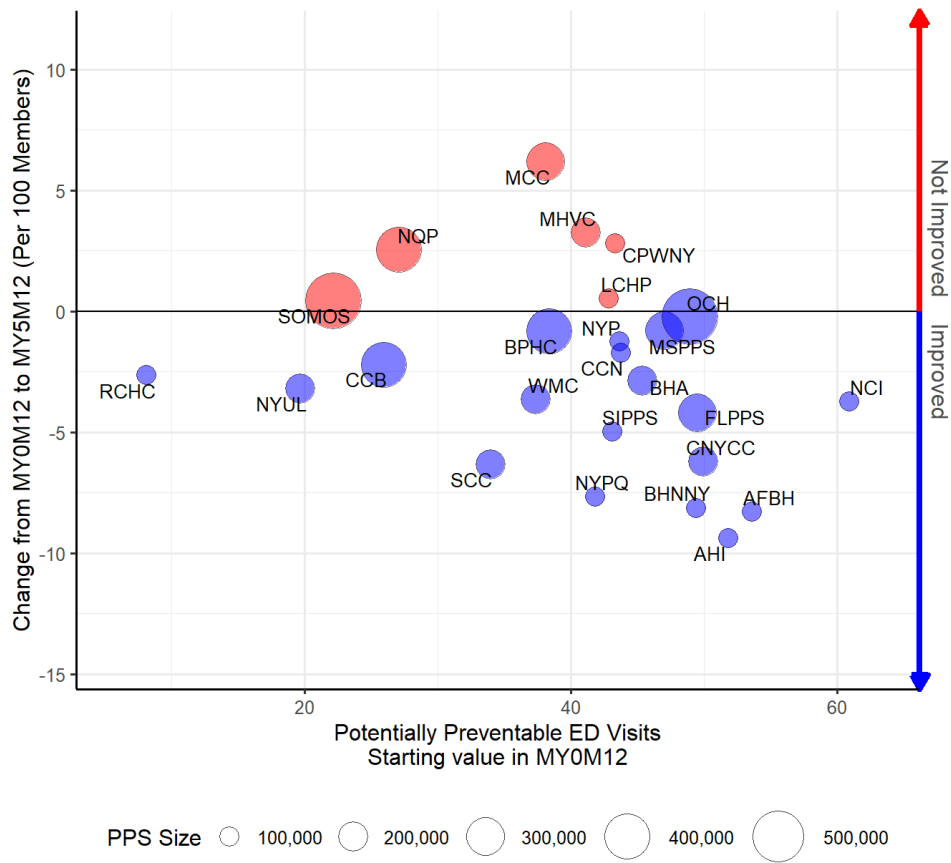


Source: Authors' analysis of the DSRIP Dataset.

Notes: Potentially preventable readmissions is measured per 100,000 members.

In the PPV and PPVBH bubble charts (Exhibits 4.1.2.1.ii and 4.1.2.1.iii), there was a similar trend with the PPSs with the highest initial rates having the largest improvements (bottom right corner). Most PPSs had an improvement during the period. However, the PPSs with the largest member populations (SOMOS and OneCity Health (OCH)) were near the zero line of no change. That may have contributed to the lack of observed improvement in PPV over the study time period when examining changes statewide as large PPSs have the most influence in the statewide average.

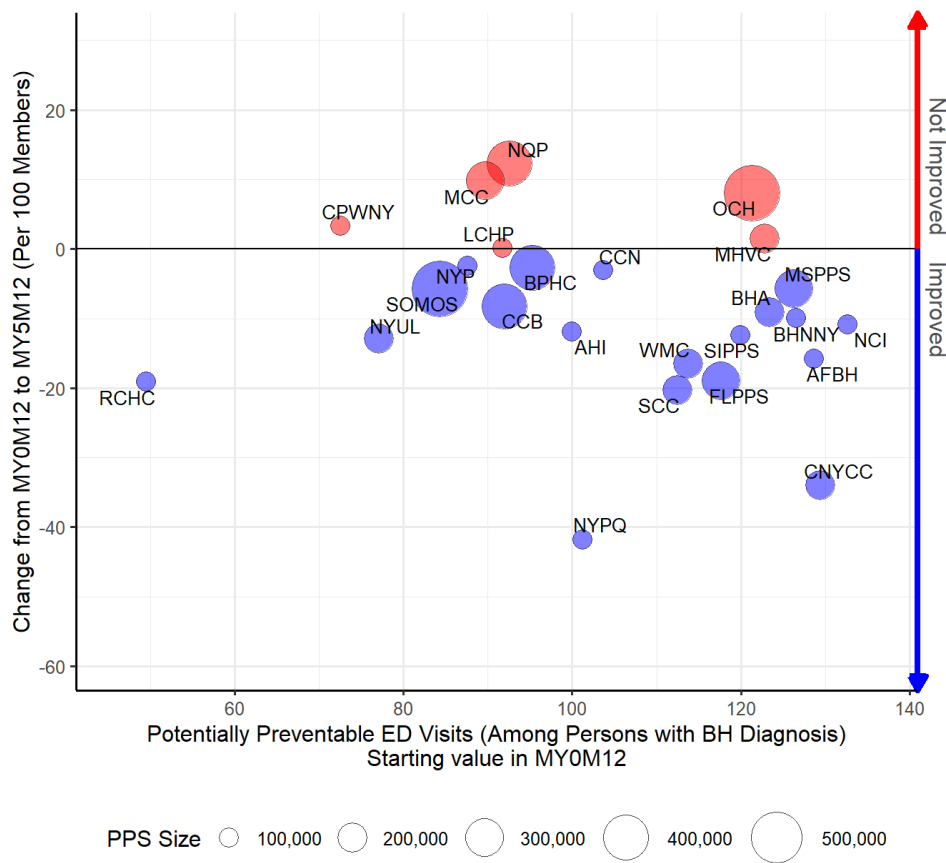
Exhibit 4.1.2.1.ii. Bubble charts of the changes in potentially preventable emergency department visits, by PPS from MY0 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Potentially preventable ED visits is measured per 100 members.

Exhibit 4.1.2.1.iii. Bubble charts of the changes in potentially preventable emergency department visits among the behavioral health population, by PPS from MY0 to MY5

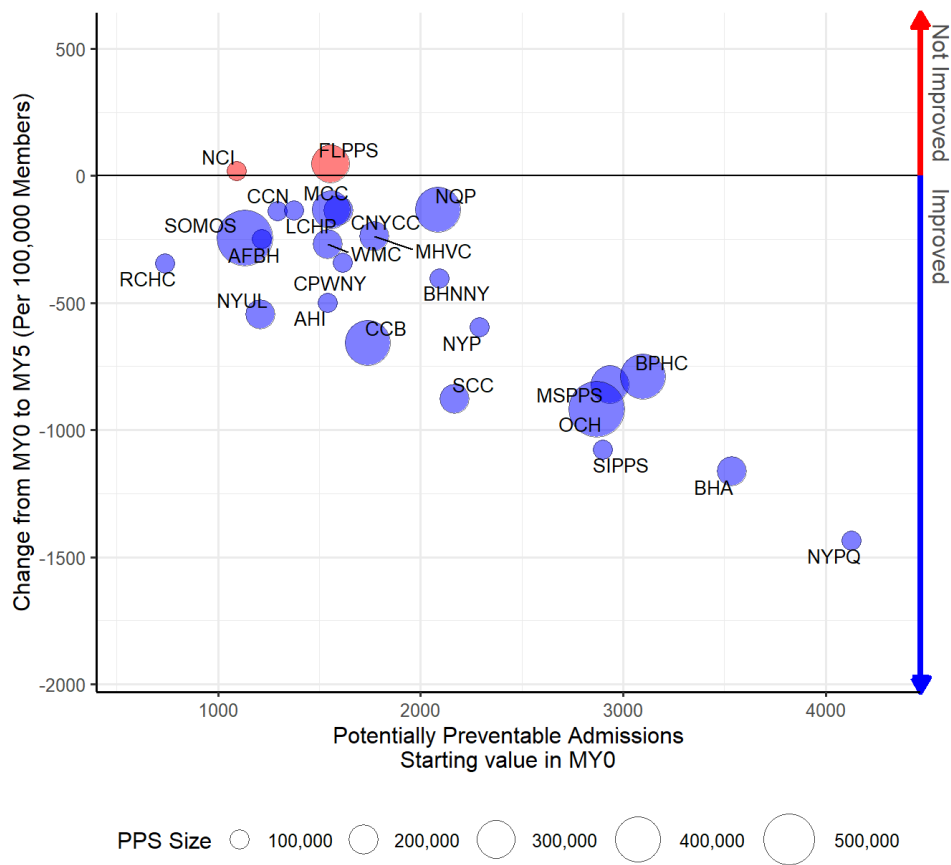


Source: Authors' analysis of the DSRIP Dataset.

Notes: Potentially preventable ED visits among the behavioral health population is measured per 100 members. This PPV measure is limited to the behavioral health population.

The PPA bubble chart (Exhibit 4.1.2.1.iv) had the similar pattern of PPSs with the highest initial rates having the largest improvements (bottom right corner). Nearly all PPSs improved during the period. The two PPSs that did not improve from MY0 to MY5 (North Country Initiative (NCI) and Finger Lakes PPS (FLPPS)) had very modest increases.

Exhibit 4.1.2.1.iv. Bubble charts of the changes in potentially preventable admissions, by PPS from MY0 to MY5



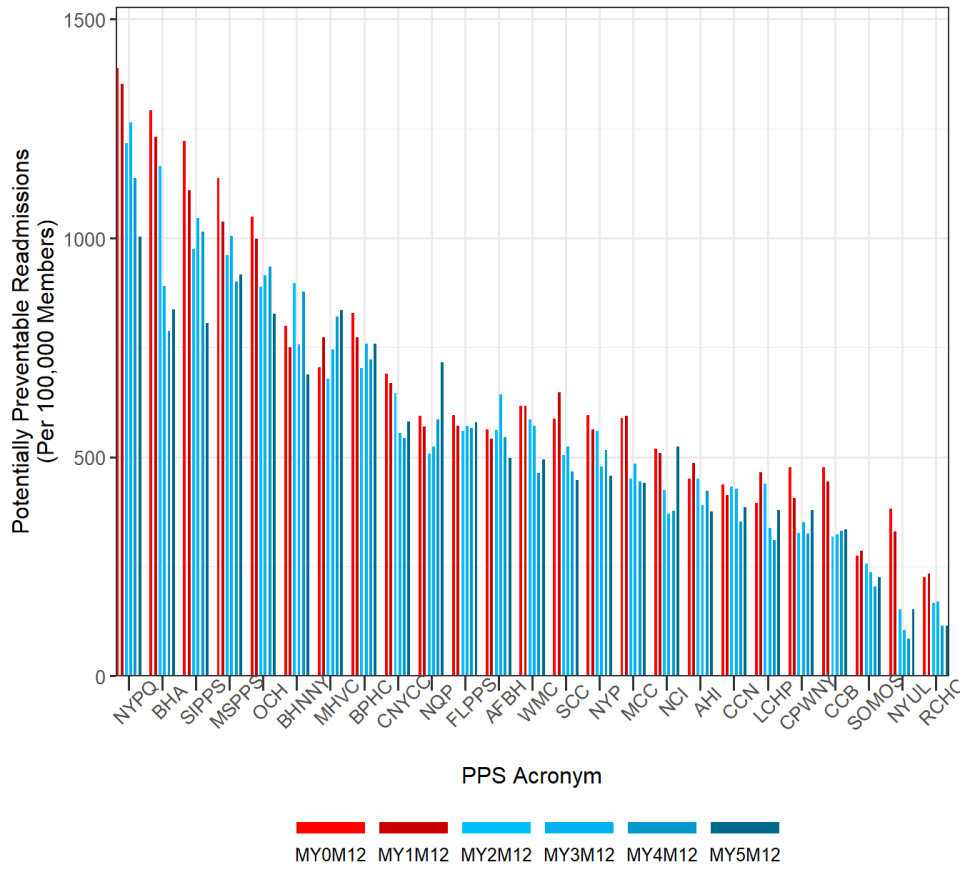
Source: Authors' analysis of the DSRIP Dataset.

Notes: Potentially preventable admissions is measured per 100,000 members.

Exhibits 4.1.2.1.v to 4.1.2.1.viii display the PPR, PPV, PPVBH, and PPA rates in the six years (MY0 through MY5), by PPS. Each PPS has one bar per MY. Although monthly data for PPR, PPV, and PPVBH are available for all months, these graphs only present the last observation in each MY (Month 12) for ease of interpretation.¹¹⁰ The pre-DSRIP program initiation period MY0 and MY1 are in red, and the post-DSRIP program initiation period are in shades of blue (MY2 through MY5). The performance outcomes in the DSRIP Dataset are 12-month rolling averages, so the last value of the MY for PPR, PPV, and PPVBH captures the prior year's average performance.

¹¹⁰ Five observations in the PPR data are missing, corresponding to MY4 Month 7 through MY Month 11. That does not affect these clustered bar charts, which display Month 12 for each MY. The PPA data were only available annually and reflect the entire year, rather than being tied to a specific month.

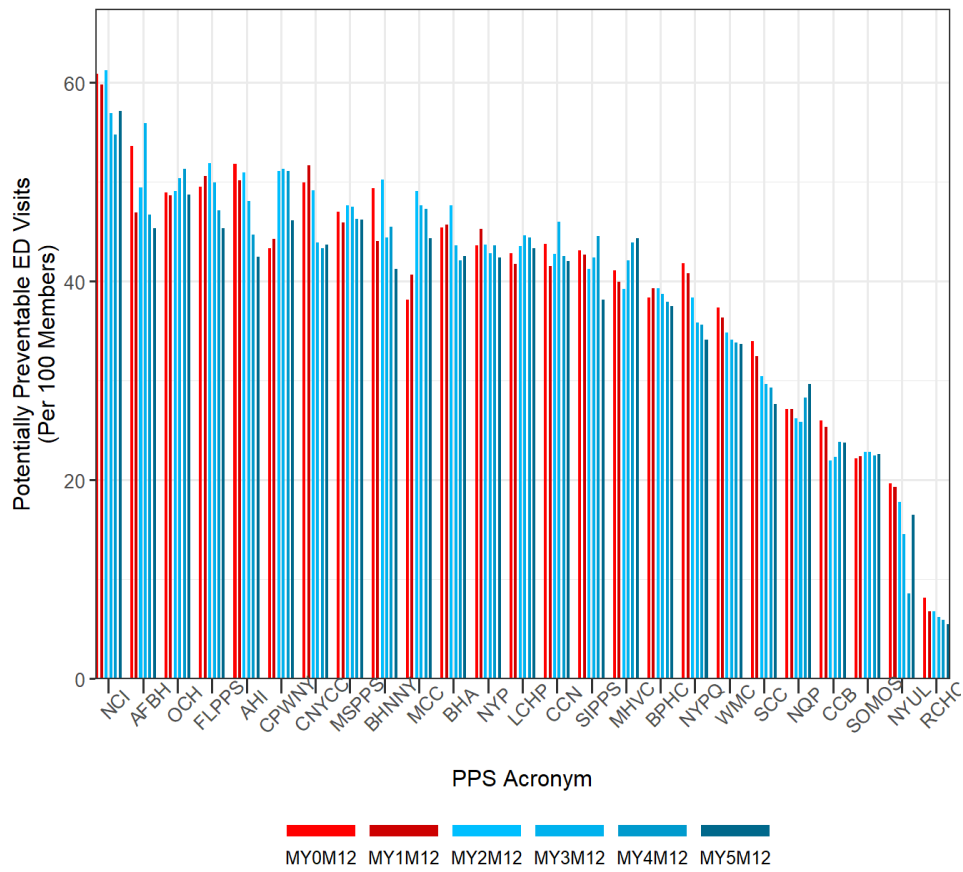
Exhibit 4.1.2.1.v. Annual changes in the rate of potentially preventable readmissions from MY0 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Potentially preventable readmissions is measured per 100,000 members. Each PPS has six bars, one per MY, with values based on the last month in the MY.

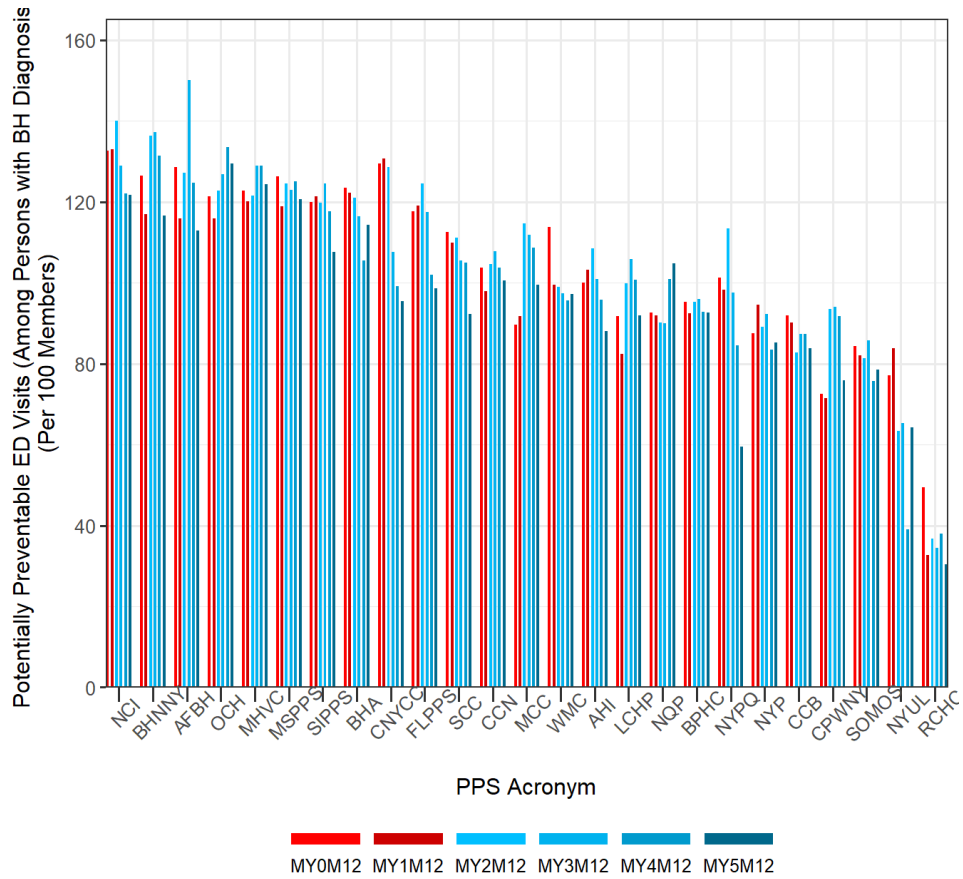
Exhibit 4.1.2.1.vi. Annual changes in the rate of potentially preventable emergency department visits from MY0 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Potentially preventable ED visits is measured per 100 members. Each PPS has six bars, one per MY, with values based on the last month in the MY.

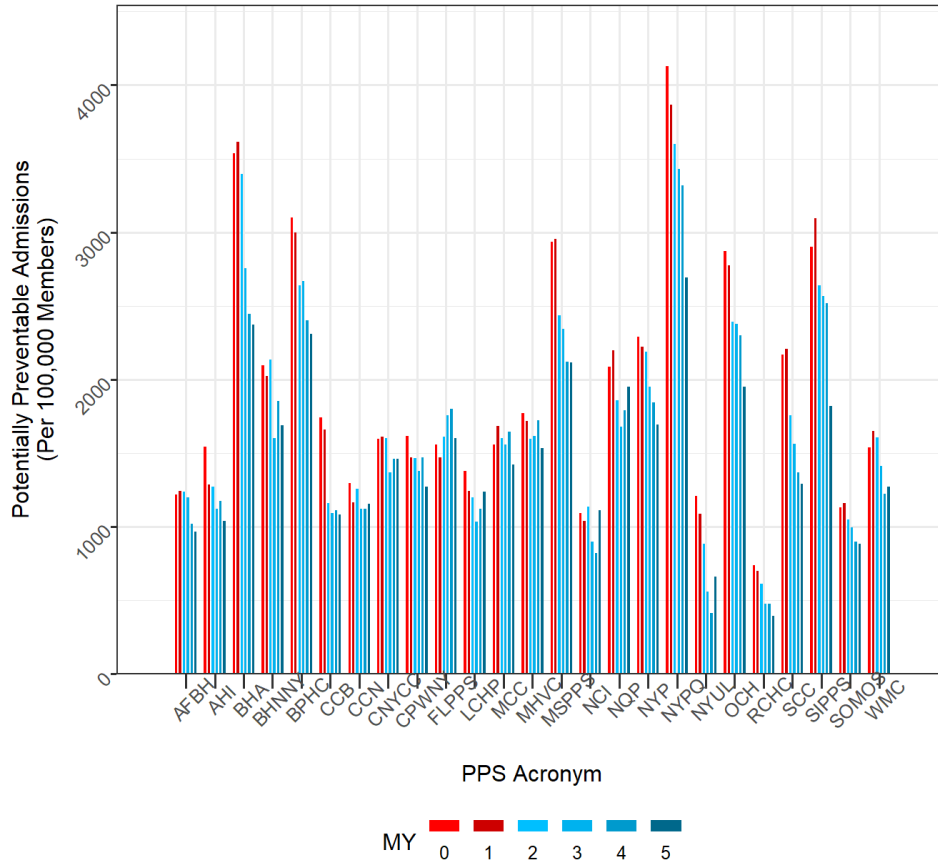
Exhibit 4.1.2.1.vii. Annual changes in the rate of potentially preventable emergency department visits among the behavioral health population from MY0 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Potentially preventable ED visits is measured per 100 members. This PPV measure is limited to the behavioral health population. Each PPS has six bars, one per MY, with values based on the last month in the MY.

Exhibit 4.1.2.1.viii. Annual changes in the rate of potentially preventable admissions from MY0 to MY5, by PPS



Source: Authors’ analysis of the DSRIP Dataset.

Notes: Potentially preventable admissions is measured per 100,000 members. Each PPS has six bars, one per MY.

4.1.2.2. Variability in Values Across PPSs and Measurement Years

Exhibit 4.1.2.2.i displays variability in the values across PPSs and time. For each measure, the median, minimum, and maximum values are reported by MY.

Exhibit 4.1.2.2.i. Variability in preventable hospitalization measures across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
Potentially Preventable Readmissions	MY0	594.9	225.8	1,388.9
	MY1	588.0	209.4	1,358.6
	MY2	558.6	152.9	1,472.5
	MY3	524.6	102.8	1,400.1

Measure	Measurement Year	Median	Minimum	Maximum
	MY4	542.2	86.2	1,268.6
	MY5	508.1	99.5	1,237.8
Potentially Preventable ED Visits	MY0	43.1	8.1	60.9
	MY1	43.2	6.8	60.3
	MY2	42.3	6.8	61.8
	MY3	44.3	6.1	61.4
	MY4	43.4	5.4	55.7
	MY5	42.2	5.1	57.3
Potentially Preventable ED Visits (Among Persons with BH Diagnosis)	MY0	103.7	49.5	132.7
	MY1	103.2	30.7	134.9
	MY2	104.2	30.0	141.5
	MY3	108.0	30.8	155.1
	MY4	102.7	29.6	145.6
	MY5	98.6	25.8	130.9
Potentially Preventable Admissions	MY0	1,616.7	738.4	4,130.3
	MY1	1,659.3	699.3	3,867.5
	MY2	1,602.1	614.6	3,601.4
	MY3	1,556.2	475.6	3,431.1
	MY4	1,470.8	412.5	3,320.3
	MY5	1,424.6	392.8	2,693.6

Source: Authors' analysis of the DSRIP Dataset.

Notes: Potentially preventable readmissions is measured per 100,000 members. Potentially preventable ED visits is measured per 100 members. Potentially preventable admissions is measured per 100,000 members. For PPR, PPV, and PPVBH, the summary statistics are based on all observations within the MY; for example, the statistics for MY1 are based on all PPS-month observations from MY1 Month 1 through MY1 Month 12.

4.1.2.3. Comparative Regression Analysis

Exhibit 4.1.2.3.i shows results from the comparative regression analysis of potentially preventable readmissions and emergency department visits in the full and behavioral health populations. There is one column per outcome, and each model only contains the PPS characteristics that were identified in the backward stepwise regression procedure to develop the most parsimonious model.¹¹¹

Consistent with the interrupted time series, each model contains three basic coefficients: (1) a *Trend* that captures the slope in the pre-DSRIP program period, (2) a *DSRIP* dummy variable that is coded as 1 in the post-DSRIP program initiation period and 0 in the pre-DSRIP program period to estimate the level change in the post-DSRIP program initiation period, and (3) a *Trend*DSRIP* coefficient that assesses whether the slope changed in the post-DSRIP initiation

¹¹¹ In most cases, the final models from the backwards stepwise regression (presented here) and the forward stepwise regression (not show but performed as a sensitivity analysis) were similar.

period. Each model additionally includes one or more coefficients corresponding to the seven PPS characteristics that were considered in the analysis. There are 1,525 observations (versus the 61 observations in the statewide time series), as the observations are at the PPS-month level (25 PPSs x 61 months).¹¹²

Seven PPS characteristics were examined:

- **PPS size**, measured as the log of the number of attributed members in the PPS
- **NewCo versus pre-existing entity**, measured as a binary indicator (reference group: pre-existing entity)
- **Lead entity type**, comprising hospital system versus other types (multiple unaffiliated hospitals, single hospital, and non-hospital or multiple unaffiliated providers; reference group: other)
- **Region**, with three categories of NYC, NYC Metro, and Upstate (reference group: Upstate)
- **Health status**, measured as the percentage of members in the Healthy or Acute states based on the 3M Clinical Risk Groups (categories 1 and 2, versus those with higher scores indicating minor or chronic needs)
- **Race**, measured as the percent of attributed members with self-reported “Black/African American” race
- **Age**, measured as the mean age of attributed members

Summary of Findings: For all three outcomes (PPR, PPV, and PPVBH), larger PPSs had lower (better) rates of potentially preventable events and PPSs with a higher percentage of Black members had higher (worse) rates of potentially preventable events after adjusting for other PPS characteristics. Performing provider systems located in Upstate regions had higher rates of potentially preventable emergency department visits in both the full (PPV) and behavioral health populations (PPVBH). Performing provider systems with older members had higher PPR and PPVBH rates, and PPSs with a higher percentage of members with healthy or acute CRG scores had lower (better) PPV rates. Age and CRG were strongly correlated (correlation coefficient between *Mean Age* and *% Healthy/Acute*, $r = -0.75$, $p < 0.01$), so a more general interpretation is that PPSs with older and/or sicker members had higher rates of potentially preventable events.¹¹³ Performing provider systems led by hospital systems had a higher PPV rate, although this association was not found for the PPR and PPVBH measures.

Potentially Preventable Readmissions: Larger PPSs had lower (better) PPR rates (*PPS Size*, $b = -203.83$, $p < 0.01$). The *PPS Size* variable was log-transformed and is interpreted as, a one percent increase in the number of attributed members (size) was associated with a 2.0% decrease in the PPR rate. Performing provider systems with a higher percentage of Black members and older

¹¹² The PPR measure has 1,400 observations because 125 observations are dropped due to the reporting error from MY4 Month 7 through MY4 Month 11.

¹¹³ The correlation matrix is not shown here. In bivariate models examining each PPS characteristic without adjusting for other PPS characteristics, the *% Healthy/Acute* variable was negative and statistically significant for all three outcomes.

members had higher (worse) PPR rates (*% Black*, $b= 15.38$, $p<0.01$; *Mean Age*, $b= 43.61$, $p<0.01$). These variables can be interpreted as, a one percent increase in the share of attributed members that were Black was associated with 15.4 more PPR events per 100,000 members, and a one-year increase in the mean age of attributed members was associated with 43.6 more PPR events per 100,000 members. As context for interpreting the magnitude of these coefficients, the average statewide PPR rate during the study period was 591.8 per 100,000 members.

Potentially Preventable Emergency Department Visits: A one percent increase in the number of attributed members was associated with a 0.04% decrease in the PPV rate (*PPS Size*, $b= -4.23$, $p<0.01$). Performing provider systems led by a hospital system had 7.1 more PPV events per 100 members (*Hospital System*, $b= 7.07$, $p<0.05$). There were differences by region, with the highest rate of PPV events in Upstate New York (*NYC*, $b= -17.66$, $p<0.01$; *NYC Metro*, $b= -16.70$, $p<0.01$; reference group: Upstate). Performing provider systems with healthier members had fewer visits: a one percent increase in the percent of members with a healthy or acute CRG score was associated with 0.9 fewer PPV events per 100 members (*% Healthy/Acute*, $b= -0.87$, $p<0.01$). A one percent increase in the share of attributed members that were Black was associated with 0.5 more PPV events per 100 (*% Black*, $b= 0.46$, $p<0.01$). As context for interpreting the magnitude of these coefficients, the average statewide PPV rate during the study period was 37.4 per 100 members.

Potentially Preventable Visits Among Persons with Behavioral Health Diagnoses: A one percent increase in the number of attributed members was associated with a 0.06% decrease in the PPVBH rate (*PPS Size*, $b= -5.90$, $p<0.05$). Performing provider systems located in NYC had lower PPVBH rates compared to those located Upstate (*NYC*, $b= -29.74$, $p<0.01$; reference group: Upstate).¹¹⁴ A one percent increase in the share of attributed members that were Black was associated with 1.0 more PPVBH events per 100 (*% Black*, $b= 0.98$, $p<0.01$), and a one-year increase in the mean age of attributed members was associated with 3.7 more PPVBH events per 100 (*Mean Age*, $b= 3.72$, $p<0.05$). As context for interpreting the magnitude of these coefficients, the average statewide PPVBH rate during the study period was 108.1 per 100 members.

¹¹⁴ The *NYC Metro* coefficient was marginally significant at the $p<0.1$ level which is weak evidence that PPSs in the NYC Metro region had fewer PPVBH events compared to those in Upstate regions (*NYC Metro*, $b= -16.35$, $p<0.1$; reference group: Upstate).

Exhibit 4.1.2.3.i. Comparative regression models for potentially preventable readmissions and emergency department visits

Variable	Potentially Preventable Readmissions B (SE)	Potentially Preventable Emergency Department Visits, Full Population B (SE)	Potentially Preventable Emergency Department Visits, Behavioral Health Population B (SE)
Trend	-0.97 (1.29)	-0.17*** (0.06)	-0.56*** (0.18)
DSRIP	-41.13** (17.30)	3.88*** (1.03)	13.19*** (3.48)
Trend* DSRIP	-0.95 (1.39)	-0.01 (0.05)	0.19 (0.20)
PPS Size	-203.83*** (58.15)	-4.23*** (1.15)	-5.90** (2.91)
NewCo			
Hospital System		7.07** (2.74)	
NYC		-17.66*** (1.88)	-29.74*** (5.99)
NYC Metro		-16.70*** (2.81)	-16.35* (9.52)
% Healthy/Acute		-0.87*** (0.26)	
% Black	15.38*** (2.92)	0.46*** (0.08)	0.98*** (0.22)
Mean Age	43.61*** (11.59)		3.72** (1.65)
Constant	1575.55** (627.54)	139.63*** (19.63)	63.80 (57.90)
Observations	1400	1525	1525
Adjusted R ²	0.69	0.81	0.50

Source: Authors' analysis of the DSRIP Dataset.

Notes: *p<0.1, **p<0.05, ***p<0.01. All measures are, in effect, twelve-month moving averages. Potentially preventable readmissions are measured per 100,000 members and potentially preventable emergency department visits are measured per 100 members. The potentially preventable readmissions measure has five missing data points due to a large insurance company submitting duplicate claims in MY4 Month 7 through MY4 Month 11. All PPS characteristics were considered, and the final parsimonious models presented here were derived from a backward selection procedure that included coefficients with p<0.10. Reference categories: *NewCo*, pre-existing entity; *Hospital System*, other lead entity types; *NYC* and *NYC Metro*, Upstate.

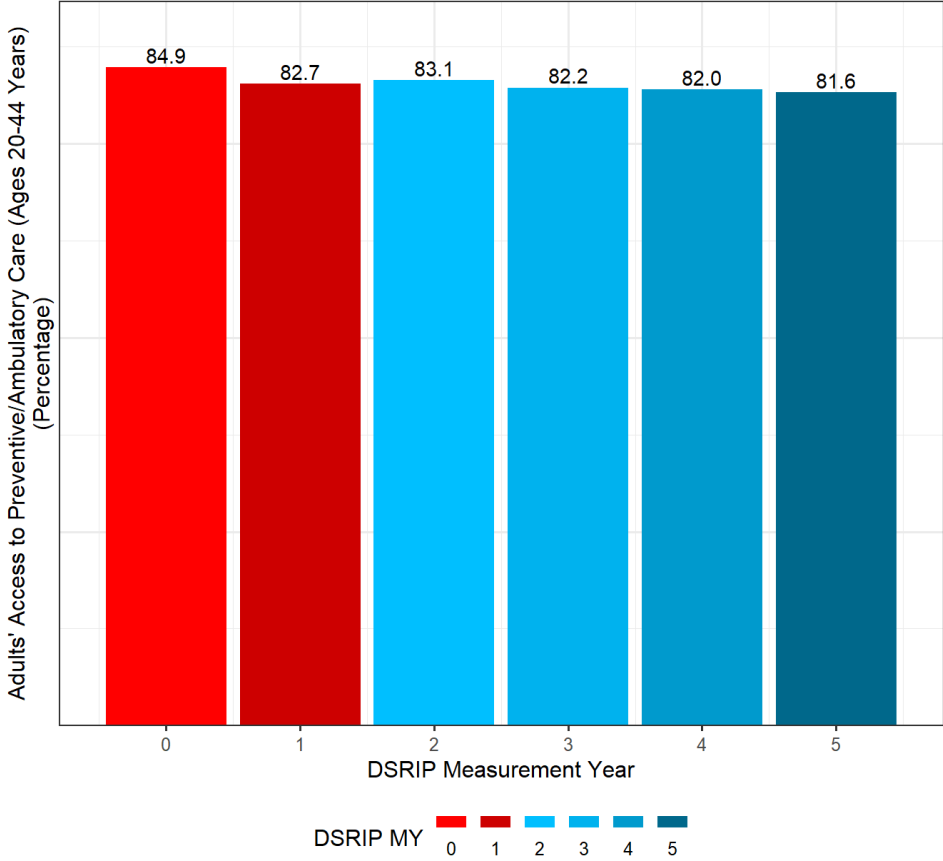
4.1.3. Statewide Trends in Primary Care Utilization

Adults' Access to Preventive/Ambulatory Care

Exhibits 4.1.3.i, 4.1.3.ii and 4.1.3.iii illustrate the statewide annual trends in *Adults' Access to Preventive/Ambulatory Care (Ages 20-44 Years)*, *Adults' Access to Preventive/Ambulatory Care (Ages 45-64 Years)*, and *Adults' Access to Preventive/Ambulatory Care (Ages 65+ Years)*. These represent the percentage of adults who had an ambulatory or preventive care visit in the past year, by age group.

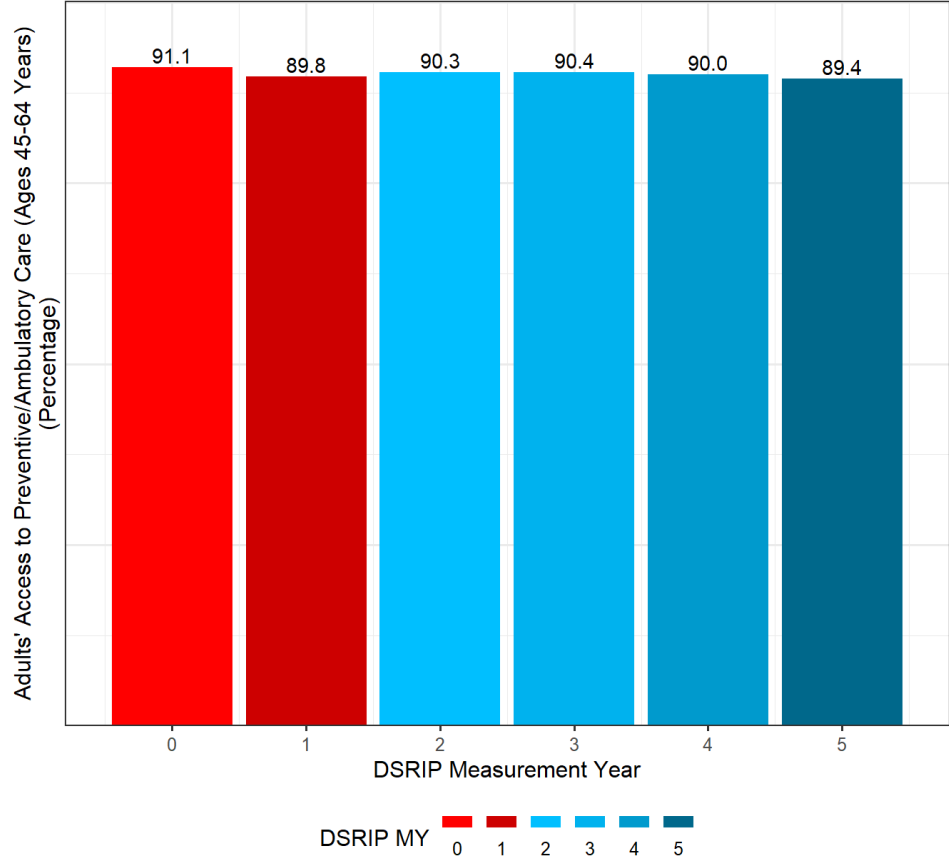
Overall, while levels were high for each age group, the percentage of adults with access to preventive/ambulatory care was lowest for the 20 to 44 age group, compared to adults ages 45 to 64 and adults ages 65 years and above. This finding is expected, as adults have more chronic conditions as they age. This may also reflect changes in the Medicaid population, especially those resulting from the Affordable Care Act's Medicaid expansion (e.g., low-income, childless adults). New Medicaid members may have been less likely to have established relationships with primary care providers and many would have enrolled after the DSRIP program was well underway. The percentage of adults ages 20 to 44 with at least one preventive/ambulatory care visit in the past year declined slightly, from 84.9% in MY0 to 81.6% in MY5. In contrast, this percentage remained at a steady level for adults ages 45 to 64 (from 91.1% in MY0 to 89.4% in MY5) and adults ages 65 and older (from 89.2% in MY0 to 90.7% in MY5).

Exhibit 4.1.3.i. Statewide annual changes in adults' access to preventive/ambulatory care, ages 20 to 44 years, from MY0 to MY5



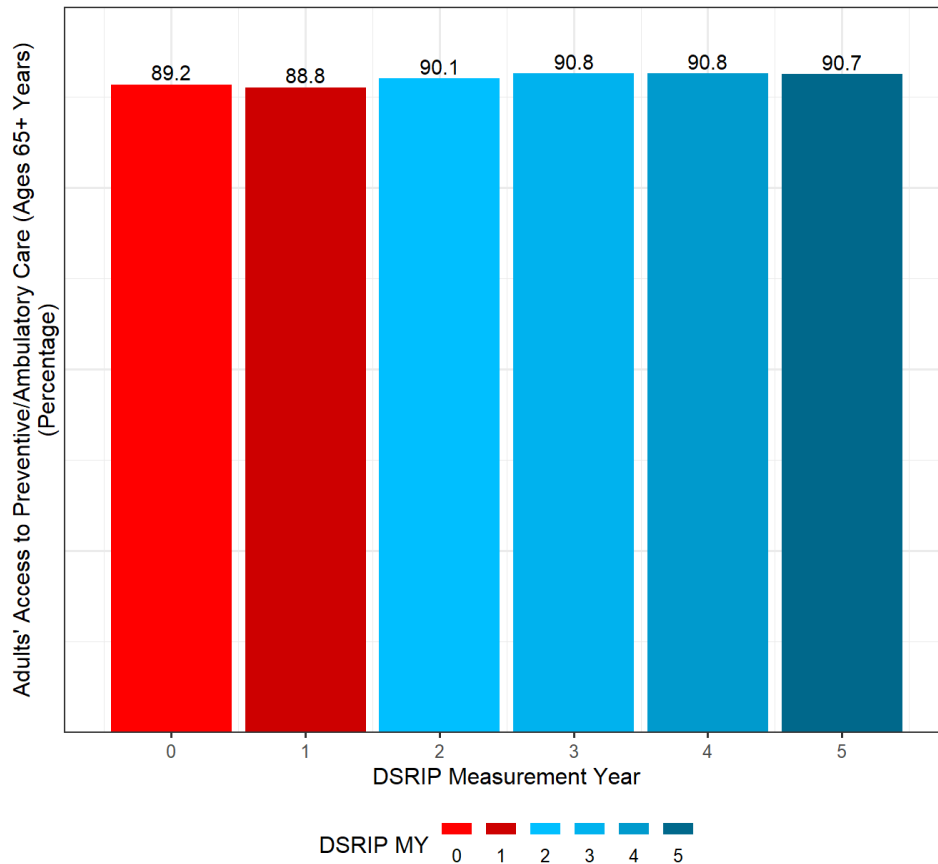
Source: Authors' analysis of the DSRIP Dataset. These are monthly measures, and the values are for the last month of each MY, e.g., MY0 Month 12, MY1 Month 12, etc.

Exhibit 4.1.3.ii. Statewide annual changes in adults' access to preventive/ambulatory care, ages 45 to 64 years, from MY0 to MY5



Source: Authors' analysis of the DSRIP Dataset. These are monthly measures, and the values are for the last month of each MY, e.g., MY0 Month 12, MY1 Month 12, etc.

Exhibit 4.1.3.iii. Statewide annual changes in adults' access to preventive/ambulatory care, ages 65+ years, from MY0 to MY5



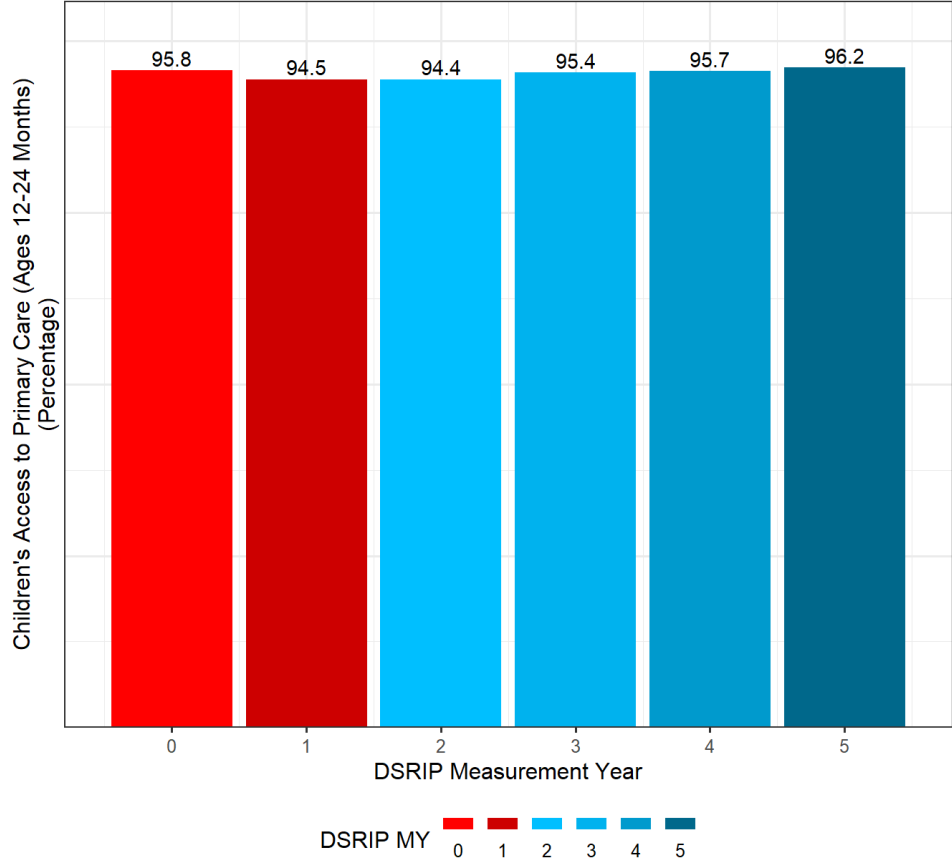
Source: Authors' analysis of the DSRIP Dataset. These are monthly measures, and the values are for the last month of each MY, e.g., MY0 Month 12, MY1 Month 12, etc.

Exhibits 4.1.3.iv through 4.1.3.vii illustrate the statewide annual trends in *Children's Access to Primary Care (Ages 12-24 Months)*, *Children's Access to Primary Care (Ages 25 Months-6 Years)*, *Children's Access to Primary Care (Ages 7-11 Years)*, and *Children's Access to Primary Care (Ages 12-19 Years)*. These represent the percentage of children who had a primary care visit in the past year, by age group.

Children's Access to Primary Care

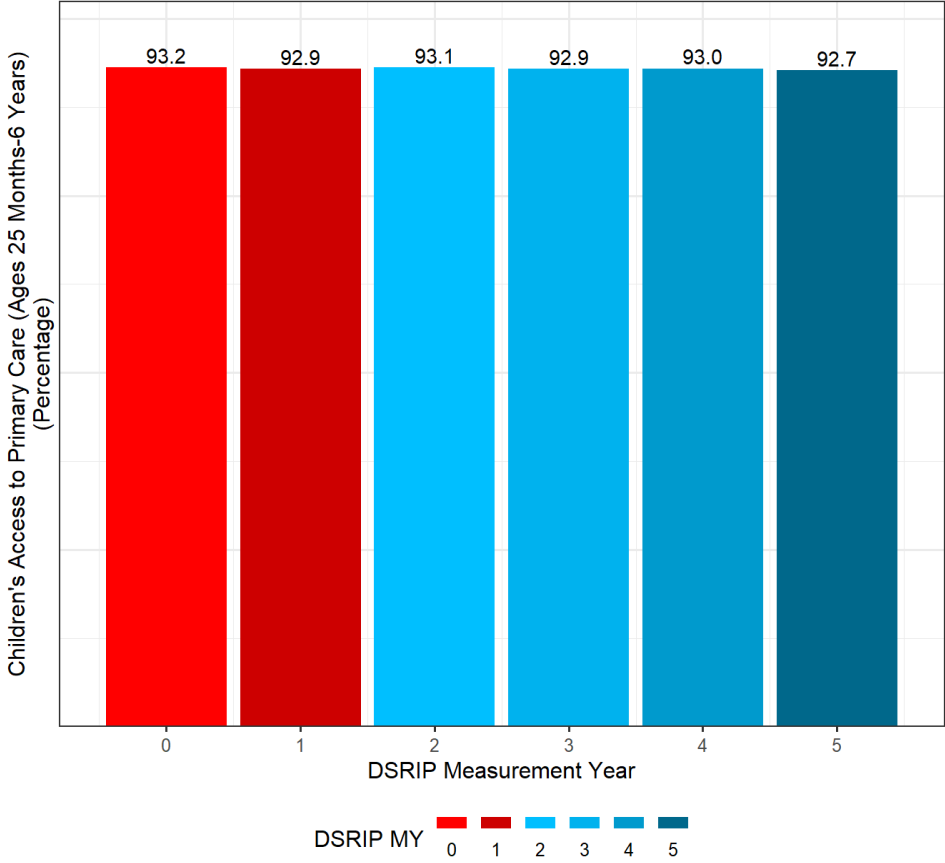
At the statewide level, children's access to primary care was high for all age groups and remained steady throughout the period. For children ages 12-24 months, the percentage who had at least one primary care visit in the past year was 95.8% in MY0 and 96.2% in MY5, with little variation in other years. This pattern was similar for all other age groups: children ages 25 months to 6 years, 93.2% in MY0 to 92.7% in MY5; children ages 7 to 11 years, 96.8% in MY0 to 96.7% in MY5; and children ages 12 to 19 years, 94.7% in MY0 to 95.5% in MY5.

Exhibit 4.1.3.iv. Statewide annual changes in children’s access to primary care, ages 12 to 24 months, from MY0 to MY5



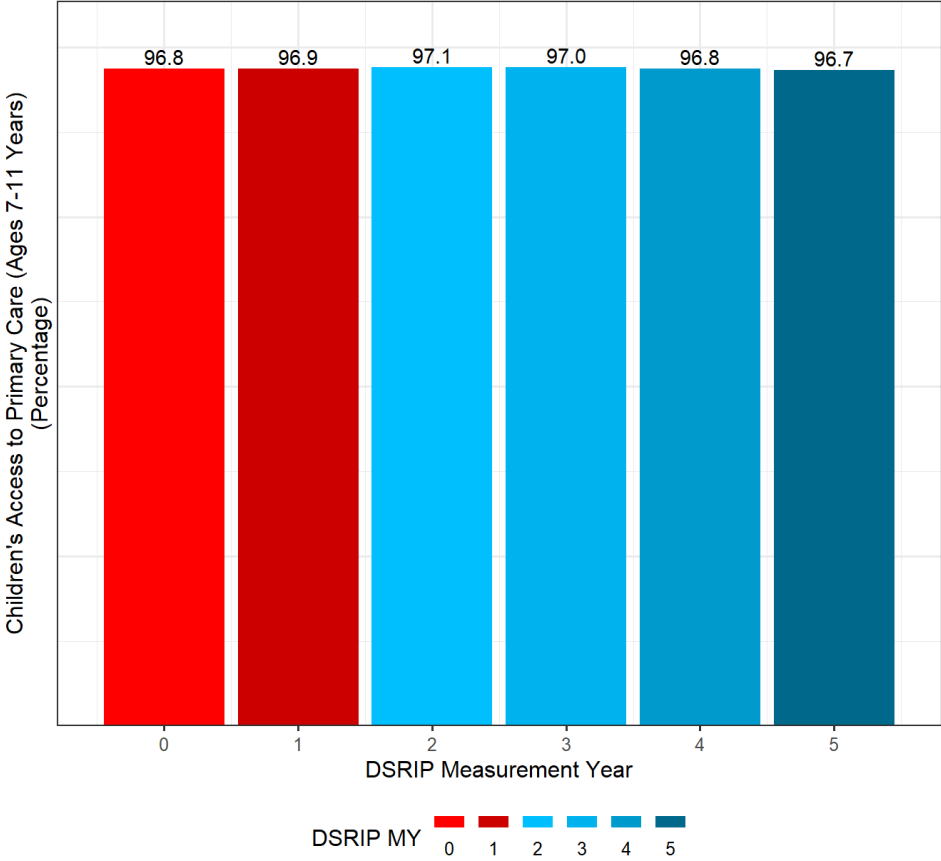
Source: Authors’ analysis of the DSRIP Dataset. These are monthly measures, and the values are for the last month of each MY, e.g., MY0 Month 12, MY1 Month 12, etc.

Exhibit 4.1.3.v. Statewide annual changes in children’s access to primary care, ages 25 months to 6 years, from MY0 to MY5



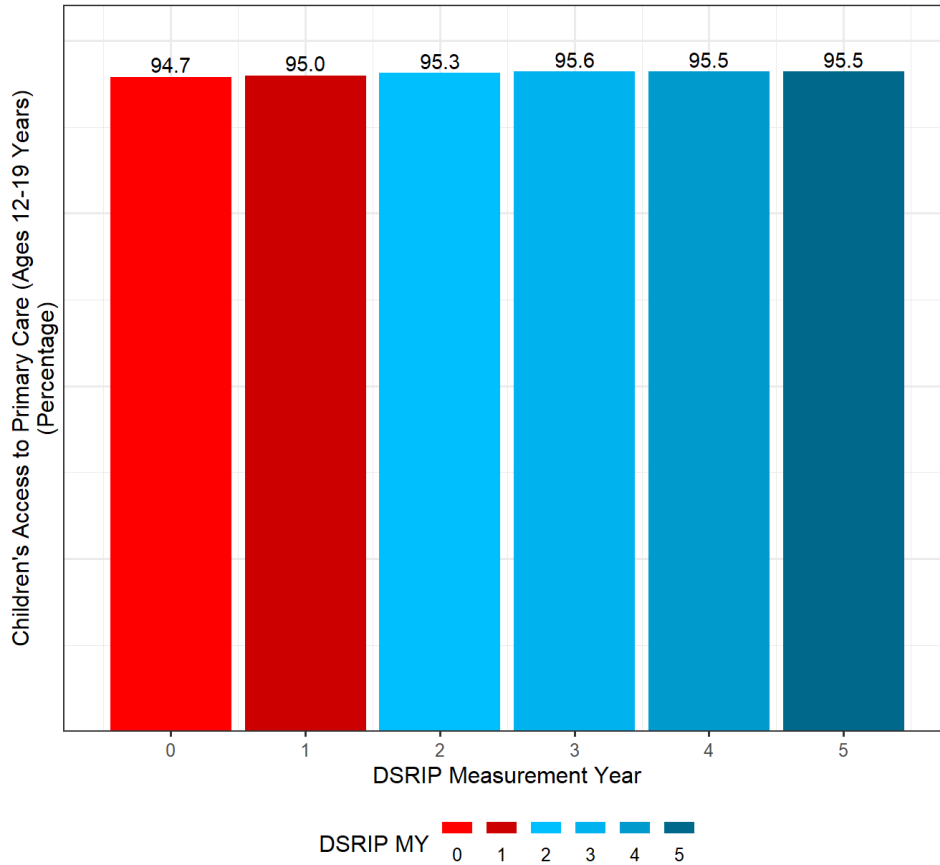
Source: Authors’ analysis of the DSRIP Dataset. These are monthly measures, and the values are for the last month of each MY, e.g., MY0 Month 12, MY1 Month 12, etc.

Exhibit 4.1.3.vi. Statewide annual changes in children’s access to primary care, ages 7 to 11 years, from MY0 to MY5



Source: Authors’ analysis of the DSRIP Dataset. These are monthly measures, and the values are for the last month of each MY, e.g., MY0 Month 12, MY1 Month 12, etc.

Exhibit 4.1.3.vii. Statewide annual changes in children’s access to primary care, ages 12 to 19 years, from MY0 to MY5



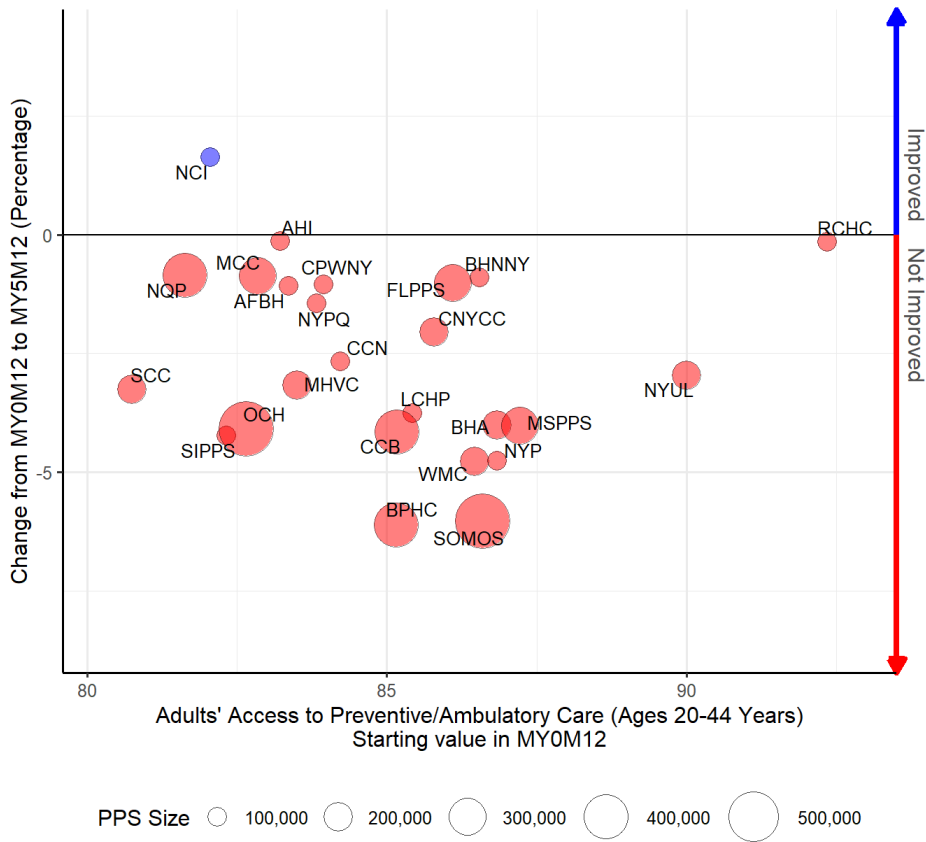
Source: Authors’ analysis of the DSRIP Dataset. These are monthly measures, and the values are for the last month of each MY, e.g., MY0 Month 12, MY1 Month 12, etc.

4.1.4. Comparative Analysis of Primary Care Utilization Among Performing Provider Systems

Adults’ Access to Preventive/Ambulatory Care

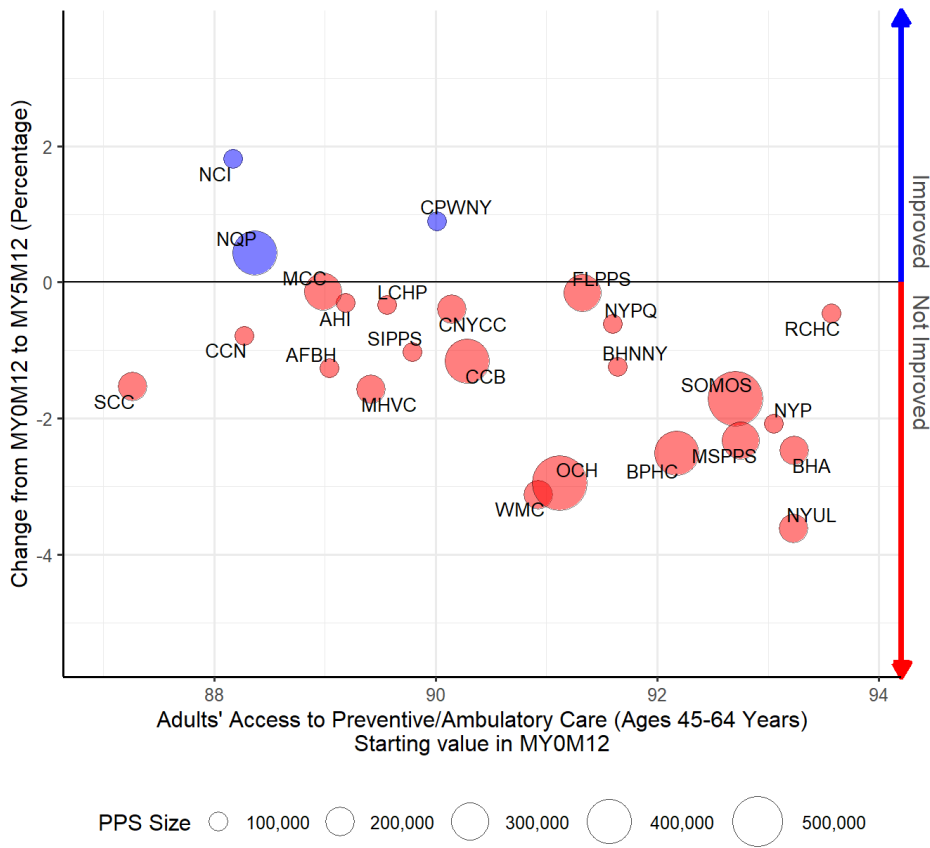
The bubble charts in Exhibits 4.1.4.i through 4.1.4.iii show, for each adult access to preventive/ambulatory care measure, the overall change throughout the entire period. The interpretation is the same as described above for the PPR, PPV, PPVBH, and PPA measures. Consistent with the statewide trends, most PPSs had declines in adult access to preventive/ambulatory care in the three age categories. The largest declines were among the PPSs in the bottom right corner, which started at the highest levels prior to the DSRIP program’s initiation (MY0 Month 12). Their declines may reflect that they were already at a high level and thus did not have substantial room for improvement over the five-year period.

Exhibit 4.1.4.i. Bubble chart of the changes in adults' access to preventive/ambulatory care, ages 20 to 44 years, by PPS from MY0 to MY5



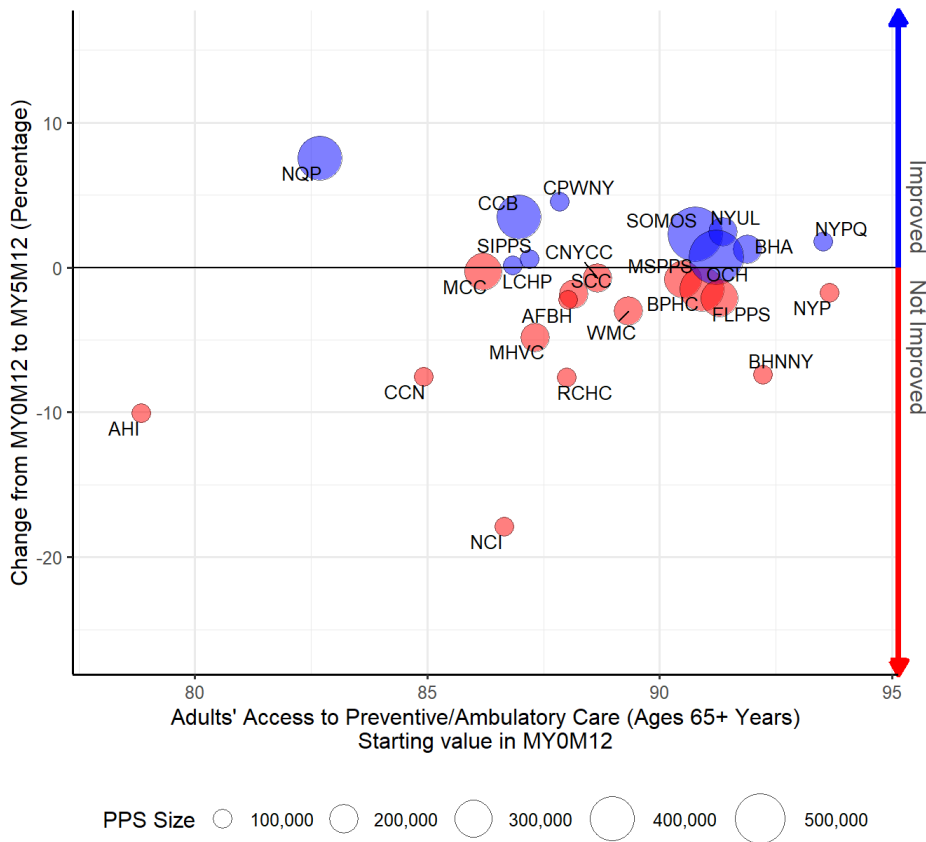
Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.4.ii. Bubble chart of the changes in adults' access to preventive/ambulatory care, ages 45 to 64 years, by PPS from MY0 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.4.iii. Bubble chart of the changes in adults' access to preventive/ambulatory care, ages 65+ years, by PPS from MY0 to MY5

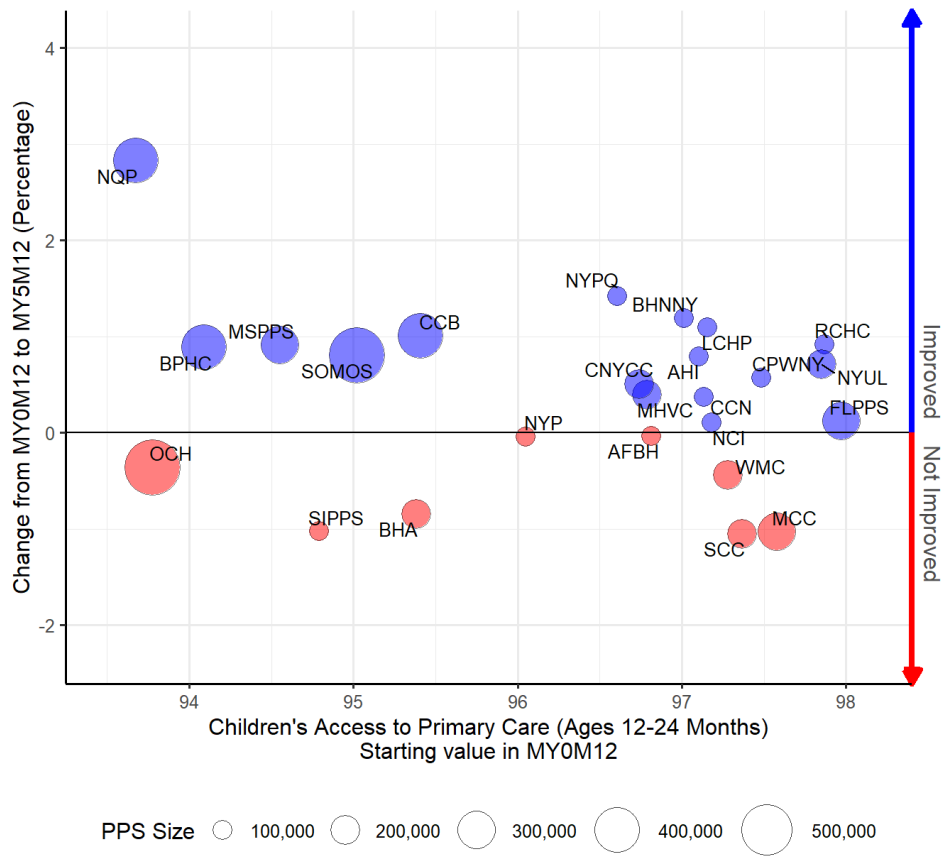


Source: Authors' analysis of the DSRIP Dataset.

Children's Access to Primary Care

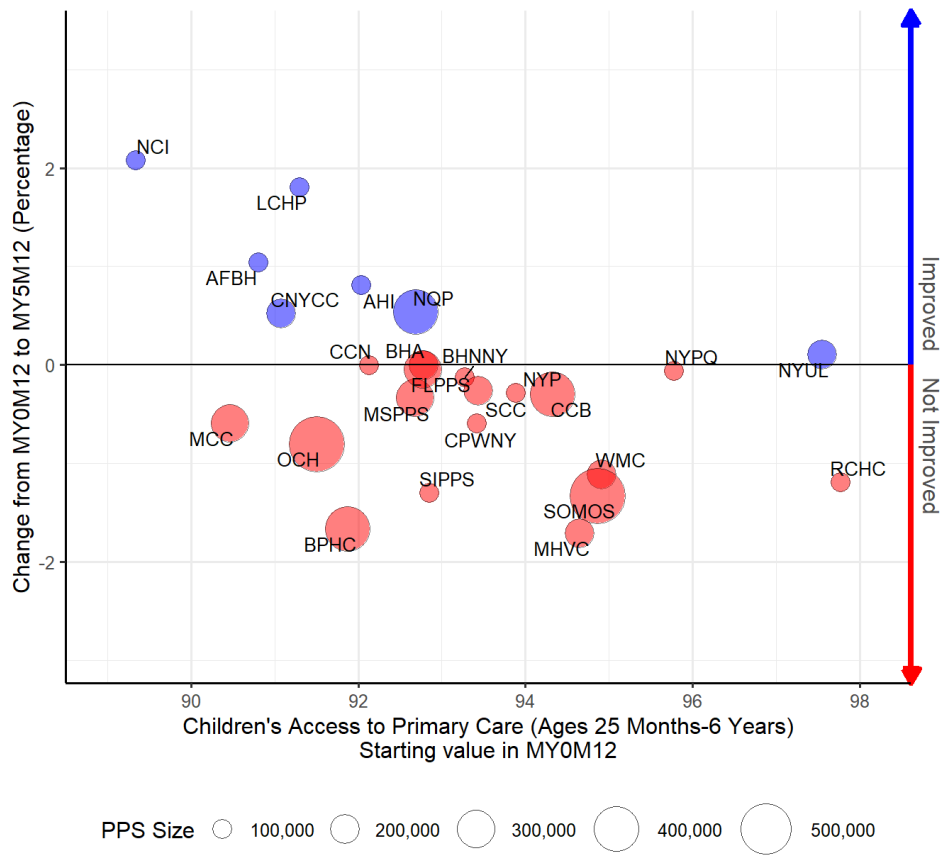
The bubble charts in Exhibits 4.1.4.iv through 4.1.4.vii show, for each children's access to primary care measure, the overall change throughout the entire period. The interpretation is the same as described above. The magnitude of the changes among children (Y-axis) were smaller than the changes among adults (described above). There was also no clear pattern of improvements or declines. This is likely attributable to many PPSs starting at a high level; for example, in MY0 Month 12, Finger Lakes PPS (FLPPS), NYU Langone Brooklyn (NYUL), and Refuah Community Care Collaborative (RCHC) had starting values of approximately 98% for access to primary care among children ages 12-24 months.

Exhibit 4.1.4.iv. Bubble chart of the changes in children’s access to primary care for ages 12-24 months, by PPS from MY0 to MY5



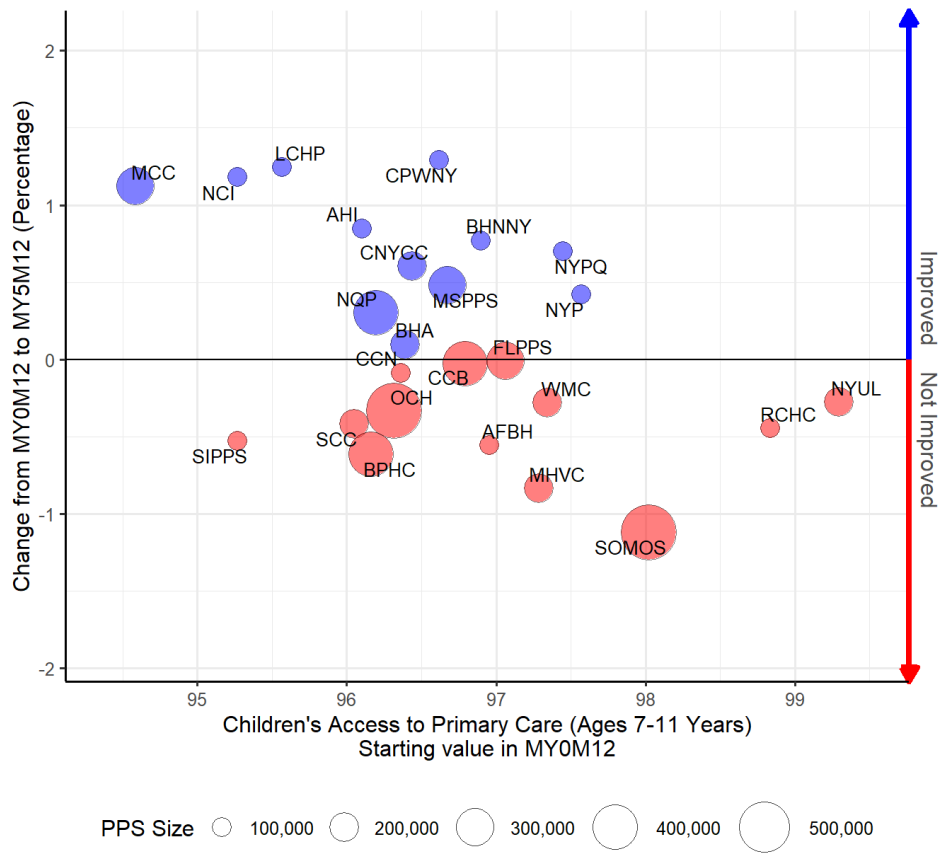
Source: Authors’ analysis of the DSRIP Dataset.

Exhibit 4.1.4.v. Bubble chart of the changes in children’s access to primary care for ages 25 months to 6 years, by PPS from MY0 to MY5



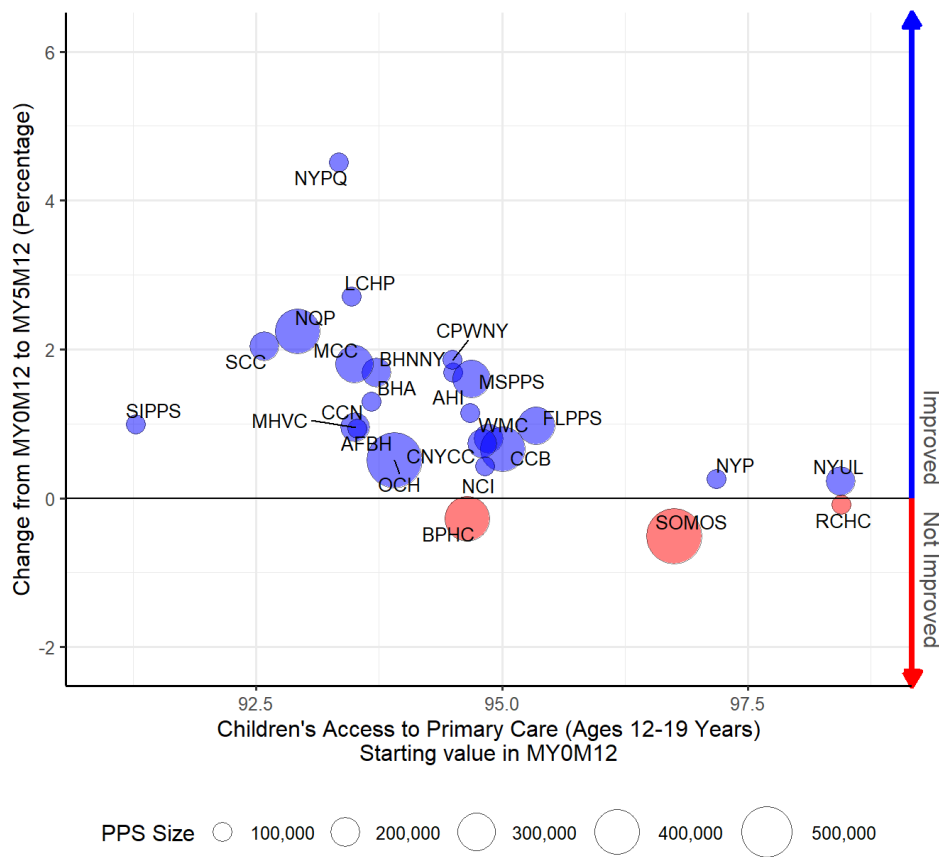
Source: Authors’ analysis of the DSRIP Dataset.

Exhibit 4.1.4.vi. Bubble chart of the changes in children's access to primary care for ages 7 to 11 years, by PPS from MY0 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.4.vii. Bubble chart of the changes in children’s access to primary care for ages 12 to 19 years, by PPS from MY0 to MY5



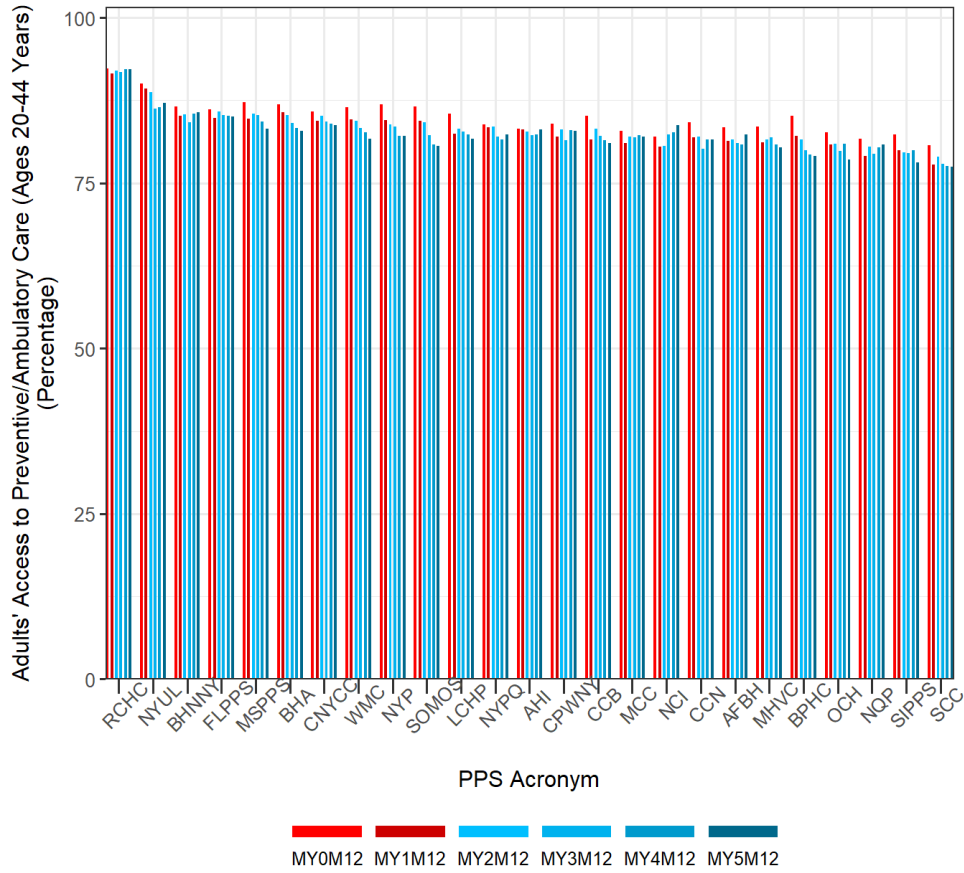
Source: Authors’ analysis of the DSRIP Dataset.

Adults’ Access to Preventive/Ambulatory Care

Exhibits 4.1.4.viii through 4.1.4.x display the adult access to primary/ambulatory care measures by age group in the six years (MY0 through MY5), by PPS. Each PPS has one bar per MY. Similar to the prior charts, the pre-DSRIP program initiation period MY0 and MY1 are in red, and the post-DSRIP program initiation period are in shades of blue (MY2 through MY5).

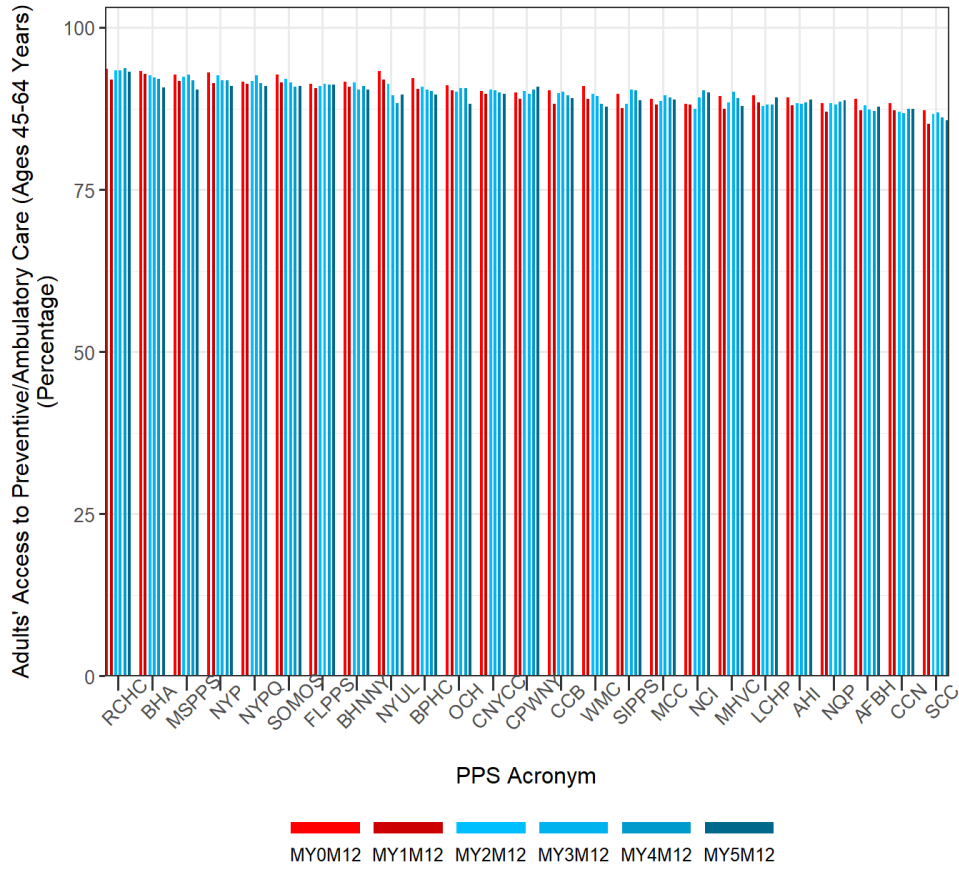
The variability between PPSs and over time (PPS-level trajectories) was the highest for adults ages 65 years and older. Within PPSs (PPS-level trajectories), changes over time were the smallest for adults ages 45 to 64 years.

Exhibit 4.1.4.viii. Annual changes in adults' access to preventive/ambulatory care, ages 20 to 44 years, from MY0 to MY5, by PPS



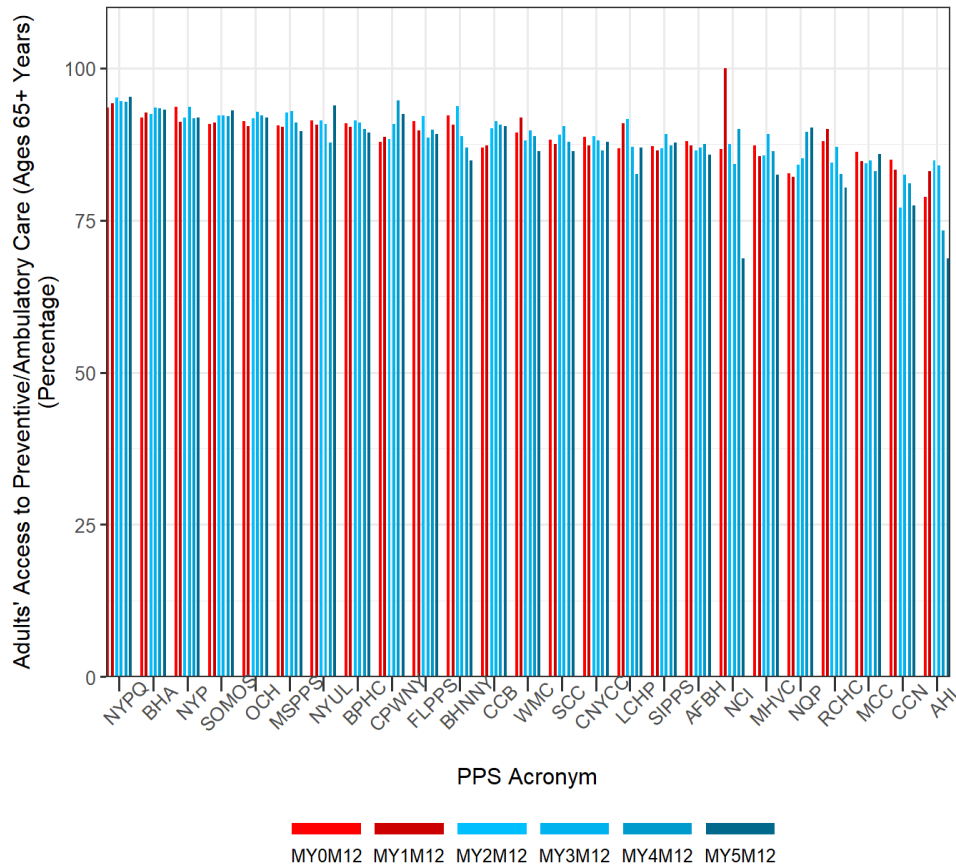
Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.4.ix. Annual changes in adults' access to preventive/ambulatory care, ages 45 to 64 years, from MY0 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.4.x. Annual changes in adults' access to preventive/ambulatory care, ages 65+ years, from MY0 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.4.xi displays variability in the values across PPSs and time. For each measure, the median, minimum, and maximum values are reported by MY.

Exhibit 4.1.4.xi. Variability in adults' access to preventive/ambulatory care across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
Adults' access to preventive/ambulatory care (ages 20-44 years)	MY0	85.2	80.7	92.3
	MY1	83.5	76.8	92.4
	MY2	82.9	77.7	92.0
	MY3	82.4	77.5	92.0
	MY4	82.1	77.3	92.2
	MY5	82.0	76.3	92.3
Adults' access to preventive/ambulatory care	MY0	90.3	87.3	93.6
	MY1	89.7	83.8	93.5
	MY2	89.8	85.0	93.7
	MY3	89.9	85.7	93.7

Measure	Measurement Year	Median	Minimum	Maximum
(ages 45-64 years)	MY4	90.0	86.0	94.2
	MY5	89.7	85.0	93.3
Adults' access to preventive/ambulatory care (ages 65+ years)	MY0	88.2	78.8	93.7
	MY1	89.0	75.0	100.0
	MY1	89.1	75.0	100.0
	MY2	89.8	75.0	95.1
	MY3	89.2	75.0	94.6
	MY4	89.2	71.1	95.5

Source: Authors' analysis of the DSRIP Dataset.

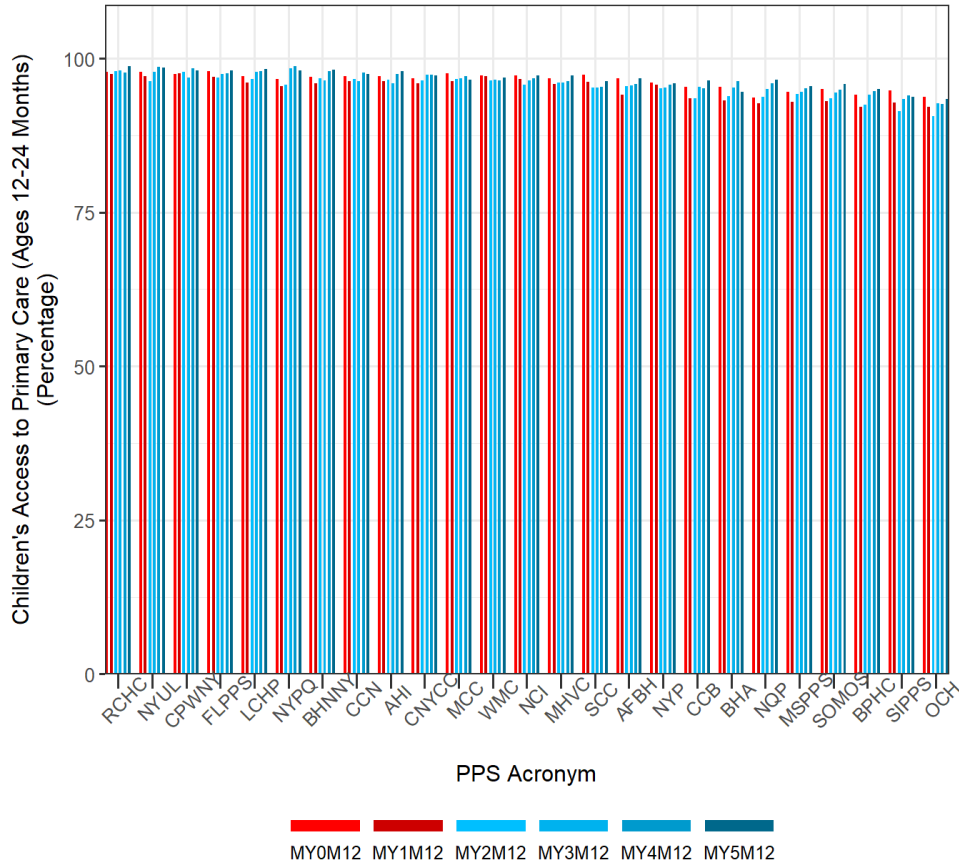
Notes: The summary statistics are based on all observations within the MY; for example, the statistics for MY1 are based on all PPS-month observations from MY0 Month 1 through MY0 Month 12.

Children's Access to Preventive/Ambulatory Care

Exhibits 4.1.4.xii through 4.1.4.xv display the children's access to primary/ambulatory care measures by age group in the six years (MY0 through MY5), by PPS. Each PPS has one bar per MY. Similar to the prior charts, the pre-DSRIP initiation period MY0 and MY1 are in red, and the post-DSRIP initiation period are in shades of blue (MY2 through MY5).

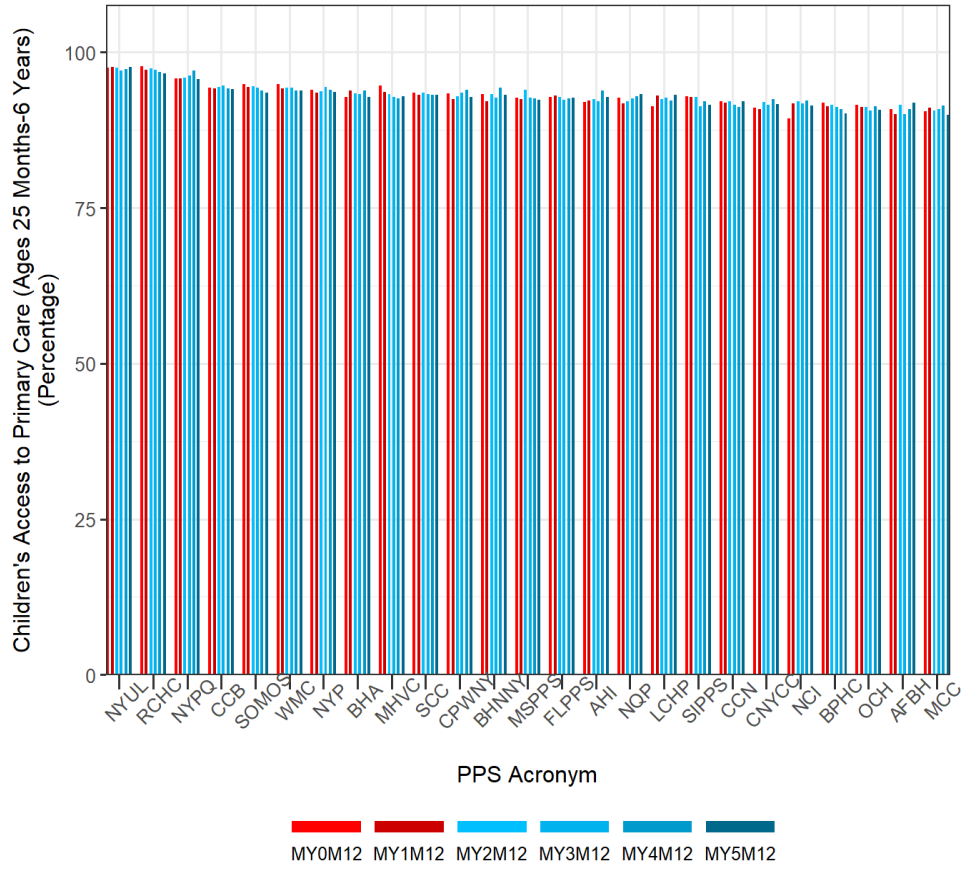
Consistent with the statewide charts, compared to the adult's access to preventive/ambulatory care measures, the children's access to primary care measures were higher. At the start of the period (MY0), 80.0% (N=20), 12.0% (N=3), 96.0% (N=24), and 24.0% (N=6) of PPSs had at least 95% of children meeting these measures (ages 12-24 months, ages 25 months to 6 years, ages 7 to 11 years, and ages 12 to 19 years, respectively). Almost all PPSs met a cut-off of 90% of children meeting this metric in MY0: 100% (N=25), 96.0% (N=24), 100% (N=25), and 100% (N=25) of children in age groups 12-24 months, 25 months to 6 years, 7 to 11 years, and 12 to 19 years, respectively. Compared to the adult measures, trends were generally stable within PPSs (PPS-level trajectories) across the study period.

Exhibit 4.1.4.xii. Annual changes in children’s access to primary care, ages 12-24 months, from MY0 to MY5, by PPS



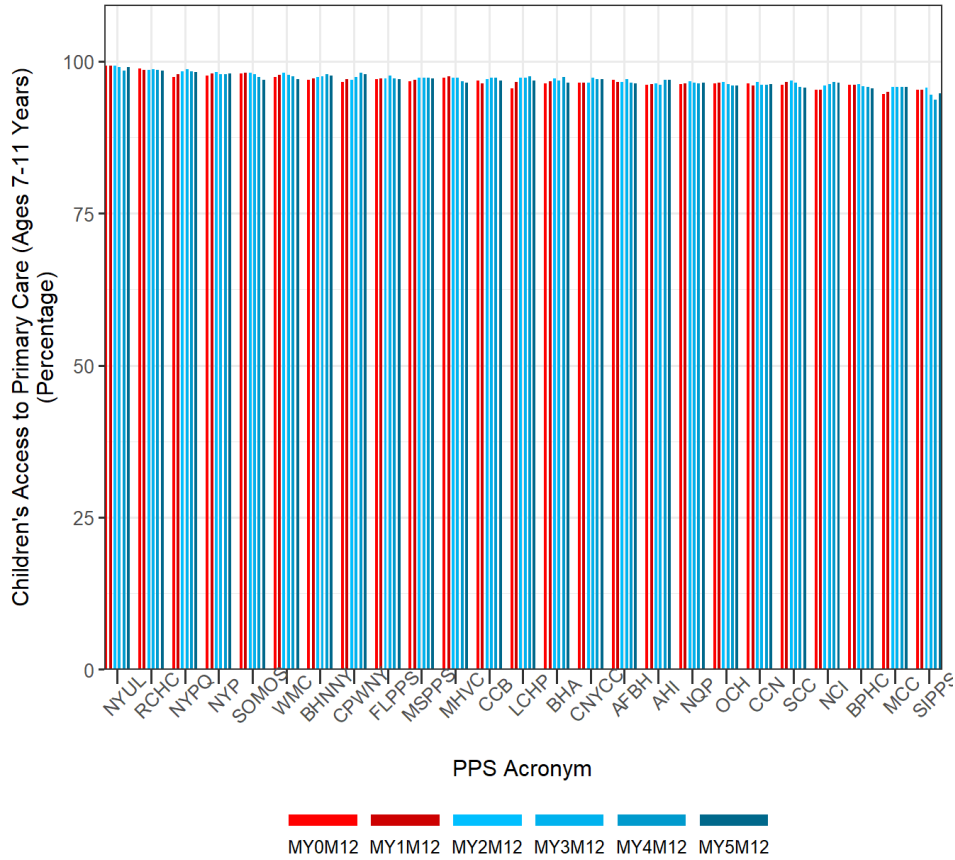
Source: Authors’ analysis of the DSRIP Dataset.

Exhibit 4.1.4.xiii. Annual changes in children’s access to primary care, ages 25 months to 6 years, from MY0 to MY5, by PPS



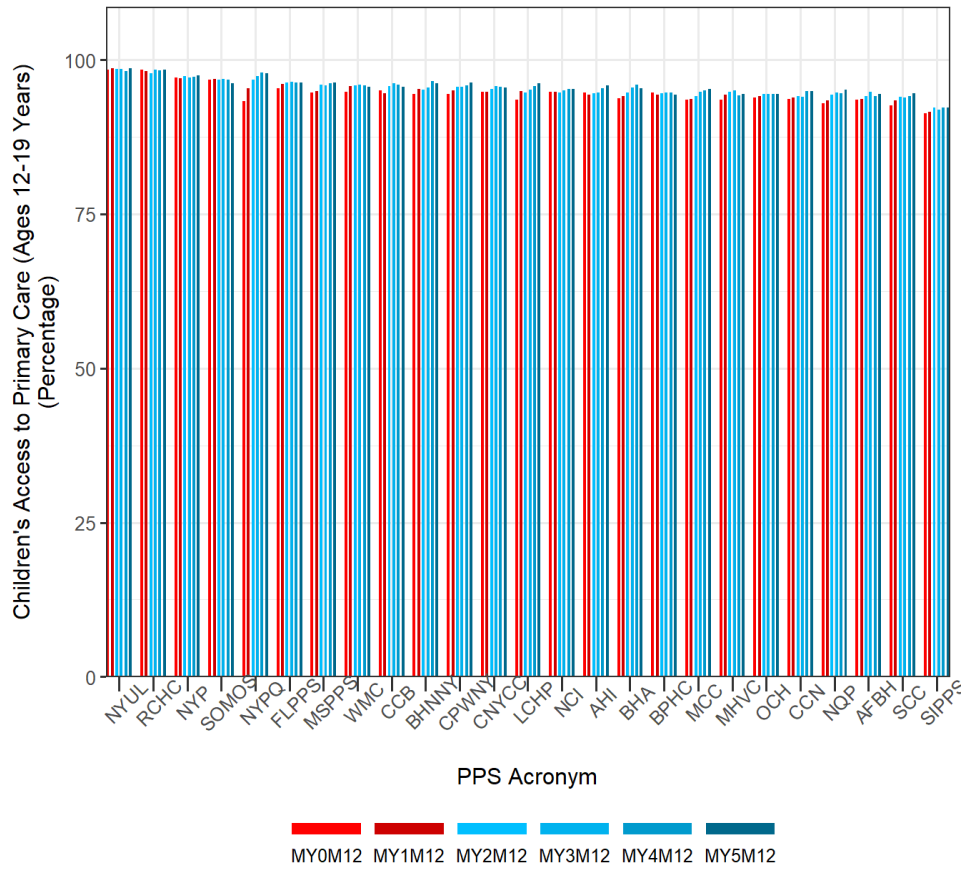
Source: Authors’ analysis of the DSRIP Dataset.

Exhibit 4.1.4.xiv. Annual changes in children’s access to primary care, ages 7 to 11 years, from MY0 to MY5, by PPS



Source: Authors’ analysis of the DSRIP Dataset.

Exhibit 4.1.4.xv. Annual changes in children’s access to primary care, ages 12 to 19 years, from MY0 to MY5, by PPS



Source: Authors’ analysis of the DSRIP Dataset.

Exhibit 4.1.4.xvi displays variability in the values across PPSs and time. For each measure, the median, minimum, and maximum values are reported by MY.

Exhibit 4.1.4.xvi. Variability in children’s access to primary care across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
Children’s access to primary care (ages 12-24 months)	MY0	96.8	93.7	98.0
	MY1	96.6	91.5	98.4
	MY2	95.6	88.9	98.3
	MY3	96.4	90.6	98.4
	MY4	96.1	91.4	99.0
	MY5	96.8	92.5	98.8
Children’s access to primary care (ages 25 months-6 years)	MY0	92.8	89.3	97.8
	MY1	93.1	89.6	97.8
	MY2	93.0	90.2	98.0
	MY3	92.9	90.0	97.6

Measure	Measurement Year	Median	Minimum	Maximum
	MY4	93.2	89.7	97.6
	MY5	93.0	89.9	97.7
Children's access to primary care (ages 7-11 years)	MY0	96.6	94.6	99.3
	MY1	96.6	94.5	99.4
	MY2	96.9	94.9	99.4
	MY3	97.1	94.5	99.3
	MY4	97.1	93.7	99.1
	MY5	97.0	94.1	99.1
Children's access to primary care (ages 12-19 years)	MY0	94.5	91.3	98.5
	MY1	94.8	91.3	98.6
	MY2	94.9	91.9	98.8
	MY3	95.2	91.8	98.8
	MY4	95.7	91.5	98.6
	MY5	95.7	92.1	98.7

Source: Authors' analysis of the DSRIP Dataset.

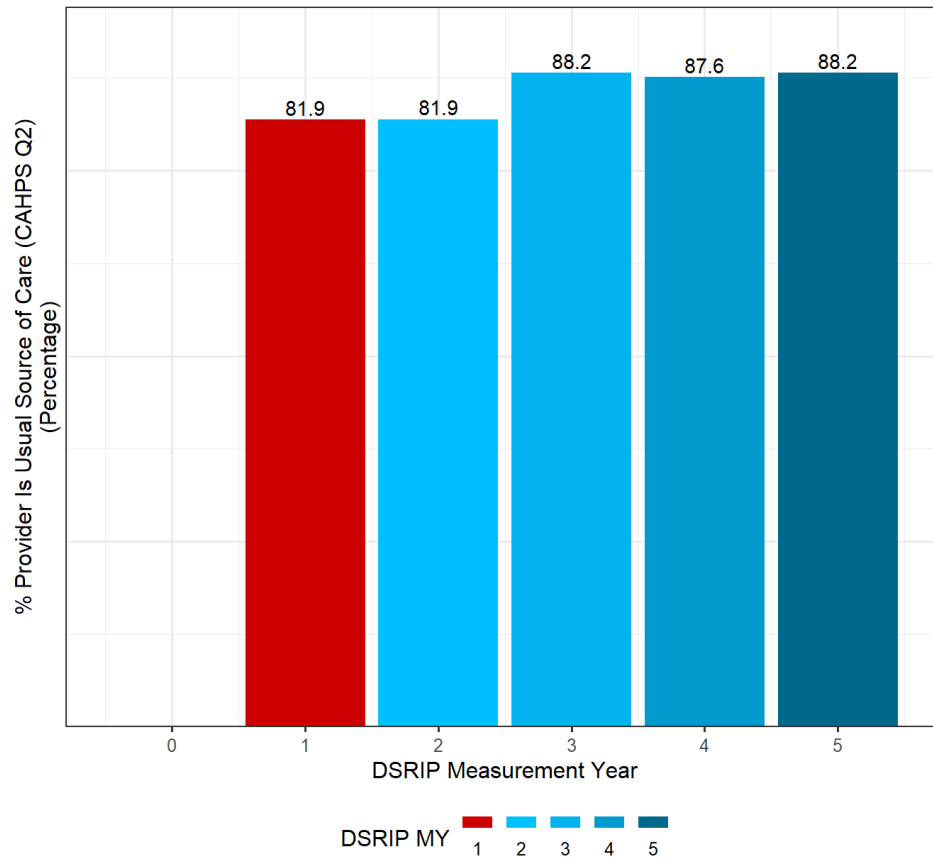
Notes: The summary statistics are based on all observations within the MY; for example, the statistics for MY1 are based on all PPS-month observations from MY0 Month 1 through MY0 Month 12.

4.1.5. Statewide Trends in Patient Experiences with Primary Care

Exhibits 4.1.5.i to 4.1.5.iii show statewide trends in three additional CG-CAHPS survey-based measures of primary care access: (1) the percentage of patients reporting that the provider seen was their usual source of care; (2) a composite of three CG-CAHPS questions about whether patients received timely appointments, care, and information; and (3) the percentage of patients who reported they had seen the provider for at least one year. These measures come from the CAHPS Clinician & Group survey to adults. The red bars correspond to the pre-DSRIP initiation period (MY1) and the blue bars are for the post-DSRIP initiation period (MY2-MY5).

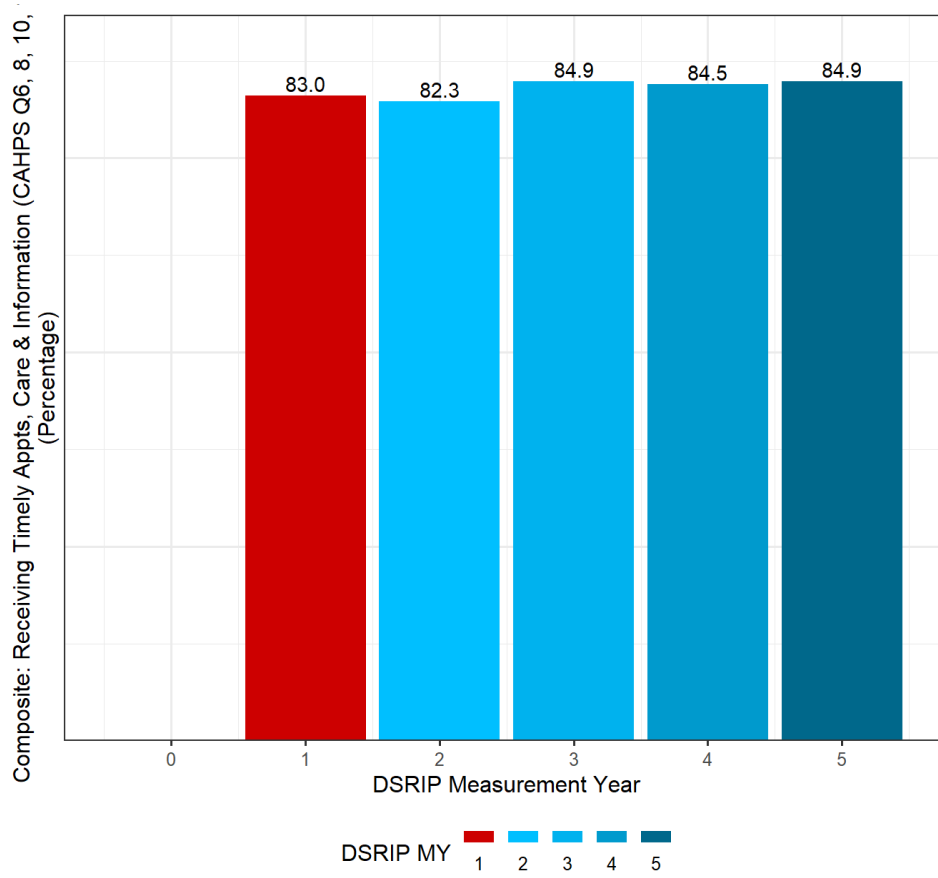
All three measures improved from MY1 to MY5. From MY1 to MY5, the percentage of patients reporting that the provider was their usual source of care increased from 81.9% to 88.2%. The composite measure of receiving timely appointments, care, and information increased slightly from 83.0% in MY1 to 84.9% in MY5. The percentage of patients reporting seeing their provider for at least one year increased from 73.4% in MY1 to 77.7% in MY4, and then dropped slightly to 75.9% in MY5.

Exhibit 4.1.5.i. Statewide annual changes in the percentage of patients reporting that the provider seen was their usual source of care, from MY1 to MY5



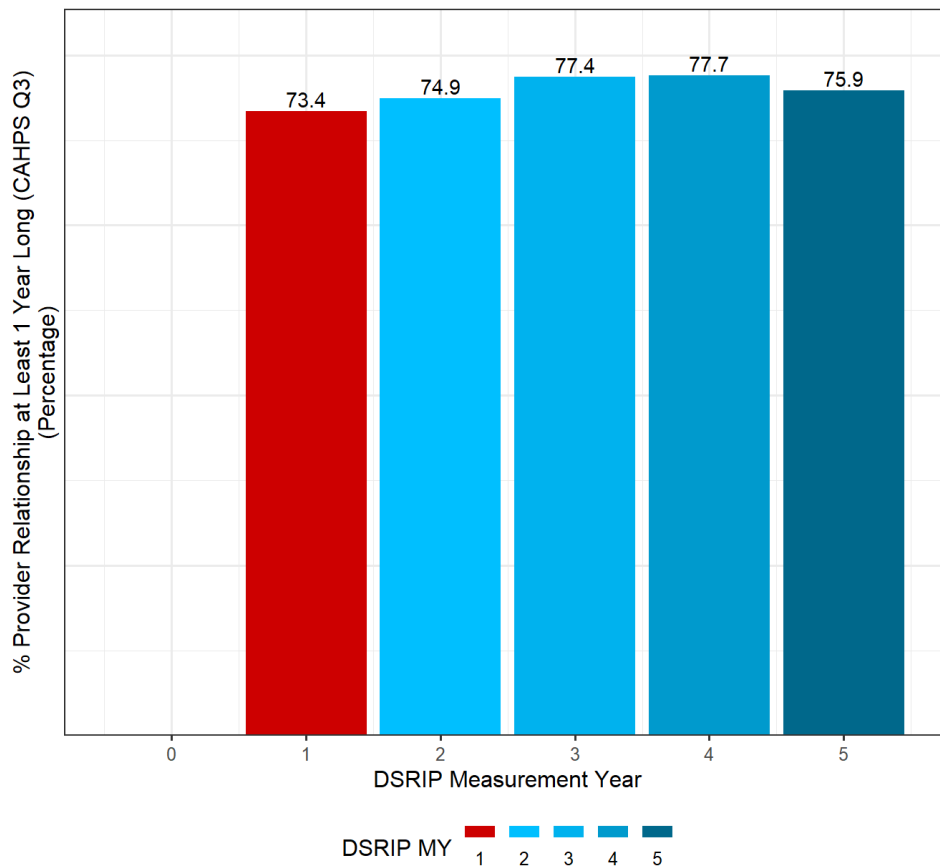
Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.5.ii. Statewide annual changes in the CG-CAHPS composite measure about whether patients received timely appointments, care, and information, from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.5.iii. Statewide annual changes in the percentage of patients reporting they had seen the provider for at least a year, from MY1 to MY5



Source: Authors’ analysis of the DSRIP Dataset.

4.1.6. Comparative Analysis of Patient Experiences with Primary Care

The bubble charts in Exhibits 4.1.6.i through 4.1.6.iii show, for the three CG-CAHPS survey-based primary care measures, the overall change throughout the entire period.

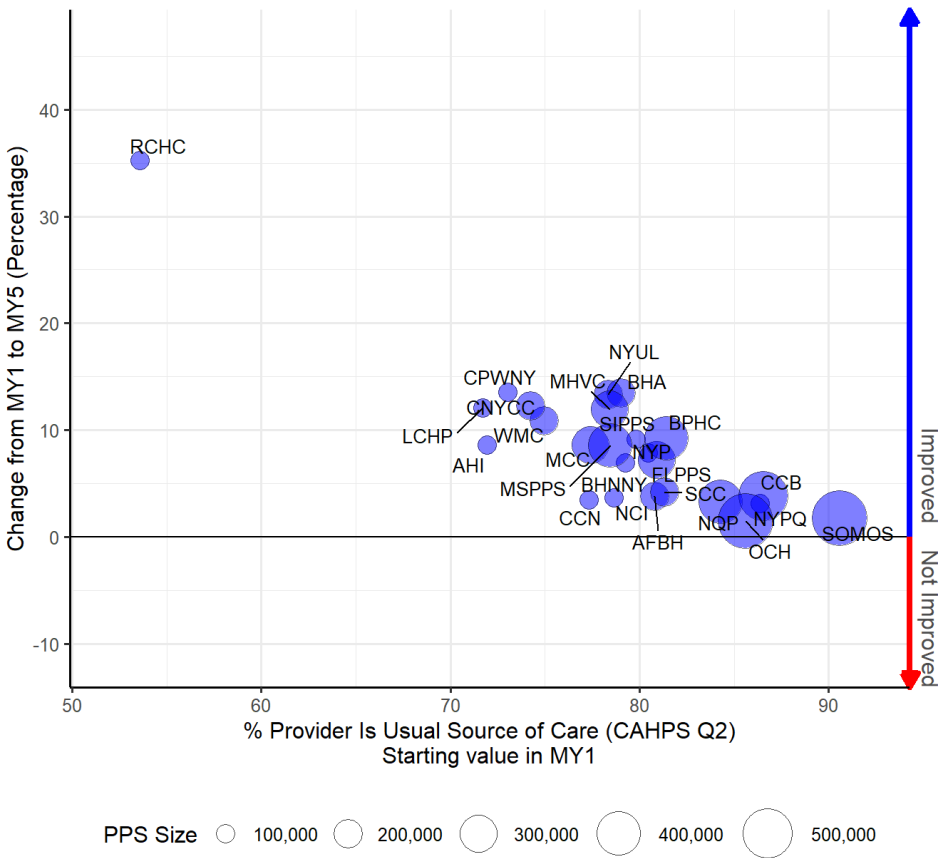
Consistent with the statewide measures, all PPSs had an improvement from MY1 to MY5 in patients reporting their provider is their usual source of care, *% Provider Is Usual Source of Care (CG-CAHPS Q2)* (see Exhibit 4.1.6.i). The largest improvements were in the PPSs that started at the lowest values (top left). Although Refuah Community Health Collaborative (RCHC) had a notable improvement of a 60.4% increase, it was also an outlier on the other CG-CAHPS measure for the length of provider relationship (described below) and caution is warranted in interpreting changes in this PPS.

The bubble chart for the care coordination composite measure, *Composite: Reporting Care Coordination (CG-CAHPS Q13, 17, 20)*, was less remarkable: 56% (n= 14) of PPSs showed an

improvement versus worsening from MY0 to MY5 (see Exhibit 4.1.6.ii). That is consistent with the statewide average, which did not change notably during the study period.

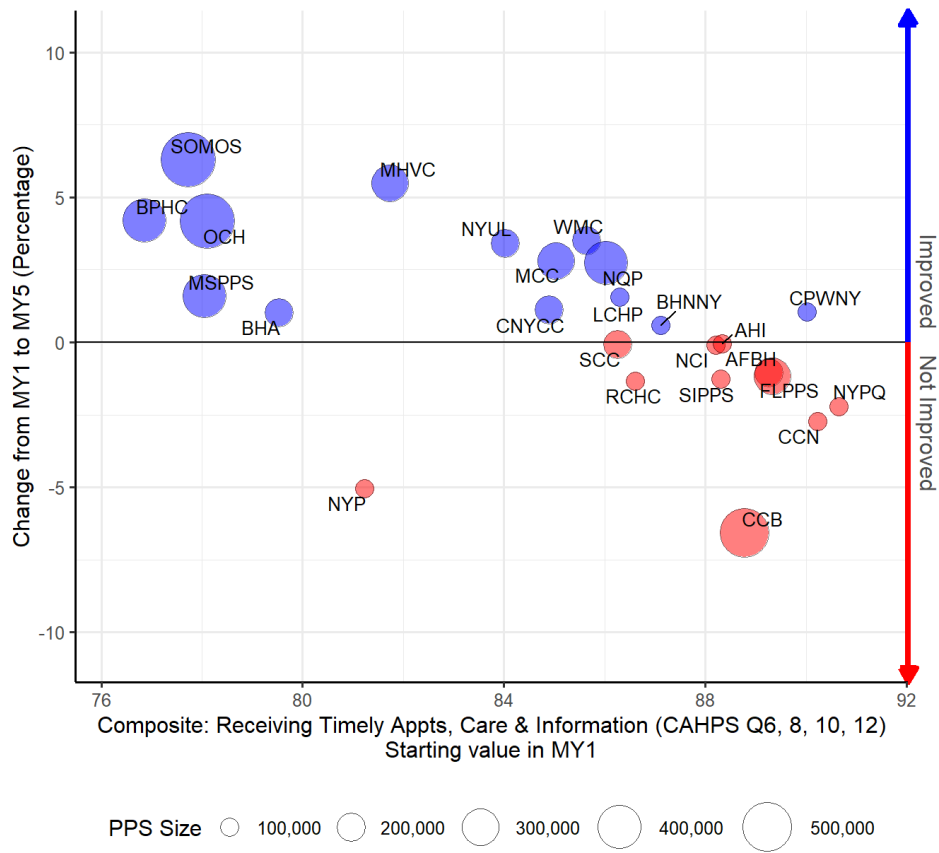
In the bubble chart for the length of provider relationship measure, *% Provider Relationship at Least 1 Year Long (CG-CAHPS Q3)*, 64% (n= 16) of the PPSs had an improvement from MY0 to MY5 (see Exhibit 4.1.6.iii). Two of the largest PPSs, OneCity Health (OCH) and SOMOS, worsened slightly which pulled down the statewide-level improvement. Refuah Community Health Collaborative (RHCH) had a remarkable improvement but as noted above, this PPS was an outlier on a couple CG-CAHPS measures.

Exhibit 4.1.6.i. Bubble chart of changes in the percentage of patients reporting that the provider seen was their usual source of care, by PPS from MY1 to MY5



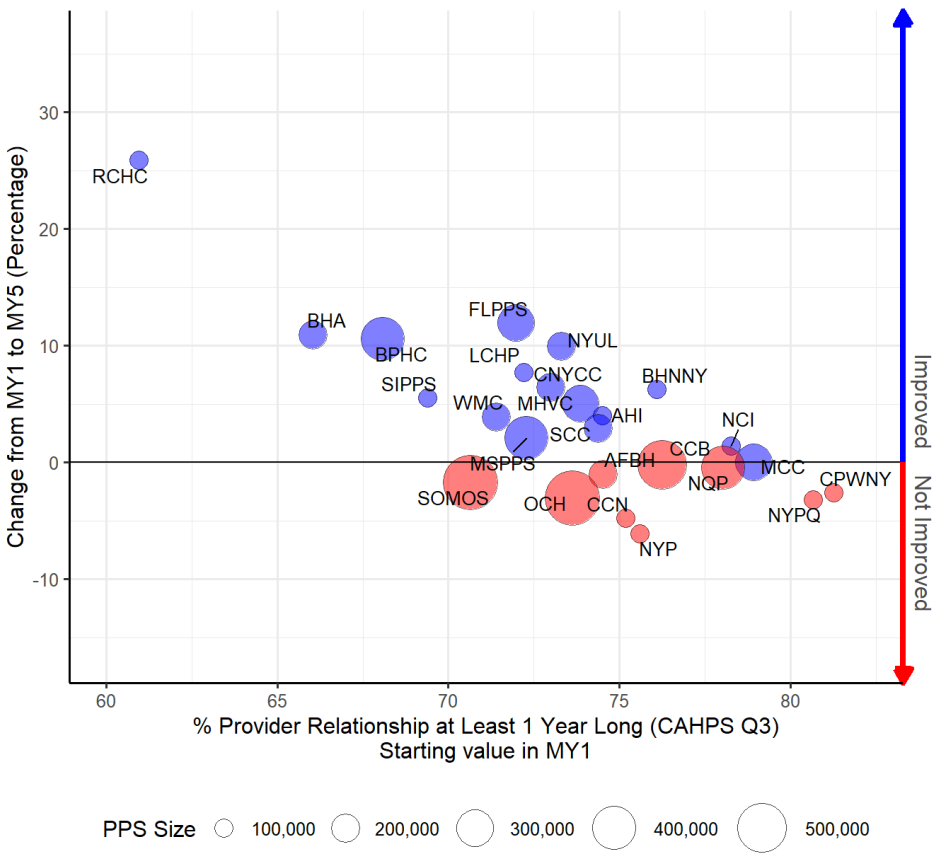
Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.6.ii. Bubble chart of changes in the CG-CAHPS composite measure about whether patients received timely appointments, care, and information, by PPS from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.6.iii. Bubble chart of changes in the percentage of patients reporting they had seen the provider for at least a year, by PPS from MY1 to MY5

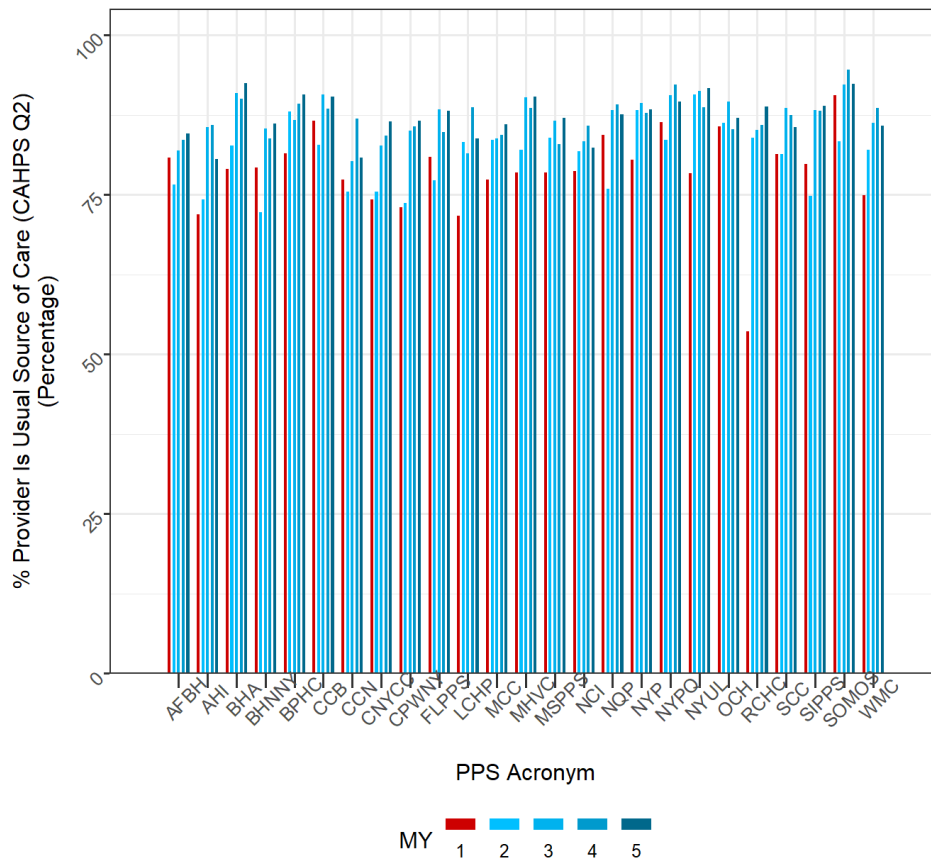


Source: Authors' analysis of the DSRIP Dataset.

Exhibits 4.1.6.iv through 4.1.6.vi display the three CG-CAHPS survey-based patient experiences measures from MY1 through MY5, by PPS. Each PPS has one bar per MY. The pre-DSRIP initiation period MY1 is in red, and the post-DSRIP initiation period are in shades of blue (MY2 through MY5). Exhibit 4.1.6.vii reports the ranges and medians of the PPS-level values for the three measures, by MY.

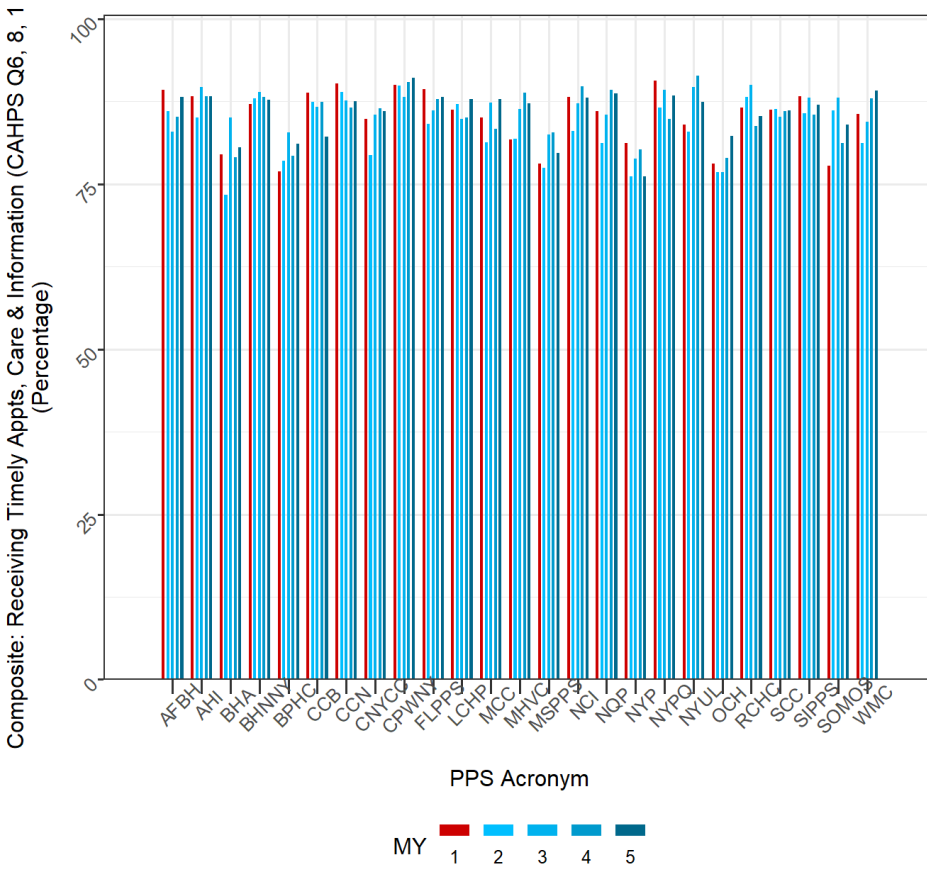
Among the three measures of patient experiences with primary care, the most notable decrease in range across PPSs was for the percent of patients reporting that their provider was their usual source of care (MY1: from 53.6% to 90.6%, MY5: from 80.6% to 92.5%). However, this is attributable to the sharp MY1 to MY2 improvement in Refuah Community Health Collaborative (RHCH). This might be due to a data anomaly such as fewer patients who completed the CG-CAHPS.

Exhibit 4.1.6.iv. Annual changes in the percentage of patients reporting that the provider seen was their usual source of care from MY1 to MY5, by PPS



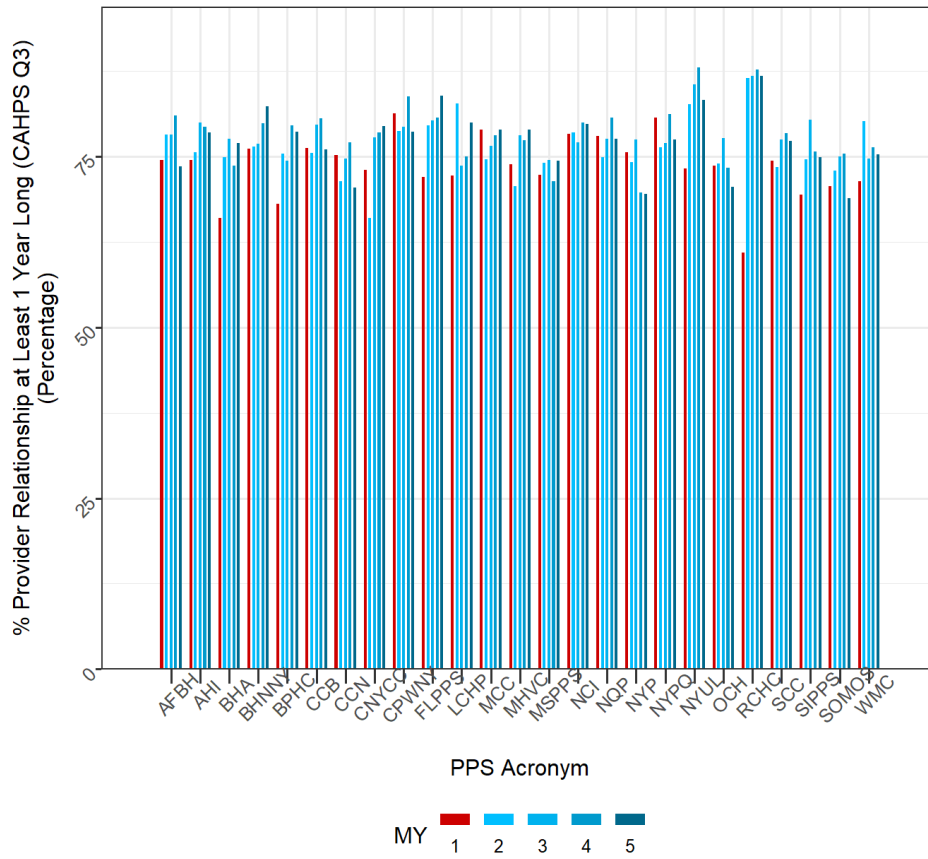
Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.6.v. Annual changes in the CG-CAHPS composite measure about whether patients received timely appointments, care, and information from MY1 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.6.vi. Annual changes in the percentage of patients reporting they had seen the provider for at least a year from MY1 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.1.6.vii. Variability in patients' experiences with primary care access across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
% patients reporting that their provider was their usual source of care	MY1	79.0	53.6	90.6
	MY2	82.0	72.2	90.7
	MY3	86.7	80.2	92.3
	MY4	87.5	82.9	94.6
	MY5	87.1	80.6	92.5
Composite measure of receiving timely appointments, care, and information	MY1	86.3	76.9	90.7
	MY2	84.1	73.3	90.0
	MY3	86.3	76.8	90.0
	MY4	86.0	78.9	91.4
	MY5	87.4	76.2	91.1
	MY1	73.9	61.0	81.3

Measure	Measurement Year	Median	Minimum	Maximum
% patients reporting seeing their provider for at least one year	MY2	75.5	66.0	86.5
	MY3	77.5	73.7	86.8
	MY4	78.5	69.8	88.1
	MY5	77.6	68.9	86.8

Source: Authors' analysis of the DSRIP Dataset.

Notes: The summary statistics are based on all observations within the MY; for example, the statistics for MY1 are based on all PPS-month observations from MY0 Month 1 through MY0 Month 12.

4.1.7. Qualitative Findings on Perceptions of the DSRIP Program's Impact on Hospitalizations and Primary Care Utilization

About half of partner survey respondents believed that the DSRIP program reduced preventable hospital utilization in 2019. Partners and PPS key informants cited improved care coordination and primary care interventions as the main drivers for reductions. Challenges in reducing preventable hospital utilization included health care providers lacking incentives to change, difficulties in changing emergency department culture to focus on long-term outcomes, and primary care shortages.

4.1.7.1. Partner Perceptions of Reductions in Preventable Hospital Utilization

Almost half (49.1%; N=333) of partner survey respondents believed that the DSRIP program reduced preventable hospital utilization in 2019 (see Exhibit 4.1.7.1.i). This varied by partner's organization type. Over 60% of partners working in hospitals, skilled nursing facilities, or Health Homes/care management programs believed that the DSRIP program reduced preventable hospital utilization. However, this was true for one-third or less of partners working in clinics, non-primary care provider offices, government offices, or pharmacies.

Exhibit 4.1.7.1.i. Perceived reduced preventable hospital utilization by organization type

Organization type	Percent	N	Total N
Health Home/care management program	75.0%	15	20
Skilled nursing facility/nursing home	73.9%	34	46
Hospital	62.1%	54	87
Hospice/palliative care center	57.1%	4	7
Federally Qualified Health Center	52.5%	21	40
Community-based organization	49.0%	76	155
Behavioral health organization	49.1%	26	53
Home care agency	47.6%	10	21
Substance use treatment organization	45.5%	10	22
Primary care provider	38.6%	51	132
Clinic	33.3%	8	24
Non-primary care practitioner	30.0%	3	10

Organization type	Percent	N	Total N
Government office	25.0%	4	16
Pharmacy	0.0%	0	4
Other [please specify:]	41.5%	17	41
Total	49.1%	333	678

Source: Authors' analysis of the 2019 statewide partner survey.

Note: Total N refers to the number of respondents to this item; N refers to those that answered positively

4.1.7.2. Interventions Perceived as Successful in Reducing Preventable Hospital Utilization

Improved Care Coordination

Most partners and PPS key informants reported that improved care coordination had the largest impact on reducing hospitalizations. They said that increased partner communication and collaboration led to easier care transitions between inpatient, outpatient, clinical, and community settings because partners were more aware of appropriate referral tracks. The addition of community health workers and transitional care managers resulted in a better understanding of patients' needs and higher rates of patient engagement, which improved care transitions and reduced the rate of emergency department utilizations.

What we did early on is bring together inpatient and outpatient substance abuse providers to think about the transition from inpatient to outpatient. They had never really talked before. When people were being discharged, the inpatient provider was not confident that they were releasing to the appropriate outpatient...We have identified and worked to correct many of these issues. – 2018 PPS key informant

We noticed that there was this drop-off from hospital utilization to follow-up, and one of the solutions was to have the community health group spend one day a week at the hospital and be able to provide a warm handoff. Sure enough, just the face time with the health providers helped increase referrals that way. This is a small hospital [in location], so I don't know how functional or easy that would be to translate to the really busy places. But that was something that we realized – when you have a warm handoff, you are less likely to fall through the cracks. – 2018 hospital regional focus group participant

Anytime anybody entered the emergency room with a behavioral health or substance use disorder issue, after triage, my peers were called in to work with those folks to see if we could get them out of the emergency room and into either an inpatient detox, inpatient rehab, an outpatient detox, or an outpatient facility, based on their clinical needs to properly service them, so that they weren't constantly coming back to the emergency room for expensive care that they didn't need. – 2018 mental health and substance use focus group participant

Because of that communication with providers and PCPs, it's made our job so much easier. We've also helped make better connections. I constantly have care managers calling me-- looking for those discharge papers that they're supposed to have, with everyone that comes in to the ER. It just makes the flow so much easier and even when we're not there, knowing who to contact and why it's needed and making their process so it just flows. – 2019 community based organization focus group participant

They have done a lot of improvements around coordinating their physicians and their care teams and they implemented an interdisciplinary team rounding. That consists of physicians, diabetes specialist, wound specialists, pharmacists, etc. and the team gets together an hour each morning to discuss these patients and ways that they can reduce readmissions and they have seen a lot of success there. – 2019 PPS key informant

Let's say a patient is admitted here, the care transitions project hooks patients up to the community from the hospital. The types of utilization we are seeing after that, the one and two-day stays are dropping like a rock. Those are probably the ones that did not need to happen. Whereas, the longer stay admissions are dropping but at less of a rate, those type of admissions are through better long-term ambulatory care that's more appropriate for the outpatient setting. Bringing hospitals into the fold by financially incentivizing them to keep people out was the right decision by the state and a lot of the data that we are seeing shows that. – 2019 PPS key informant

Emergency department patients and discharged patients were connected with services to provide support with social determinants of health, connections with primary care providers, medication delivery, and transportation to medical appointments and community-based organizations.

They found a patient had gone to the ER 94 times because they wanted food, so they got him hooked up with the food bank. Another patient likes the hospital beds, so he had 50-60 stays in the hospital because he likes the hospital bed. So [hospital] got him a hospital bed purchase for his home. The thing is, the PPS looked at the data and defined what they can do to reduce their ER hospitalizations, because some of these things the practice cannot do at their end, and they have to solve for those. – 2018 primary care focus group participant

There's nothing better than partnering with one of our community health organizations here and embedding the social workers in the ED to meet with [patients] face-to-face. They immediately engaged them while they're in the room to address their social needs. When we have those social workers embedded in the ED, and it's fluctuated on the staffing, we do see a reduction in the readmissions and utilization piece. When we were short-staffed, we saw an uptick. – 2019 primary care, Health Homes, clinics, and specialists focus group participant

We identify high risk patients that are pending discharge and we approach them in regards to if they're in need of medication delivery prior to discharge, or are there other services that they'll need prior to discharge that we can help them out with. For those patients that have transportation issues or a caregiver can't pick up their meds, if we can get the meds to them prior to discharge, there's a better likelihood that they'll have them, so they're more likely to take them. Then we follow up for that 30 day prior afterwards just to again make sure that they're doing okay. [The health coaches] are pretty much in the hospital and will do outreach from the office. But we have the connection to our pharmacy staff, our pharmacists, if there's anything needed. We work with the transition team; if they're a respiratory patient, then obviously our respiratory therapists do go into the home...we really brought in more mental health and community type resource services than we ever anticipated. – 2019 hospitals, nursing homes, hospice, home care focus group participant

What was decided was to bring in BH peers to the emergency room certain times each day and have them see the high utilizers and make referrals to community organizations to meet their needs because oftentimes, it wasn't clinical why they were presenting at the emergency room, it was more social. So to identify those social determinants of health and then work with them to meet their needs in those areas, it was BH peer supports and downstream providers to the Health Home. Those care managerial roles, having them embedded in the ED definitely made an impact. – 2019 PPS key informant

In some rural areas, this prevented mental health patients from automatic admission.

Previously, [the hospital] didn't have anybody on site that could do a psychiatric assessment. So everybody who came in, there was nobody to assess whether somebody truly was having a psychiatric crisis. Everybody got transferred to a hospital. With the Psychiatric Assessment Officer position, [the hospital] contracted with our organization...We're like a mile apart for the actual PAO to be in the emergency department, do an assessment, and then electronically meet with somebody at the [hospital] and determine if this person is fine to be released in the community or this person needs to be transferred for an inpatient bed. That is a huge improvement in our community. – 2019 primary care, Health Homes, clinics, and specialists focus group participant

After hospital discharge, follow-up services increased, sometimes including home visits.

Well basically the thing that we've learned is that if you just sit in the emergency department and try to work with people as they come, you're not going to have much impact on changing behavior. We're going to the patient's home, we're tracking them down, we're following them, we're getting them involved in programs, we're arranging for housing, we're arranging for transportation. – 2019 behavioral health focus group participant

[The medical residents conducting home visits] really have had exposure to what happens in the patient home, what happens outside of the hospital or the office. They go into the home to evaluate the patient, look at their social determinants, do med rec, work with [our partner] if they need respiratory care, if they need any other type of services...monitor their blood pressures, their weights, whatever it is that needs to happen in the home, within that first period after discharge and then continuing to follow up... In the meantime, [patient] is home and getting the home care needed, taking meds and perhaps getting respiratory treatments and people are checking in so the patient knows who to call instead of going to the ED and getting admitted again. So, the patient is not going to the ED. – 2019 hospitals, nursing homes, hospice, home care focus group participant

Using electronic health records to identify high utilizers allowed for more focused outreach.

One of the projects we took on was to create high utilizer lists for our clients and we found that that has impacted our Health Home care managers a lot better. They're able to reach out to people that maybe used to be engaged and aren't any more to get in...and then we're being able to see in real time, we put together a list every month, the actual straight up impact we're having... One [client] was admitted 137 times last year and this year he's only been 30 times; that's a huge difference. So that's helpful. – 2019 community based organization focus group participant

That relationship [between various providers] has sort of morphed into focusing on high utilizers and offering more of that care coordination, which I think was the idea for DSRIP in the first place. It's also one of the sustainable things that I think really makes a big difference, when you look at re-admissions, and managing that high-utilizer population. It's been awesome. – 2019 behavioral health focus group participant

In addition, systems were developed to notify care managers if one of their clients was hospitalized and needed follow-up.

So now whenever one of our [home care agency] clients is hospitalized, we have a direct follow up. There's a phone call, conference call every day so that we know when one of our clients is being discharged. Just having that knowledge and being able to restart services immediately and to have some idea on what kind of follow up that person needs has helped. – 2019 community based organization focus group participant

If a care management client is admitted to or presents in an ED or is admitted to the hospital, we get an alert. And I believe that goes through the RHIO and we get real time alerts if the person has signed a consent. So that's often how we find out that somebody is a mental behavioral health admission. Hospitals don't call us, we can call them and say, "Hey, we've gotten an alert. Our person is there. We want to talk about discharge." – 2019 primary care, Health Homes, clinics, and specialists focus group participant

Primary Care Interventions

Primary care interventions were also reported to reduce hospital utilization. Primary care providers prevented hospitalizations by developing trusting relationships with patients and by offering same-day acute appointments and evening hours.

It changed patient behavior, how patients are receiving care. They don't want to wait until they are too sick to see doctor. Doctors remind them to have checkups, how they take medications, what's the best way and correct way to take medication and receive care from providers. A lot of work for patient education, especially the way they see the doctors. Preventive care and medication compliance have increased due to education. – 2019 PPS key informant

They set up a primary care practice that they opened on Saturdays and Sundays on the hospital campus. Patients within their system could go there as opposed to going to an emergency room because their physician practice was closed. It was successful in decreasing inappropriate ED use and that clinic even became self-sustaining financially. – 2019 PPS key informant

Through a combination of a lot of community outreach, increasing appointment availability (which is part of the PCMH¹¹⁵ requirement), but also patient navigation after presenting to the ER, we were very effective at getting people to come in and be seen by primary care. That is the hardest measure to move the needle on, it's very easy for patients to go to the ER and if we're able to meet their needs before they choose to go there, it's a real step in the right direction. – 2019 PPS key informant

Patient education was used to connect patients to primary care providers and to encourage them to utilize primary care. In addition, other health care providers helped their clients receive the appropriate level of care. For example, home care workers were trained to proactively assess whether clients had additional medical needs that should be reported to a nurse, and this early intervention could prevent some hospitalizations.

The other types of organizations that might not have direct involvement in the hospital—we've had tasks for partners around educating the patients they may touch to first seek primary care rather than go to the ED. So changing how patients view where they are supposed to go and a number of our partners have done various media campaigns or had brochures developed. Just different ways to educate patients directly on where to go and when. – 2019 PPS key informant

We have approximately 1200 Medicaid members who have not been to primary care in the past year. In [three] counties, our job is to do outreach engagement, figure out why,

¹¹⁵ Patient-Centered Medical Home.

what are the barriers, and get them reconnected to a medical home. – 2019 community based organization focus group participant

Primary care providers learned more about the kinds of support that community based organizations and care managers could provide.

We refer to it as enhanced patient services where we have on staff a couple of pharmacists, nurses, and community health workers. We rolled out a model to support our primary care practices in care managing their highest risk patients defined by utilization, and working on ensuring those patients become engaged with their primary care practice. So it's really community care management model that supports and is embedded within the primary care practice. – 2019 PPS key informant

By putting [the transitions care manager] there and managing from a hospital, she introduces herself as, "I'm a member of Dr. So-and-So's care team and I will be working with you over the next 30 days." Then, she relays back to the PCP. "I met your patient. This is what we're going to do. I'm going to remain in contact with her and I'm going to tell you what I'm doing," so that it's sort of like a back end way of educating the PCP who says, "Tell me in five minutes. That's all I've got, I don't have any time." By doing it this way, [PCPs] started to realize, "You do that? I didn't know who took care of those things." It's like nobody did. They're becoming aware and she's also able to train that LPN at the front desk that, "You and I are going to work together to make sure that we're identifying those red flags early on to avoid a readmission." She's building this triangle now with the patient's part of the care plan. The PCP that's been out there on the fringe with no care management resources is now being pulled in and educated that "oh, so would somebody pay for an air conditioner for the COPD patient?" – 2019 hospitals, nursing homes, hospice, home care focus group participant

Access to primary care was also expanded, for example by allowing patients to receive physical health care at behavioral health clinics and by allowing some patients to receive primary care at urgent care locations.

People present at the ED with substance use and physical health issues. Usually, the physical health issue is what gets them into the ER, unless of course it's an acute overdose or something like that. They'll come in for a sprained ankle or something, which actually is because they were intoxicated and sprained their ankle, that kind of thing. And vice versa, people will show up at our program with physical health conditions: high blood pressure, diabetes, which are not managed because of their addiction... So, two things. One, there's the bottom line reason of it; and the other reason, which I think is why most of us from the community side were in that ED goal, is we know it's not in the best interest of our clients, patients, for them to be going in and out of the ER. SUD patients would go to the ER for an infection. If we could get them that care without them going to an ER, that benefits them, it benefits us. – 2019 behavioral health focus group participant

4.1.7.3. Challenges to Reducing Preventable Hospitalizations

Inadequate Incentives to Change

Many participants felt that the biggest challenge in reducing avoidable hospital utilization was that health care providers did not have adequate incentives to change. The goal of reducing potentially preventable emergency department visits and potentially preventable hospital readmissions was noted to conflict with hospitals' current payment and reimbursement structure. Without value based contracts in place, there was no incentive, in a fee-for-service system, to keep patients out.

Shifting resources and shifting the thinking from an inpatient focus to ambulatory is a huge move for many in the hospital field. Also, the insurance companies and state DOH still pay for inpatient care more than they do for ambulatory care and ambulatory behavioral health. Obstacles still in the way are billing, and managed-care infrastructures are what we get paid for in the industry. – 2018 PPS key informant

We've gotten a lot of pushback from the hospitals because of the loss of value that has to do with decreasing the ED visits. That part wasn't very well thought out. We wanted to do it, we wanted to do it right, we knew it was the right thing to do...but it created kind of like a division within the hospital. – 2018 PPS key informant

It's budget season and we're going back to that CFO who has no admissions in the hospital and you have to justify how I need to add another RN or another care manager or another whatever to this project. He's like, "No, you have to cut two because we don't have any money in the pocket." We constantly feel like we're battling with them to say, "No, we need MORE of this going forward." – 2019 hospital, nursing home, hospice, home care focus group participant

Hospitals are willing to take the ding on having people coming back to the hospital because it's cheaper than losing the revenue from the beds being filled. That is a huge barrier to PPR because they want the revenue and they don't care about the 'ding'. The bottom line is their bed is filled and that's more money for them than getting 'dinged'. – 2019 PPS key informant

But our region is not really looking to try and decrease avoidable hospitalizations because of the fee structure. The hospitals are getting paid based on admissions, that's their primary source of revenue. It doesn't make business sense for them to try and decrease their admissions when the payment structure supports increased volume to the hospital system. – 2019 PPS key informant

Providers outside of hospitals also could lose money if they focused on reducing hospitalizations. For example, primary care providers saw fewer patients if they left open appointment slots for acute patients.

An overarching challenge is convincing providers, hospitals, partners, etc. to do work in a way that is very different from how they've done it and is sometimes at odds with the way they are reimbursed. We definitely share the message and speak the language that VBP is coming and quality is going to drive payments and fee for service won't be here anymore. It's hard though (even with all of that, because I think they've heard that for a long time and fee-for-service is still very much here), to convince providers they should start acting in a way that doesn't necessarily generate more money for them and in some cases generates less money for them. I think here now in DY4, there are VBP contracts that are happening and we are making moves in that direction, but it doesn't seem at the end of DSRIP that fee-for-service will be anywhere close to completely gone. I think that's been, at a high level, one of the challenges with trying to get providers on board with what we're overall trying to accomplish through DSRIP. – 2018 PPS key informant

Access to primary care is a real issue- having room for appointments and there's no incentive for primary care practices to leave open spots for acute same day appointments. Although pediatrics in general is pretty good about that, adult primary care is not. So people go to the emergency room because they can't wait four days with a UTI. – 2019 primary care, Health Home, clinic, specialist focus group participant

We do not want these patients coming to the emergency room but when paramedics pick up a patient, they are not paid unless they bring the patient to the emergency room. – 2018 PPS key informant

Emergency Department Culture

Effectively engaging hospitals to change their cultures to focus on long-term outcomes could also be a challenge.

It's very hard to do that with the emergency rooms, because their focus is "treat them and street them," so we're asking them to think bigger. That's very hard for an ED because they're banging them out—"What's wrong," hit the symptom, and move on. So we're asking them to kind of step back a bit and let's look at why this patient keeps coming back. What is happening to this patient coming to the ER? This kiddo, this adult, all the time. That's a challenge with the emergency room physicians...there's so many things to deal with, and it's very hard for the ER not to just treat them and try to figure it out. – 2019 primary care, Health Home, clinic, specialist focus group participant

I think the potentially preventable readmissions is really about how effective the post-acute health care group is in communicating and following up, primary care specialties

such as skilled nursing, and supports like home health and those services. Essentially, the fact that our network is not doing as great as others in PPV and PPR performance, I pin to the fact that our hospitals are very selective in who they choose to work with post-discharge so that it is not a robust or well-oiled network and there are a lot of holes in that net. Despite our best efforts in DSRIP, I don't feel that hospitals have really embraced working with everyone that they need to for this to work out great post-discharge. -2019 PPS key informant

Primary Care Shortages

A shortage of primary care providers was seen as a significant barrier to reducing hospital utilization. While this issue was seen statewide, it was noted as a particular problem in rural areas. Patients discharged from the hospital were not always able to get a timely follow-up from a primary care provider. Primary care providers were often not available on evenings or weekends, so some patients utilized the emergency department for acute problems or to avoid missing work or school. Some providers noted that integrating behavioral health into primary care conflicted with the goal of reducing emergency department visits, because a single mental health appointment occupied a slot when they could have seen two or three people with earaches or sore throats. Those patients might then use the emergency department to obtain timely care, especially if they needed it outside of work or school hours.

Being rural and having a primary care shortage, the emergency room is your primary care physician... What's been a challenge for us is closing the loop... and having patients not being able to see anybody or having them be able to, but, "We can't see you for 60 days" when they come to the emergency room and they're wanting a two-week follow up. So that's been challenging for us. But we've tried, we've attempted to close the loop. – 2019 focus group participant

In some of the communities we serve, there is a lack of access to primary care, and really the emergency departments are the gateways to any health care. That is a hard cultural change for the communities as well as the providers in those emergency departments. If primary care isn't open past five o'clock, the ED is open all the time which is especially true in one of the underserved areas that we focused on. -2019 PPS key informant

Without treatment capacity outside of the hospital, some PPS found it difficult to make progress.

I'd say that one of the premises intellectually of DSRIP was that, in order to impact these issues, you were going to see this shift to robust community-based care, you were going to see programs, that DSRIP was also piloting, that were going to allow for people to be maintained at a better level out in the community or in their home, so to speak. And really, that hasn't happened. And I think until you see that full build out there (and it's

nowhere in the United States right now) you can't really do everything. – **2019 PPS key informant**

Other Challenges

A number of participants were concerned that their efforts to reduce hospitalizations would not be sustainable after DSRIP funding ended.

For the work that we're doing in the ED, I'm not so sure how sustainable that will be. Clearly once the grant ends, we can bill for that work. But a lot of those people are uninsured, or if they have straight Medicaid, the reimbursements are very poor. So I'm not sure how sustainable that part of it would be. – **2019 behavioral health focus group participant**

Some PPS key informants said that they lacked the data they needed to support interventions.

Access to data is very limited, making it hard to quantify things. Until we have access to claims data and can run an analysis, we can't see whether or not interventions bear fruit from that perspective. – **2019 PPS key informant**

Partners participating in focus groups often said that hospitals should not have had as much control over PPS, and a few PPS key informants agreed.

To fundamentally change how health care is delivered, you've got to take the hospitals out of control a little bit and move the center of gravity more towards non-hospital care. – **2018 PPS key informant**

4.2. Assessment of Changes in Behavioral Health Care Utilization

Section Overview

This section addresses RQ-B and the behavioral health component of RQ-C:

RQ-B: Did utilization of behavioral health care services increase as a result of the DSRIP program? (CMS RQ4)

RQ-C: Did health care quality improve as a result of clinical improvements in the treatment of selected diseases and conditions?

Its associated hypotheses are below:

- **H3:** Behavioral health care service utilization will increase.
- **H4:** Health care quality will increase in the following areas:
 - **H4a:** Behavioral health

Due to the overlap in the measures used to assess utilization and quality of behavioral health care services, both research questions and hypotheses H3 and H4a are examined in this section. The other “H4” hypotheses (e.g., “H4b: Cardiovascular health” and “H4c: Diabetes care” are addressed in Section 4.3).

Summary At-A-Glance

To assess changes in behavioral care utilization and quality, the *final* Summative Report focused on changes in three mental health treatment measures and one substance use treatment measure: (1) follow-up care for children prescribed ADHD medications, (2) antidepressant medication management among adults aged 18 and older, (3) adherence to antipsychotics among adults aged 19 to 64 years with schizophrenia, and (4) initiation of alcohol and other drug dependence treatment among persons aged 13 and older.

Statewide Summary

The table below summarizes findings from the behavioral health measures examined in the interrupted time series. Key statewide observations follow:

- All three mental health measures had an overall improvement between the start and end of the period, and most PPSs also experienced improvements.
- In the time series models that assessed whether the trends changed in the post-DSRIP program initiation period, the antipsychotic medication adherence measure had a post-DSRIP program initiation improvement.
- The substance use disorder treatment measure had an overall worsening between the start and the end of the period, although significant changes were not detected in the interrupted time series analysis.
- The denominators for all four measures changed substantially over the period reflecting shifts in the underlying population.

Measure	Statewide Changes			PPS Changes and Variation	
	% Change ¹	Trend Pre-DSRIP Program Initiation ²	Changes Post-DSRIP Program Initiation ²	No. PPSs Improved ¹	PPS Range ³
Follow-up care for children prescribed ADHD medications	3.7%	Increased (improved)	Initial decrease and subsequent trend flattened (worsened)	18	MY0: (44.3, 70.4) MY5: (42.9, 78.4)
Antidepressant medication management	3.6%	Increased (improved)	Initial decrease and subsequent trend stayed positive but at a slower rate (worsened)	18	MY0: (46.9, 61.2) MY5: (44.4, 65.7)
Adherence to antipsychotic medications	2.8%	Decreased (worsened)	Initial increase and subsequent trend reversed direction (improved)	13	MY0: (54.3, 75.8) MY5: (51.1, 90.2)

Initiation in alcohol and other drug dependence treatment	-12.9%	No change	No change ⁴	3	MY0: (42.1, 57.3) MY5: (32.5, 54.3)
---	--------	-----------	------------------------	---	--

Source: Authors' analysis of the DSRIP Dataset.

Abbreviations: Attention Deficit Hyperactivity Disorder (ADHD), Measurement Year (MY), Number (No.), Performing Provider Systems (PPS)

Notes: The unit for all behavioral health measures is percentage, i.e. percentage of children in the initiation phase of being prescribed ADHD medications that received follow-up care.

¹ Comparing the start to end of the study period (MY0 Month 12 to MY5 Month 12).

² Based on the results of the interrupted time series regression.

³ The MY5 range reflects values across all 12 months of the year.

⁴ Although visually the measure for initiation of drug or alcohol treatment worsened, the change was not statistically significant. This may be due to the large fluctuations in the measure.

PPS Comparison and Variability

A distinguishing feature of the DSRIP program is variation of PPS characteristics and activities that may have impacted performance outcomes. Each PPS conducted its own community needs assessment, selected specific PPS projects with unique speed and scale commitments, and implemented activities with partners on different timelines. This is reflected in the variability in PPSs' starting and ending values for the behavioral health measures. To determine whether certain PPS characteristics were correlated with higher or lower values of the performance measure outcomes, the *final* Summative Evaluation examined seven PPS characteristics in a comparative regression analysis: PPS attributed membership size, whether the PPS was led by a NewCo versus pre-existing entity, whether the PPS was led by a hospital system, regional location (New York City, New York City Metro, and Upstate), the percentage of attributed members classified as healthy or with acute conditions (versus minor or chronic needs), the percentage of attributed members reporting Black race, and the mean age of attributed members.

The table below summarizes key findings from the PPS characteristics examined in the comparative regression analyses. Key PPS comparative findings follow:

- For the children's behavioral health measure, PPSs led by a hospital system and PPSs located in NYC (compared to Upstate) had higher (better) outcomes and the magnitude of these associations was substantial.
- For the three adult behavioral health measures, larger PPSs had lower (worse) outcomes although the magnitude of this association was negligible compared to other PPS characteristics.
- Consistent with the children's behavioral health outcome, two of the adult behavioral health measures had better outcomes in NYC and/or NYC Metro regions (compared to Upstate), and the magnitude of these differences were notable.
- Performing provider systems with a higher percentage of members classified as healthy or with acute conditions had better outcomes for two adult behavioral health measures, and PPSs with a higher average age of members had better outcomes for one adult behavioral health measure.

- There were mixed findings for the association between the percentage of Black members and adult behavioral health outcomes: PPSs with a higher percentage of Black members had worse outcomes for adherence to antipsychotics but better outcomes for initiation in alcohol or other drug treatment.

Measure	Associations Between PPS Characteristics and PPS Performance	
	<i>Characteristics Associated with Higher (Better) Levels of Behavioral Health Outcomes</i>	<i>Characteristics Not Associated with Behavioral Health Outcomes</i>
Follow-up care for children prescribed ADHD medications	<ul style="list-style-type: none"> • Led by hospital system • NYC region 	<ul style="list-style-type: none"> • PPS size • NewCo versus pre-existing lead entity • Health status of members • Racial composition of members • Average age of members
Antidepressant medication management	<ul style="list-style-type: none"> • Smaller size • Healthier members 	<ul style="list-style-type: none"> • NewCo versus pre-existing lead entity • Hospital system versus other lead entity type • Region • Racial composition of members • Average age of members
Adherence to antipsychotic medications	<ul style="list-style-type: none"> • Smaller size • NYC or NYC Metro regions • Healthier members • Less racial diversity (i.e., lower percent of Black members) • Higher average age of members 	<ul style="list-style-type: none"> • NewCo versus pre-existing lead entity • Hospital system versus other lead entity type
Initiation in alcohol and other drug dependence treatment	<ul style="list-style-type: none"> • Smaller size • NYC Metro region • More racial diversity (i.e., higher percent of Black members) 	<ul style="list-style-type: none"> • NewCo versus pre-existing lead entity • Hospital system versus other lead entity type • Health status of members • Average age of members

Source: Authors' analysis of the DSRIP Dataset.

Abbreviations: Attention Deficit Hyperactivity Disorder (ADHD), New Corporation (NewCo), Performing Provider Systems (PPS)

Notes: The unit for all behavioral health measures is percentage, i.e. percentage of children in the initiation phase of being prescribed ADHD medications that received follow-up care. Lead entity type included two categories: hospital system versus other types (multiple unaffiliated hospitals, single hospital, non-hospital or multiple unaffiliated providers). Region included three categories: New York City, New York City Metro (Mid-Hudson and Long Island regions), and Upstate (all other regions) (reference category: Upstate).

PPS Partner Survey and Key Informant Feedback on Behavioral Health

About one-third of 2019 partner survey respondents believed that the DSRIP program improved recognition of mental health disorders and increased primary care provider use of behavioral health interventions. Many partners and PPS key informants described significant

improvements in behavioral health integration into primary care, despite regulatory, billing, and workforce challenges.

Limitations and Caveats

There are several important caveats for interpreting these findings:

- There was an increase in the number of attributed members with behavioral health diagnoses, particularly during the MY1 and MY2 periods. Changes in these populations may have had an impact on some of the performance measures.
- There is high volatility in the initiation in alcohol and drug dependence measure which makes it difficult to interpret trends.
- PPS key informants discussed how these quantitative measures were hard to change in a short time period and did not fully reflect the positive improvements in this area.

4.2.1. Statewide Trends in Behavioral Health Care Utilization

Behavioral health was assessed with four standard HEDIS measures: *Follow-up Care for Children Prescribed ADHD Meds (Initiation Phase)*, *Antidepressant Med Management (Effective Acute Phase Treatment)*, *Antipsychotic Medication Adherence Among Persons with Schizophrenia*, and *Initiation in Alcohol and other Drug Dependence Treatment*. The first three address mental health among children and adults, and the fourth relates to the treatment of substance use disorders. For all four behavioral health measures, a higher value is desirable.

For the follow-up care for children prescribed ADHD medications measure, the denominator is the number of children ages 6 to 12 who were newly prescribed an ADHD medication. Follow-up care is defined as having at least one follow-up visit with a practitioner within the 30 days after starting the medication. For the antidepressant medication management measure, the denominator is the number of adults aged 18 and older who were diagnosed with depression and treated with an antidepressant medication. Medication management is defined as remaining on an antidepressant during the entire 12-week acute treatment phase. For the schizophrenia measure, the denominator is the number of persons aged 19 to 64 years with a schizophrenia diagnosis who were dispensed at least two antipsychotic medications during the measurement year. Adherence to medications is defined as remaining on an antipsychotic medication for at least 80% of the treatment period. For the drug and alcohol initiation measure, the denominator is the number of persons aged 13 and older presenting to care with a new episode of alcohol or other drug dependence. Initiation is defined as having an inpatient admission, outpatient visit, intensive outpatient encounter, or partial hospitalization related to alcohol or other drug dependence within 14 days of the index episode.

4.2.1.1. Visualizations of Monthly Statewide Trends

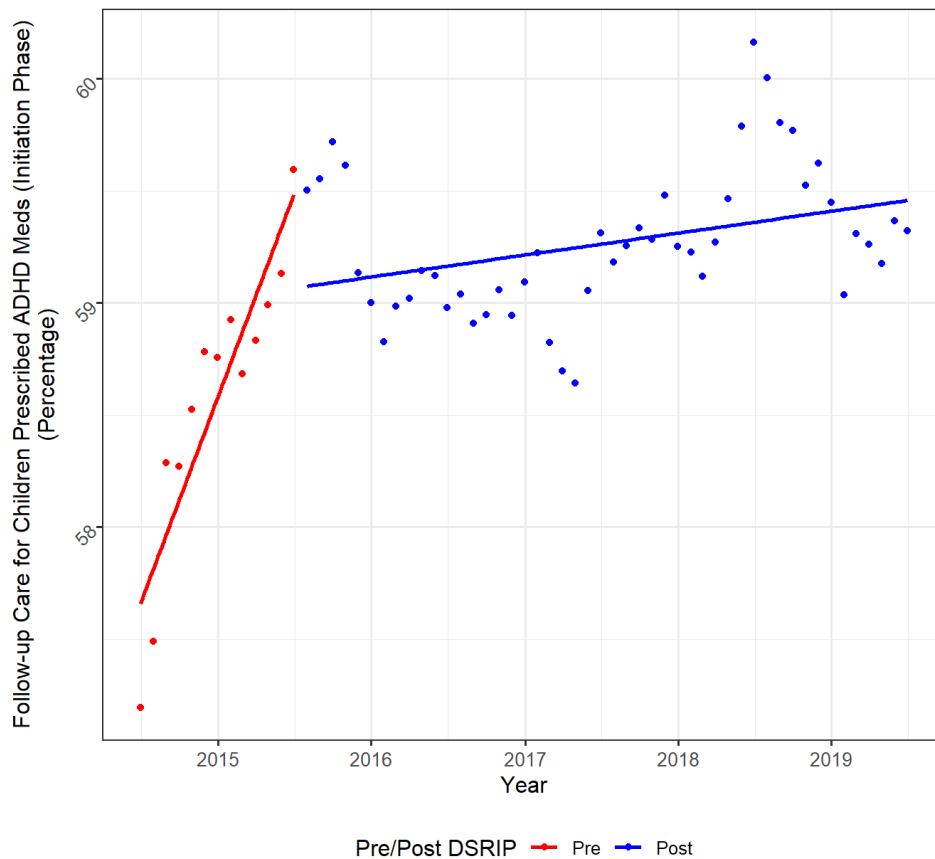
Exhibits 4.2.1.1.i through 4.2.1.1.iv illustrate the monthly statewide trends in the *Follow-up Care for Children Prescribed ADHD Meds (Initiation Phase)*, *Antidepressant Med Management (Effective Acute Phase Treatment)*, *Antipsychotic Medication Adherence Among Persons with Schizophrenia*, and *Initiation in Alcohol and other Drug Dependence Treatment*. Each measure is expressed in percentages at the statewide level. The Y-axis scales of these graphs do not cover the entire range of 0% to 100%, to make it easier to visualize patterns and the changes being assessed with the regression analyses.

These plots have a fitted linear trend line to illustrate changes in performance at the statewide level during the study period, from the end of MY0 (June 2014) through the end of MY5 (June 2019). The interrupted time series model, described in more detail below, tests whether there is a level and/or slope change in the post-DSRIP program initiation period. That corresponds to the study hypotheses and research questions regarding whether these measures improved following the DSRIP program's initiation. To be consistent with the regression specification, these plots have a disjuncture at the start of the post-DSRIP program initiation period to illustrate early differences after the implementation of the DSRIP program. The pre- and post-DSRIP program initiation periods have separate fitted lines to show whether there are slope changes after the DSRIP program's initiation. The immediate drop following the implementation corresponds with the level change.

Exhibit 4.2.1.1.i shows the measure of follow-up care for children prescribed with ADHD medications increased in the pre-DSRIP program period (red line), from a baseline of 57.2% at the end of MY0 to 59.6% by the end of MY1 (4.2% increase).¹¹⁶ There was an initial level change after the implementation of the DSRIP program, with a small drop in the percentage of children with follow-up care. The post-DSRIP program initiation trend (blue line) has a more gradual upward slope; while there is continued improvement, it is at a slower rate. The final value is 59.3% by the end of MY5, which is a 3.7% improvement throughout the entire period from the MY0 Month 12 starting value. It is notable that the sharp increase in the measure values during MY1 and the first half of MY2 coincided with a large increase in the denominator (not shown), which could potentially influence the observed trends in the outcome.

¹¹⁶ All percent improvements described in this section refer to percent changes from the baseline, not absolute values of percentage point changes. For example, in this instance the percent improvement is calculated as $(59.6\% - 57.2\%) / 57.2\% * 100$.

Exhibit 4.2.1.1.i. Statewide monthly changes in follow-up care for children prescribed ADHD medications



Source: Authors' analysis of the DSRIP Dataset.

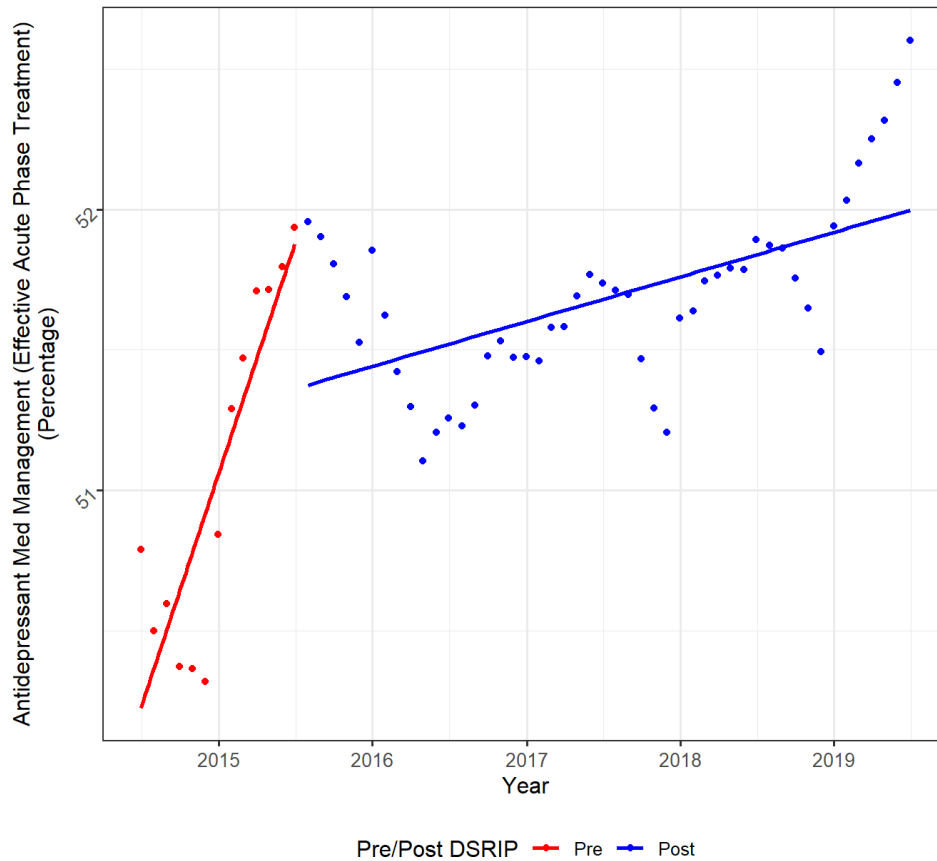
Notes: Follow-up care for children prescribed ADHD medications is the proportion of children aged 6 to 12 who were newly prescribed an ADHD medication who had a follow-up visit within 30 days. June 2014 through June 2015 (MY0 and MY1) data are pre-DSRIP program, and July 2015 through June 2019 (MY2-MY5) are post-DSRIP program initiation. This measure is in effect a 12-month moving average.

Exhibit 4.2.1.1.ii shows the antidepressant medication management measure increased in the pre-DSRIP program period (red line), from a baseline of 50.8% at the end of MY0 to 51.9% by the end of MY1 (2.3% increase).¹¹⁷ There was an initial level change after the implementation of the DSRIP program, with a small drop in the percentage of adults who remained on their antidepressant medication throughout their 12-week initiation phase. The post-DSRIP program initiation trend (blue line) has a more gradual upward slope; while there is continued improvement, it is at a slower rate. The final value is 52.6% by the end of MY5, which is a 3.6% improvement throughout the entire period from the MY0 Month 12 starting value. Similar to the ADHD measure, the sharp increase in the measure values during MY1 and the first half of

¹¹⁷ These percentages were rounded following calculation from the unrounded baseline and follow up variables, and therefore may not match calculations using the rounded baseline and follow up values presented here.

MY2 coincided with a large increase in the denominator (not shown), which could potentially influence the observed trends in the outcome.

Exhibit 4.2.1.1.ii. Statewide monthly changes in antidepressant medication management

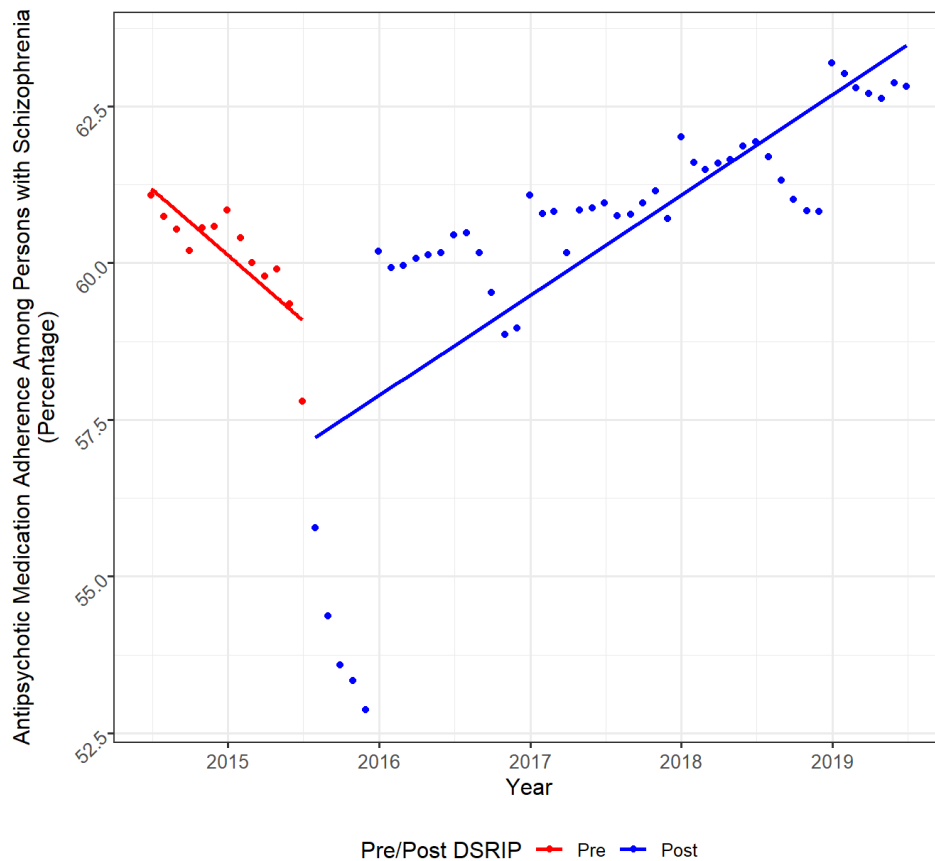


Source: Authors' analysis of the DSRIP Dataset.

Notes: Antidepressant medication management is the percentage of adults diagnosed with depression and treated with an antidepressant medication who remained on the antidepressant for the full 12-week initiation phase. June 2014 through June 2015 (MY0 and MY1) data are pre-DSRIP program, and July 2015 through June 2019 (MY2-MY5) are post-DSRIP program initiation. This measure is in effect a 12-month moving average.

Exhibit 4.2.1.1.iii shows that adherence to antipsychotic medications measure decreased in the pre-DSRIP program period (red line), from a baseline of 61.1% at the end of MY0 to 57.8% by the end of MY1 (5.4% decrease). There was an additional level change after the implementation of the DSRIP program, with a large drop in the percentage of adults who remained on their antipsychotic medication. The post-DSRIP program initiation trend (blue line) is in the opposite direction, with an upward slope showing improvement. The final value is 62.8% by the end of MY5, which is a 2.8% improvement throughout the entire period from the MY0 Month 12 starting value. Upon closer inspection, the sharp decline in the measure value in the first six months of the post-DSRIP program initiation phase coincides with a sudden sharp increase in the denominator, which could potentially influence the observed trends in the outcome.

Exhibit 4.2.1.1.iii. Statewide monthly changes in antipsychotic medication adherence

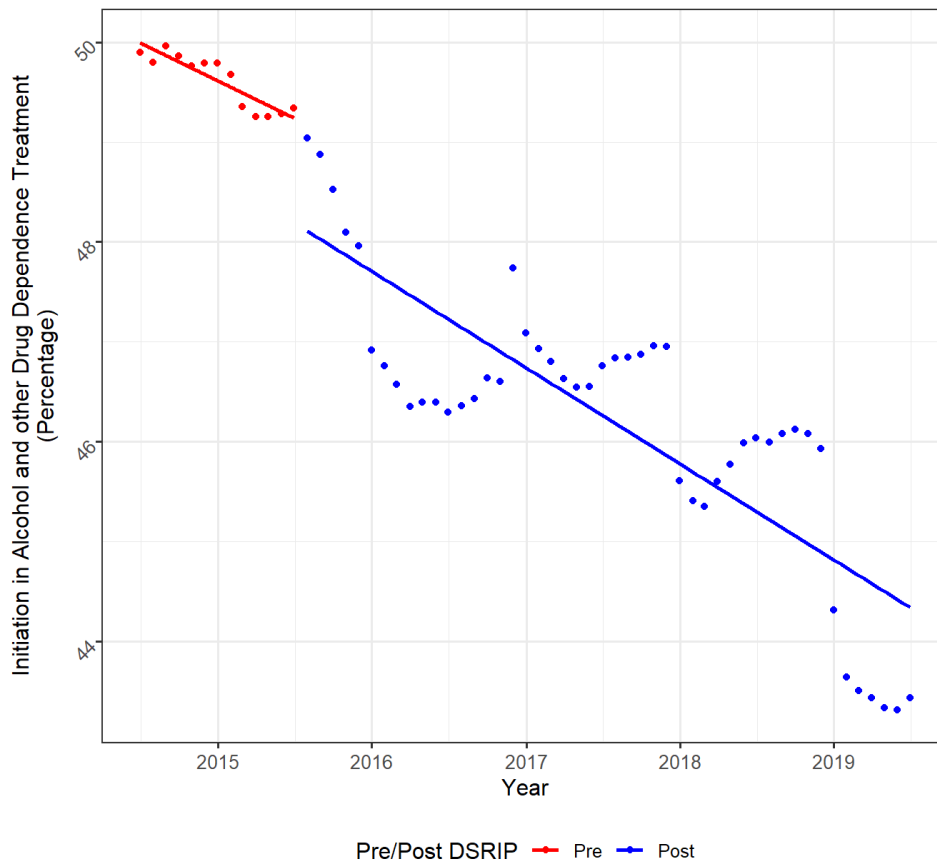


Source: Authors' analysis of the DSRIP Dataset.

Notes: Antipsychotic medication adherence is defined as the proportion of persons who remained on an antipsychotic medication for at least 80% of their treatment period, among persons aged 19 to 64 years with diagnosed schizophrenia who were dispensed at least two antipsychotic medications during the measurement year. June 2014 through June 2015 (MY0 and MY1) data are pre-DSRIP program, and July 2015 through June 2019 (MY2-MY5) are post-DSRIP program initiation. This measure is in effect a 12-month moving average.

Exhibit 4.2.1.1.iv shows the measure of alcohol and drug treatment initiation declined throughout the study period. In the pre-DSRIP program period (red line), this declined from a baseline of 49.9% at the end of MY0 to 49.3% by the end of MY1 (1.1% decrease). There was an additional level change after the implementation of the DSRIP program, with a large drop in the percentage of adults who initiated care within 14 days of presenting with a new episode of alcohol or drug dependency. The post-DSRIP program initiation trend (blue line) is negative and slightly steeper than the pre-DSRIP program trend, with a final value of 43.4% by the end of MY5 (12.9% decline throughout the entire period from the MY0 Month 12 starting value). Although these declines are notable, the trend plot also reveals considerable fluctuations of the observed values around the trend line. There is no clear pattern to the monthly fluctuations; for example, it does not appear to be a seasonable trend with some calendar months having consistently higher or lower values.

Exhibit 4.2.1.1.iv. Statewide monthly changes in initiation in alcohol or other drug dependence treatment



Source: Authors' analysis of the DSRIP Dataset.

Notes: Initiation in alcohol or drug treatment is measured as a percentage of persons aged 13 and older with one visit within 14 days of presenting to care with a new episode of alcohol or other drug dependence. June 2014 through June 2015 (MY0 and MY1) data are pre-DSRIP, and July 2015 through June 2019 (MY2-MY5) are post-DSRIP initiation. This measure is in effect a 12-month moving average.

4.2.1.2. Statewide Interrupted Time Series Regressions

The statewide interrupted time series (see Exhibit 4.2.1.2.i) quantified the magnitude and statistical significance of post-DSRIP program initiation changes in the four behavioral health measures across the 61-month study period duration. There is one column per outcome variable. The interrupted time series has three main coefficients: (1) a *Trend* that captures the slope in the pre-DSRIP program period, (2) a *DSRIP* dummy variable that is coded as 1 in the post-DSRIP program initiation period and 0 in the pre-DSRIP program period to estimate the level shift in the post-DSRIP program initiation period, and (3) a *Trend*DSRIP* coefficient that assesses whether the slope changed in the post-DSRIP program initiation period. The *Constant* term refers to the baseline level at the start of the study period (last month of MY0; also referred to as the intercept). For the coefficients, a p-value of $p < 0.01$ is considered strong

evidence, $p < 0.05$ is considered moderate evidence, and $p < 0.1$ is not statistically significant but provides suggestive evidence.

Exhibit 4.2.1.2.i. State-level time series regression model of behavioral health measures

Variable	Children’s ADHD Medication Follow-up Care <i>b (SE)</i>	Antidepressant Medication Management <i>b (SE)</i>	Adherence to Antipsychotic Medications <i>b (SE)</i>	Initiation in Drug/Alcohol Treatment <i>b (SE)</i>
Trend	0.16*** (0.03)	0.11** (0.02)	-0.41*** (0.13)	-0.07 (0.07)
DSRIP	-1.74*** (0.45)	-1.47*** (0.39)	5.20*** (2.00)	-1.45 (1.24)
Trend*DSRIP	-0.15*** (0.03)	-0.08*** (0.03)	0.49*** (0.13)	-0.01 (0.08)
Constant	60.38*** (0.34)	52.38*** (0.30)	54.68*** (1.48)	48.82*** (0.96)
Observations	61	61	61	61
AIC	-16.16	-44.20	187.45	58.75

Source: Authors’ analysis of the DSRIP Dataset.

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. All measures are, in effect, twelve-month moving averages.

Children’s ADHD Medication Follow-up

For the children’s ADHD medication follow-up measure, the percentage of children with follow-up care increased by 0.16 percentage-points each month (*Trend*, $b = 0.16$, $p < 0.01$). After the initiation of the DSRIP program, there was an initial level shift with a decline of 1.74 percentage points (*DSRIP*, $b = -1.74$, $p < 0.01$). In the post-DSRIP program initiation period, the trend’s rate of improvement reduces significantly compared to the trend in the pre-DSRIP program period and the post-DSRIP program slope flattens to near-zero (*Trend*DSRIP*, $b = -0.15$, $p < 0.01$).

Antidepressant Medication Management

For the antidepressant medication management measure, the percentage of adults who remained on their antidepressant for the full 12-week initiation phase increased by 0.11 percentage points each month (*Trend*, $b = 0.11$, $p < 0.05$). After the initiation of the DSRIP program, there was an initial level shift with a decline of 1.47 percentage points (*DSRIP*, $b = -1.47$, $p < 0.01$). In the post-DSRIP program initiation period, the trend had a significantly slower rate of improvement compared to the pre-DSRIP program period (*Trend*DSRIP*, $b = -0.08$, $p < 0.01$).

Adherence to Antipsychotic Medications

The adherence to antipsychotic medications measure is the only behavioral health outcome that improved in the statewide interrupted time series regression following the DSRIP program's initiation at the statewide level, whereby the declining (worsening) pre-DSRIP program trend reversed and the trend subsequently increased (improved) in the post-DSRIP program initiation period. In the regression model, the percentage of adults who maintained 80% adherence declined by 0.41 percentage points each month (*Trend*, $b = -0.41$, $p < 0.01$). After the initiation of the DSRIP program, there was an immediate level shift with an increase of 5.20 percentage points (*DSRIP*, $b = 5.20$, $p < 0.01$). In the post-DSRIP program period, the trend reversed to a continued improvement (*Trend*DSRIP*, $b = 0.49$, $p < 0.01$).

Initiation in Drug and Alcohol Treatment

For the initiation in drug and alcohol treatment measure, the model provides no evidence for substantial changes during the study period. In the pre-DSRIP program initiation period, there was no statistically significant increase or decrease (*Trend*, not significant), and in the post-DSRIP program initiation period there was neither an initial level shift (*DSRIP*, not significant) nor evidence for a statistically significant slope change (*Trend*DSRIP*, not significant). This is contrary to expectations based on a visual review of the statewide trend plot that showed a pattern of a declining rate of alcohol and drug treatment initiation (see Exhibit 4.2.1.1.iv), with a 12.9% decline from the end of MY0 to the end of MY5. The regression model may not have assessed statistically significant differences due to the marked fluctuations of the observed values around the fitted trend line, particularly in the post-DSRIP program initiation period.

Caveats

For all four measures, findings should be interpreted cautiously due to the changing denominators. As described above, the measures all experienced a notable increase in their denominators during MY1 and the first half of MY2, which coincided with some of the unusual patterns seen in the plots (e.g., the sharp decrease in the antipsychotic measure and the steep improvement in the ADHD measure in the pre-DSRIP period). Changes in these populations may have had an impact on some of the performance measures.

4.2.2. Comparative Analysis of Behavioral Health Care Utilization among Performing Provider Systems

4.2.2.1. Visualizations of PPS Variation

The bubble charts in Exhibits 4.2.2.1.i through 4.2.2.1.iv show, for each measure, the overall change throughout the entire period (from MY0 Month 12 through MY5 Month 12) for each PPS. The X-axis is the measure value at the start of the study time period (MY0 Month 12, corresponding to June 2014) and the Y-axis is the change in the measure value at the end of the study time period (MY5 Month 12, corresponding to June 2019). A value below the horizontal line (zero value) means that the measure value declined during the period, while a value above the horizontal line means that the measure value increased. Improvements are displayed in blue and trends that worsened are in red. For each behavioral health measure, an increase denotes an improvement and thus values above the zero horizontal line are in blue. The size of the bubble corresponds to the number of members in each PPS, with larger bubbles for PPSs with more members.

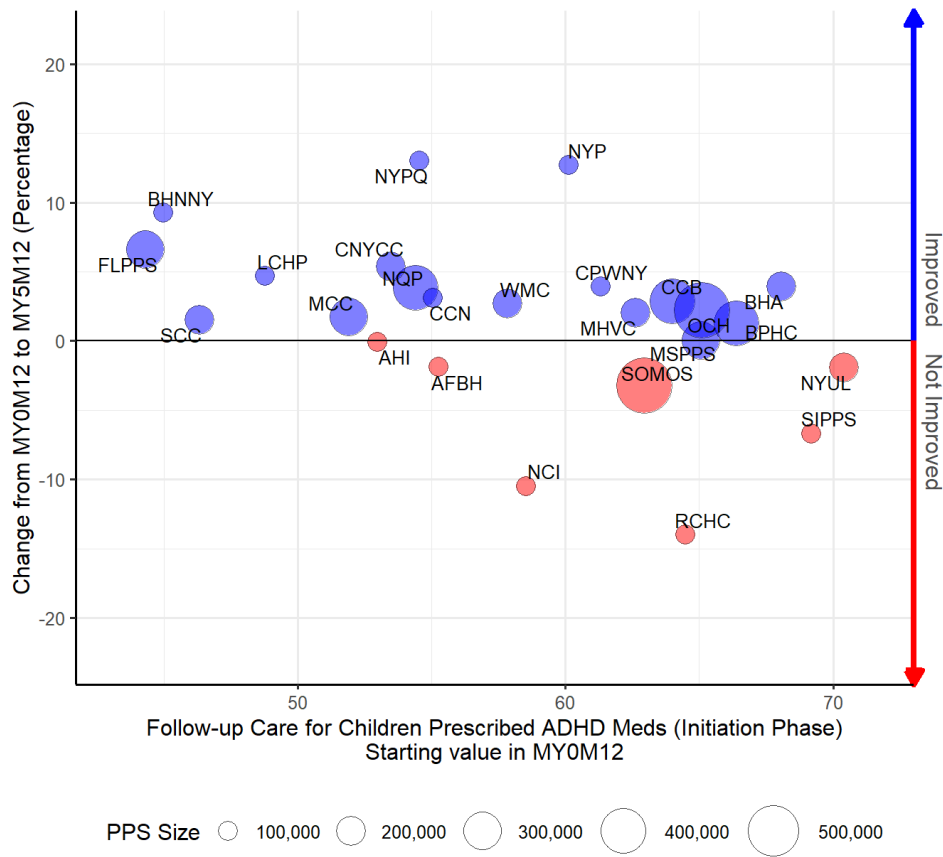
In the children's follow-up care for ADHD medications bubble chart (see Exhibit 4.2.2.1.i), most PPSs improved throughout the period, consistent with the statewide interrupted time series model. The largest improvements occurred in NewYork-Presbyterian Queens (NYPQ) and NewYork-Presbyterian PPS (NYP), which each had an improvement of >10%. On the other end of the spectrum, North Country Initiative (NCI) and Refuah Community Health Collaborative (RCHC) each had a worsening of >10%. However, these four PPSs all had small populations and thus didn't contribute substantially to the overall statewide trend.

In the antidepressant medication management bubble chart (see Exhibit 4.2.2.1.ii), most PPSs had an improvement throughout the period, consistent with the interrupted time series model. Four of the six PPSs that worsened started out with the highest values at the end of MY0 and had less room for improvement compared to the other PPSs (Adirondack Health Institute (AHI), North Country Initiative (NCI), NYU Langone Brooklyn (NYUL), Refuah Community Health Collaborative (RCHC); see bottom right of the chart).

In the antipsychotic medication adherence bubble chart (see Exhibit 4.2.2.1.iii), there was a pattern whereby the PPSs that started with the lowest values at the end of MY0 improved (top left of the chart) and the PPSs that started with the highest values were, in general, more likely to have a reduction in adherence (bottom right of chart).

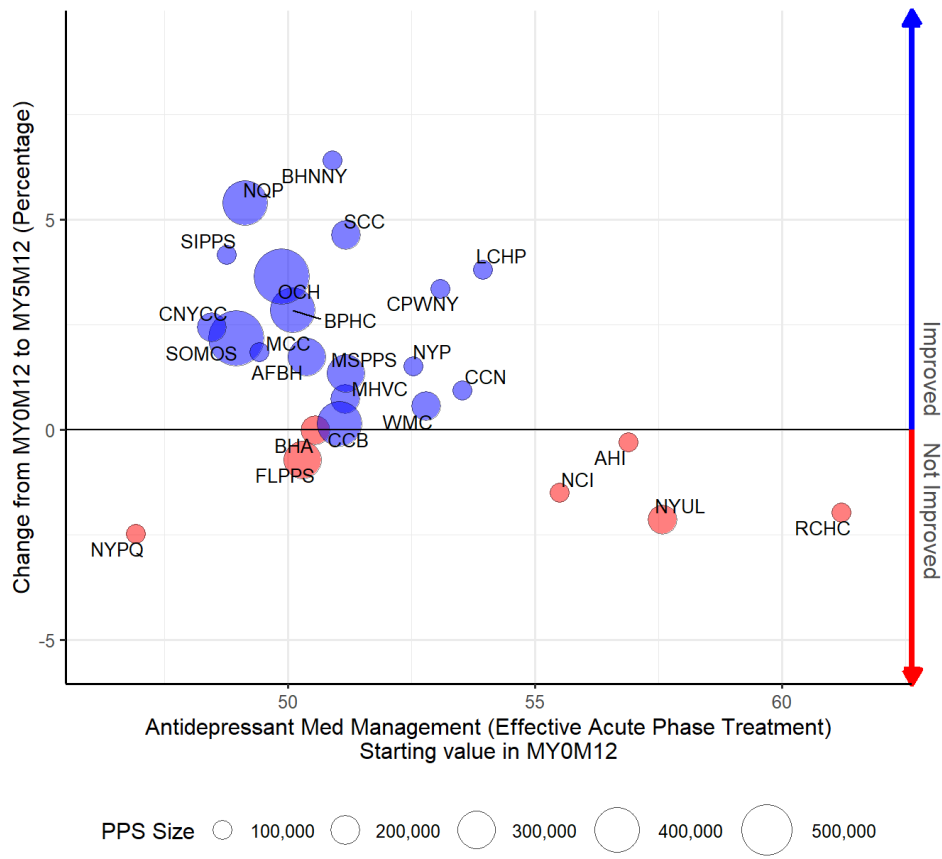
In the alcohol and drug treatment initiation bubble chart (see Exhibit 4.2.2.1.iv), most PPSs experienced a drop in the percentage of their members who initiated care within 14 days of presenting with a new episode of a substance use disorder.

Exhibit 4.2.2.1.i. Bubble chart of the changes in follow-up care for children prescribed ADHD medications, by PPS from MY0 to MY5



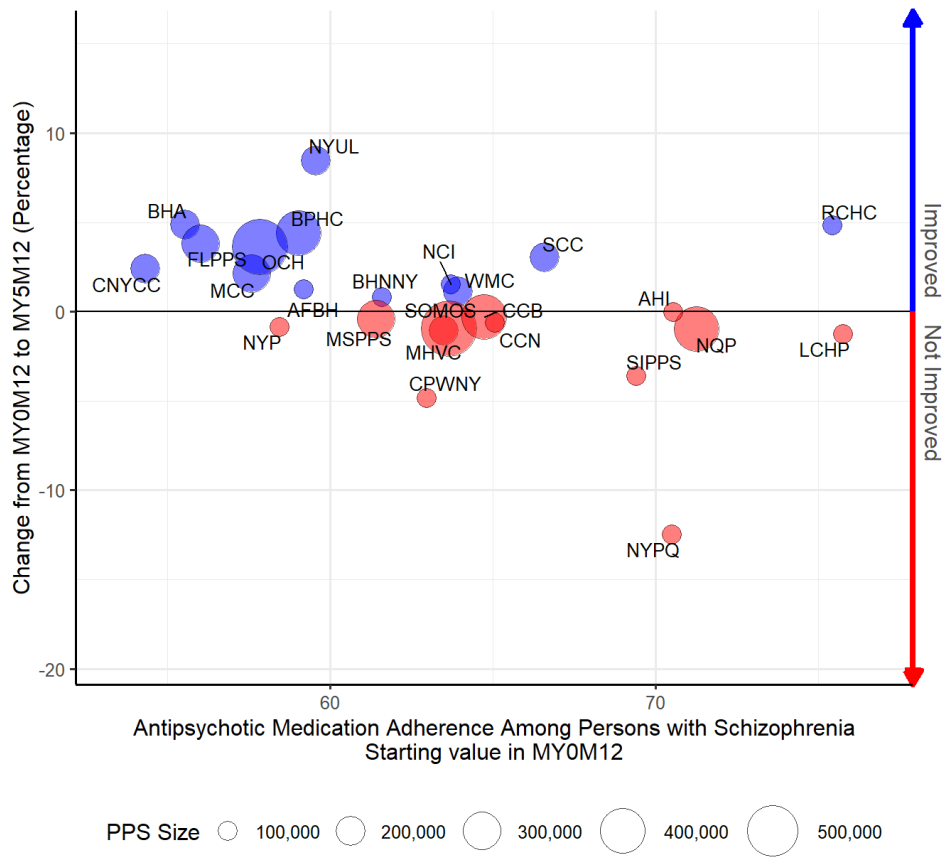
Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.2.2.1.ii. Bubble chart of the changes in antidepressant medication management, by PPS from MY0 to MY5



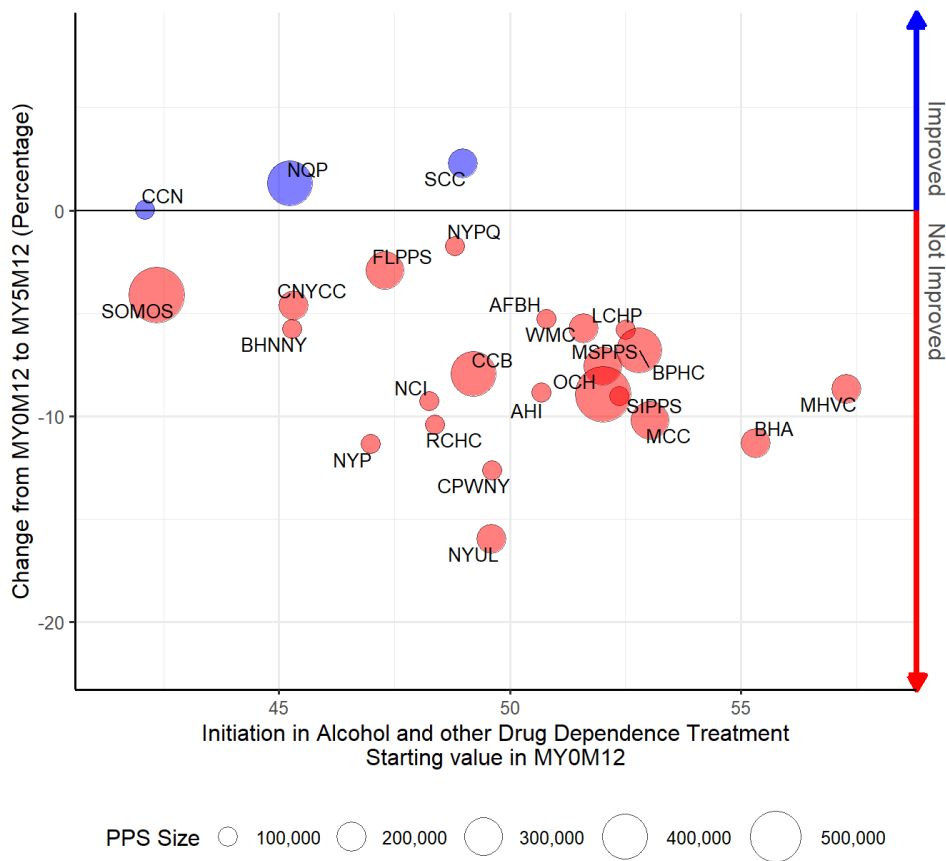
Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.2.2.1.iii. Bubble chart of the changes in antipsychotic medication adherence, by PPS from MY0 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.2.2.1.iv. Bubble chart of the changes in initiation an alcohol and other drug dependence treatment, by PPS from MY0 to MY5

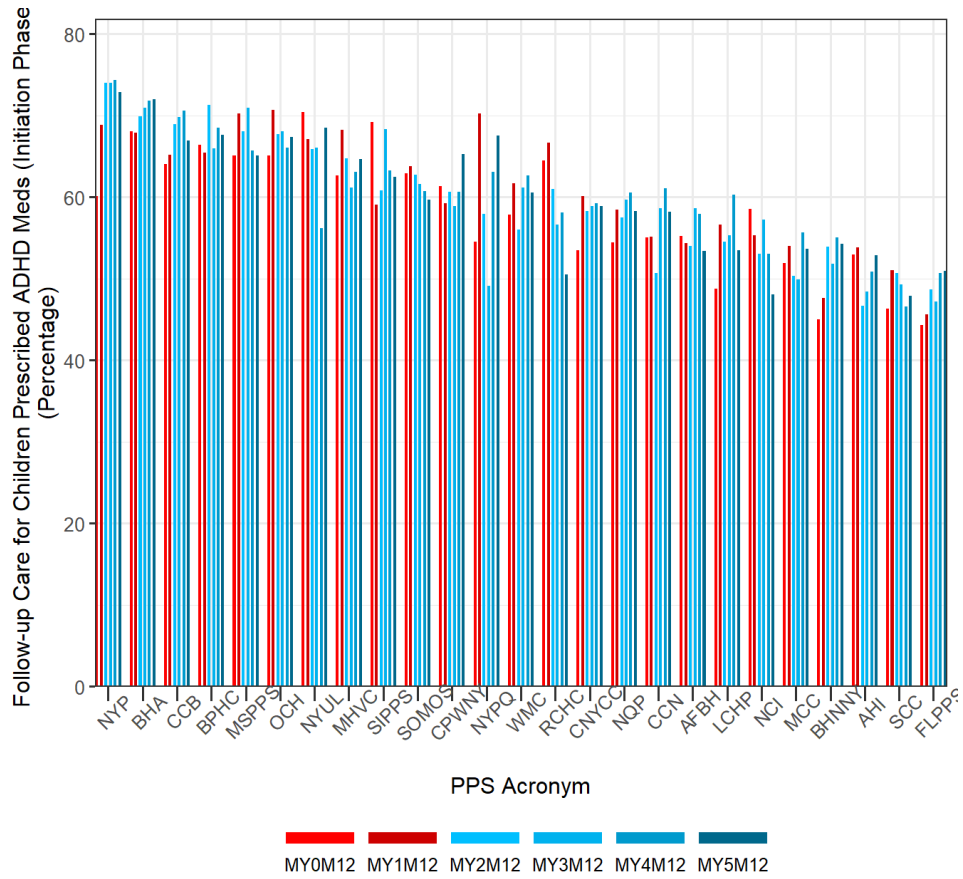


Source: Authors' analysis of the DSRIP Dataset.

Exhibits 4.2.2.1.v through 4.2.2.1.viii display the four behavioral health measures in the six years (MY0 through MY5), by PPS. Each PPS has one bar per MY. Although monthly data are available, these graphs only present the last observation in each MY (Month 12) for ease of interpretation. The pre-DSRIP program initiation period MY0 and MY1 are in red, and the post-DSRIP program initiation period are in shades of blue (MY2 through MY5). The performance outcomes in the DSRIP Dataset are 12-month rolling averages, so the last value of the MY captures the prior year's average performance.

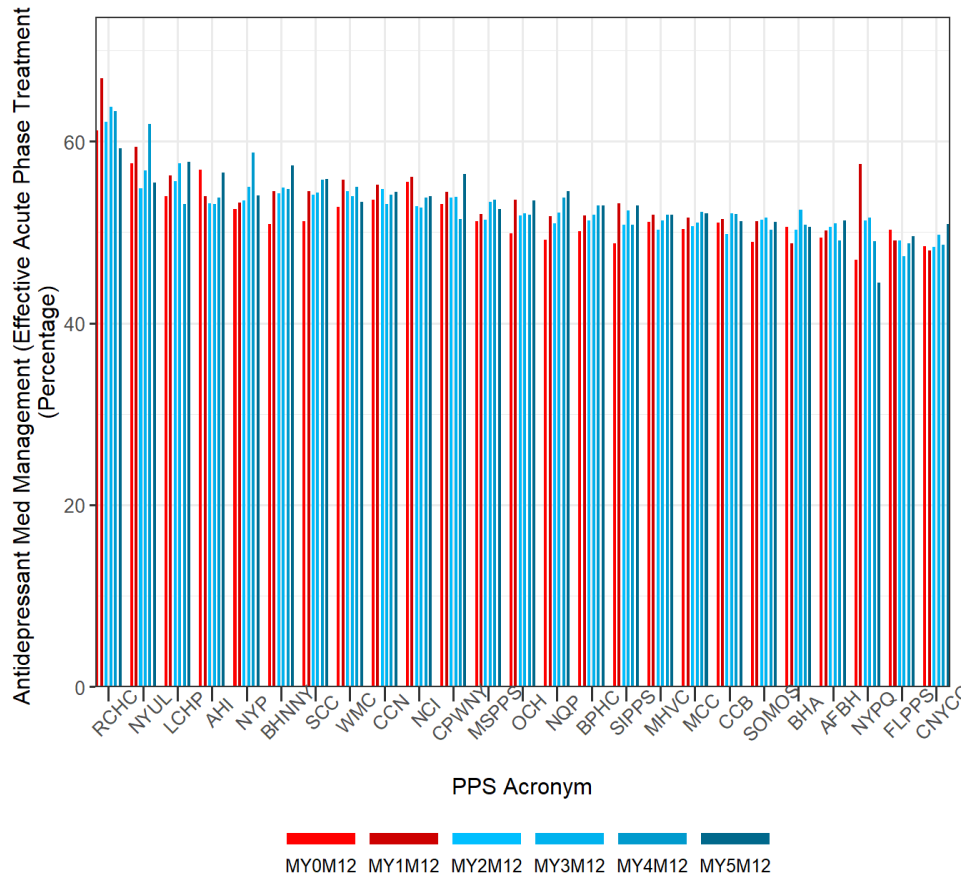
Over time, the variability was highest for the initiation of substance use disorder treatment measure, consistent with the statewide trend line (see Exhibits 4.2.1.1.i through 4.2.1.1.iv) that showed considerable monthly variability.

Exhibit 4.2.2.1.v. Annual changes in follow-up care for children prescribed ADHD medications from MY0 to MY5, by PPS



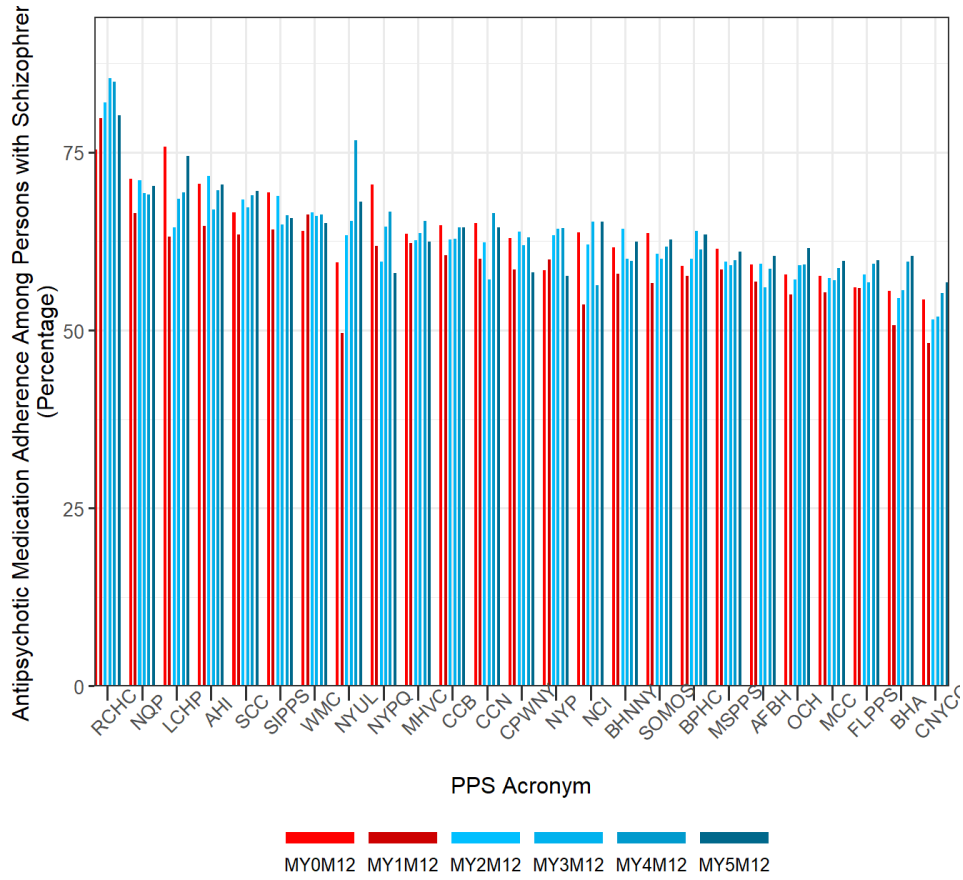
Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.2.2.1.vi. Annual changes in antidepressant medication management from MY0 to MY5, by PPS



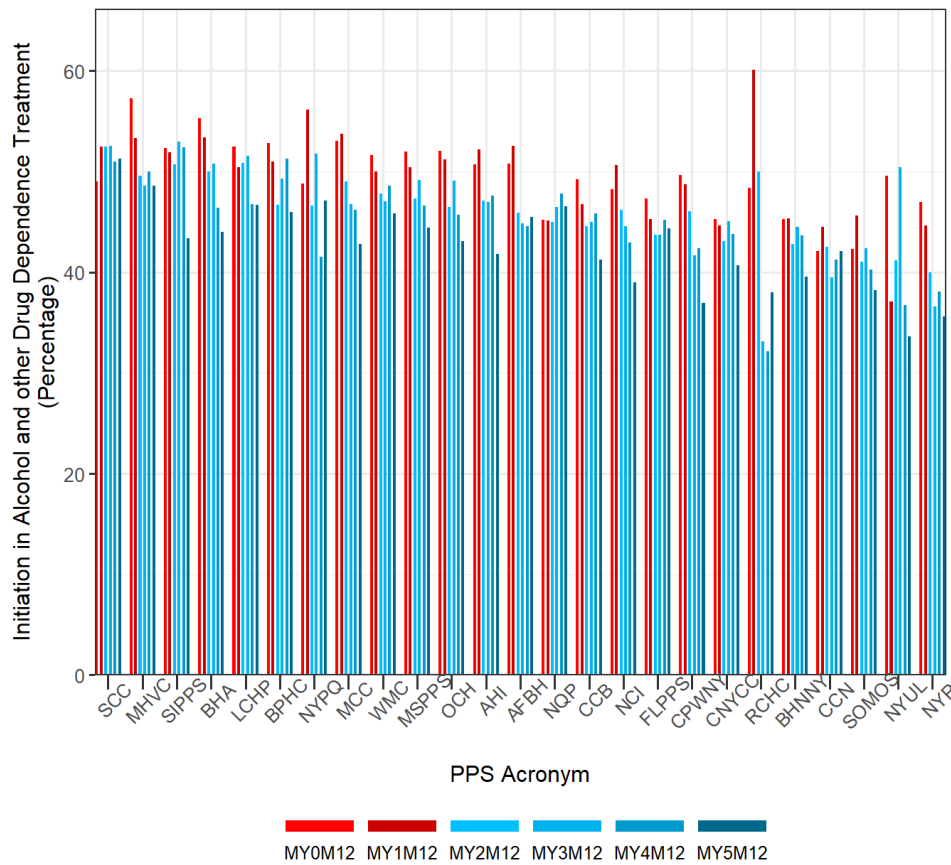
Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.2.2.1.vii. Annual changes in antipsychotic medication management from MY0 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.2.2.1.viii. Annual changes in initiation of alcohol and other drug dependence treatment from MY0 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

4.2.2.2. Variability in Values Across PPSs and Measurement Years

Exhibit 4.2.2.2.i displays variability in the values across PPSs and time. For each measure, the median, minimum, and maximum values are reported by MY.

Exhibit 4.2.2.2.i. Variability in behavioral health measures across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
Follow-up care for children prescribed ADHD medications	MY0	58.5	44.3	70.4
	MY1	60.9	44.5	82.1
	MY2	59.1	45.4	74.0
	MY3	59.0	45.5	79.4
	MY4	59.5	46.5	79.3
	MY5	60.2	42.9	78.4

Measure	Measurement Year	Median	Minimum	Maximum
Antidepressant medication management	MY0	51.0	46.9	61.2
	MY1	51.7	45.4	67.0
	MY2	52.5	47.8	67.4
	MY3	52.4	45.9	65.4
	MY4	52.7	47.1	67.5
	MY5	52.9	44.4	65.7
Antipsychotic medication adherence	MY0	63.5	54.3	75.8
	MY1	61.2	48.2	85.2
	MY2	60.0	40.4	82.1
	MY3	62.1	43.5	85.7
	MY4	62.6	50.9	85.0
	MY5	63.2	51.1	90.2
Initiation in alcohol and other drug dependence treatment	MY0	49.6	42.1	57.3
	MY1	50.2	37.1	60.1
	MY2	47.6	37.4	66.7
	MY3	46.6	33.1	55.5
	MY4	45.8	28.4	54.7
	MY5	44.1	32.5	54.3

Source: Authors' analysis of the DSRIP Dataset.

Notes: The summary statistics are based on all observations within the MY; for example, the statistics for MY1 are based on all PPS-month observations from MY0 Month 1 through MY0 Month 12.

4.2.2.3. Comparative Regression Analysis

Exhibit 4.2.2.3.i shows results from the comparative regression analysis of the four behavioral health measures: follow-up care for children prescribed ADHD medications, antidepressant medication management, adherence to antipsychotic medications, and initiation in alcohol and other drug treatment. There is one column per outcome, and each model only contains the PPS characteristics that were identified in the backward stepwise regression procedure to develop the most parsimonious model.¹¹⁸

Consistent with the interrupted time series, each model contains three basic coefficients: (1) a *Trend* that captures the slope in the pre-DSRIP program period, (2) a *DSRIP* dummy variable that is coded as 1 in the post-DSRIP program initiation period and 0 in the pre-DSRIP program period to estimate the level change in the post-DSRIP program initiation period, and (3) a *Trend*DSRIP* coefficient that assesses whether the slope changed in the post-DSRIP program initiation period. There are 1,525 observations (versus the 61 observations in the statewide time series), as the observations are at the PPS-month level (25 PPSs x 61 months).

¹¹⁸ In most cases, the final models from the backwards stepwise regression (presented here) and the forward stepwise regression (not show but performed as a sensitivity analysis) were similar.

Seven PPS characteristics were examined:

- **PPS size**, measured as the log of the number of attributed members in the PPS
- **NewCo versus pre-existing entity**, measured as a binary indicator (reference group: pre-existing entity)
- **Lead entity type**, comprising hospital system versus other types (multiple unaffiliated hospitals, single hospital, and non-hospital or multiple unaffiliated providers; reference group: other)
- **Region**, with three categories of NYC, NYC Metro, and Upstate (reference group: Upstate)
- **Health status**, measured as the percentage of members in the Healthy or Acute states based on the 3M Clinical Risk Groups (categories 1 and 2, versus those with higher scores indicating minor or chronic needs)
- **Race**, measured as the percent of attributed members with self-reported “Black/African American” race
- **Age**, measured as the mean age of attributed members

Summary of Findings: For the children’s behavioral health measure (children’s access to ADHD medications), PPSs led by a hospital system and PPSs located in NYC (compared to Upstate) had higher (better) outcomes and the magnitude of these associations was substantial. For the three adult measures (antidepressant medication management, adherence to antipsychotic medications, and initiation in alcohol or other drug treatment), larger PPSs had lower (worse) outcomes although the magnitude of this association was negligible compared to other PPS characteristics. Consistent with the children’s behavioral health outcome, two of the adult behavioral health measures had better outcomes in NYC and/or NYC Metro regions (compared to Upstate), and the magnitude of these differences were notable. Performing provider systems with a higher percentage of members with healthy or acute CRG scores had better outcomes for two adult behavioral health measures, and PPSs with a higher average age of members had better outcomes for one adult behavioral health measure. There were mixed findings for the association between the percentage of Black members and adult behavioral health outcomes: PPSs with a higher percentage of Black members had worse outcomes for adherence to antipsychotics but better outcomes for initiation in alcohol or other drug treatment.

Children’s Follow-up Care for ADHD Medications: Performing provider systems led by a hospital system and PPSs in the NYC region had higher (better) levels of this outcome (*Hospital System*, $b= 5.12$, $p<0.01$; *NYC*, $b= 11.39$, $p<0.01$, reference group: Upstate).¹¹⁹ These variables can be interpreted as, PPSs led by hospital systems had 5.1 percentage-point higher level of follow-up care (compared to PPSs with other lead entity types) and PPSs in NYC had an 11.4 percentage-point higher level of follow-up care (compared to PPSs located in Upstate regions). As context for interpreting the magnitude of these coefficients, the average statewide level of children’s follow-up care for ADHD medications during the study period was 59.1%. The

¹¹⁹ The *NYC Metro* covariate was included in the model for completeness as this is a three-level variable (Upstate, NYC, and NYC Metro) but there was no statistically significant difference between NYC Metro and Upstate (*NYC Metro*, $b= 2.43$, not significant, reference group: Upstate).

magnitudes of the associations between both PPS characteristics (PPS size and hospital system versus other lead entity types) and the outcome of children's follow-up care for ADHD medications were substantial.

Antidepressant Medication Management: Larger PPSs had lower (worse) levels of this outcome (*PPS Size*, $b = -1.59$, $p < 0.01$). The *PPS Size* variable was log-transformed and is interpreted as, a one percent increase in the number of attributed members (size) was associated with a 0.02% decrease in the level of antidepressant medication management. Performing provider systems with healthier members had better outcomes: a one percent increase in the percent of members with a healthy or acute CRG score was associated with a 0.4 percentage-point higher level (*% Healthy/Acute*, $b = 0.38$, $p < 0.01$). As context for interpreting the magnitude of these coefficients, the average statewide level of antidepressant medication management was 51.6%. While the *PPS Size* and *% Healthy/Acute* coefficients were statistically significant, the magnitudes of these associations were small.

Adherence to Antipsychotic Medications: A one percent increase in the number of attributed members was associated with a 0.01 percent decrease in the level of adherence to antipsychotic medications (*PPS Size*, $b = -1.23$, $p < 0.05$). There were differences by region, with NYC and NYC Metro PPSs having a 4.3 and 7.9 percentage-point higher level compared to Upstate PPSs, respectively (*NYC*, $b = 4.31$, $p < 0.01$; *NYC Metro*, $b = 7.93$, $p < 0.01$; reference group: Upstate). Performing provider systems with healthier members had better outcomes: a one percent increase in the percent of members with a healthy or acute CRG score was associated with a 0.6 percentage-point higher level (*% Healthy/Acute*, $b = 0.59$, $p < 0.01$). A one percent increase in the percent of Black members was associated with a 0.2 percentage-point lower level of the outcome (*% Black*, $b = -0.20$, $p < 0.01$), and a one-year increase in the mean age of attributed members was associated with a 0.6 percentage-point higher level (*Mean Age*, $b = 0.63$, $p < 0.01$). As context for interpreting the magnitude of these coefficients, the average statewide level of adherence to antipsychotic medications was 60.3%. The magnitude of the association with PPS size was very small, whereas the magnitude of the association with region was substantial.

Initiation in Alcohol or Other Drug Treatment: A one percent increase in the number of attributed members was associated with a 0.02 percent decrease in the level of initiation in alcohol or other drug treatment (*PPS Size*, $b = -1.50$, $p < 0.01$). Performing provider systems in the NYC Metro area had a 2.7 percentage-point higher level compared to Upstate PPSs (*NYC Metro*, $b = 2.67$, $p < 0.05$).¹²⁰ A one percent increase in the percent of Black members was associated with a 0.2 percentage-point higher level of the outcome (*% Black*, $b = 0.16$, $p < 0.01$). As context for interpreting the magnitude of these coefficients, the average statewide level of initiation in alcohol or other drug treatment was 47.0%. Similar to the other behavioral health measures,

¹²⁰ The NYC covariate was included in the model for completeness as this is a three-level variable (Upstate, NYC, and NYC Metro) but there was no statistically significant difference between NYC and Upstate (*NYC*, $b = -1.12$, not significant, reference group: Upstate).

the magnitude of the association with PPS size was very small, whereas the magnitude of the association with region was meaningful.

Exhibit 4.2.2.3.i. Comparative regression models of behavioral health measures

Variable	Children's ADHD Medication Follow-up Care	Antidepressant Medication Management	Adherence to Antipsychotic Medications	Initiation in Alcohol/Drug Treatment
	B (SE)	B (SE)	B (SE)	B (SE)
Trend	0.08 (0.12)	0.25*** (0.06)	-0.41*** (0.07)	-0.05 (0.10)
DSRIP	-1.16 (1.89)	-3.49*** (0.75)	4.94*** (1.07)	-1.08 (1.76)
Trend*DSRIP	-0.07 (0.10)	-0.20*** (0.06)	0.53*** (0.07)	-0.07 (0.10)
PPS Size		-1.59*** (0.37)	-1.23** (0.62)	-1.50** (0.66)
NewCo				
Hospital System	5.12*** (1.34)			
NYC	11.39*** (1.32)		4.31*** (1.33)	-1.12 (1.26)
NYC Metro	2.43 (2.19)		7.93*** (1.57)	2.67** (1.31)
% Healthy/Acute		0.38*** (0.11)	0.59*** (0.17)	
% Black			-0.20*** (0.05)	0.16*** (0.04)
Mean Age			0.63** (0.28)	
Constant	54.55*** (1.59)	51.02*** (5.89)	20.63 (13.03)	62.70*** (7.37)
Observations	1525	1525	1525	1525
Adjusted R ²	0.64	0.44	0.63	0.35

Source: Authors' analysis of the DSRIP Dataset.

Notes: *p<0.1, **p<0.05, ***p<0.01. All measures are, in effect, twelve-month moving averages. All PPS characteristics were considered, and the final parsimonious models presented here were derived from a backward selection procedure that included coefficients with p<0.10. Reference categories: *NewCo*, pre-existing entity; *Hospital System*, other lead entity types; *NYC* and *NYC Metro*, Upstate.

4.2.3. Qualitative Findings on Perceptions of the DSRIP Program’s Impact on Behavioral Health Care Utilization

About one-third of 2019 partner survey respondents believed that the DSRIP program improved recognition of mental health disorders and increased primary care provider use of behavioral health interventions. Many partners and PPS key informants described significant improvements in behavioral health integration into primary care, despite regulatory, billing, and workforce challenges.

4.2.3.1. Partner Survey Findings

About one-third of 2019 partner survey respondents believed that the DSRIP program improved recognition of mental health disorders (35.8%; N=243) and increased primary care provider use of behavioral health interventions (33.3%; N=226).

This varied by the partner’s organization type (see Exhibit 4.2.3.1.i). Over 40% of partners working in hospitals, behavioral health organizations, clinics, or primary care provider offices believed that the DSRIP program improved recognition of mental health disorders. However, this was true for less than 15% of partners working in hospice/palliative care centers, skilled nursing facilities/nursing homes, or pharmacies. More than 40% of partners working in Federally Qualified Health Centers, behavioral health organizations, hospitals, or primary care provider offices thought that the DSRIP program increased primary care provider use of behavioral health interventions, while fewer than 15% of those working in non-primary care practitioner offices, skilled nursing facility/nursing homes, home care agencies, hospice/palliative care centers, and pharmacies agreed.

Exhibit 4.2.3.1.i. Perceived changes in addressing behavioral health by organization type (N=678)

Organization type	Improved recognition of mental health disorders		Increased primary care provider use of behavioral health interventions		
	Percent	N	Percent	N	Total N
Hospital	49.4%	43	51.7%	45	87
Behavioral health organization	45.3%	24	56.6%	30	53
Clinic	41.7%	10	33.3%	8	24
Primary care provider	40.2%	53	40.2%	53	132
Federally Qualified Health Center	37.5%	15	67.5%	27	40
Community-based organization	34.2%	53	21.3%	33	155

Organization type	Improved recognition of mental health disorders		Increased primary care provider use of behavioral health interventions		Total N
	Percent	N	Percent	N	
Substance use treatment organization	31.8%	7	36.4%	8	22
Non-primary care practitioner	30.0%	3	10.0%	1	10
Government office	25.0%	4	37.5%	6	16
Home care agency	23.8%	5	0%	0	21
Health Home/care management program	15.0%	3	15.0%	3	20
Hospice/palliative care center	14.3%	1	0%	0	7
Skilled nursing facility/nursing home	8.7%	4	2.2%	1	46
Pharmacy	0%	0	0%	0	4
Other [please specify:]	43.9%	18	26.8%	11	41
Total	35.8%	243	33.3%	226	678

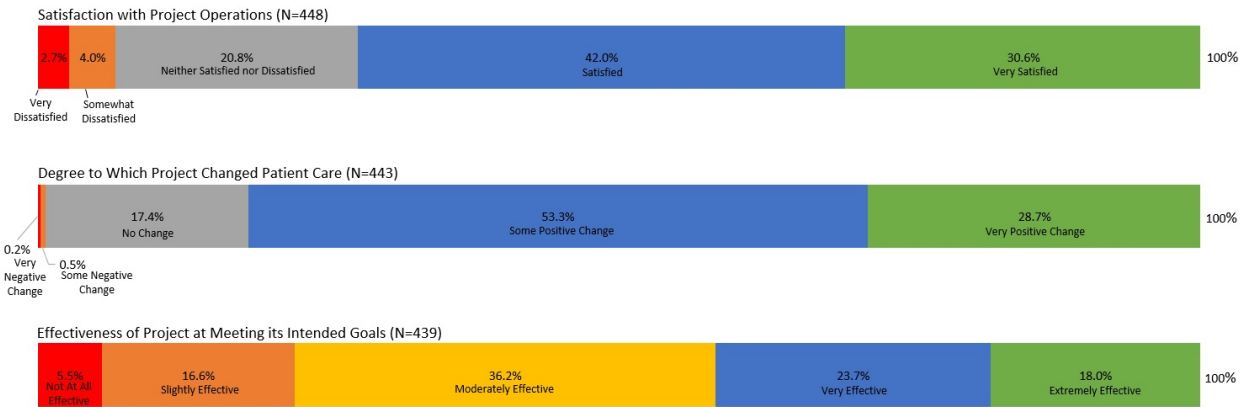
Source: Authors' analysis of the 2019 statewide partner survey.

Note: Total N refers to the number of respondents to this item; N refers to those that answered positively.

In addition, when asked which patients seemed to be benefitting most from the DSRIP program, approximately one-fourth identified patients with behavioral health needs.

Partner perceptions of behavioral health projects (see Exhibit 4.2.3.1.ii) were generally positive. Nearly three-quarters of partners (72.6%) were satisfied with project operations, 82.0% perceived positive change in patient care, and 77.9% viewed projects as at least moderately effective in meeting their intended goals.

Exhibit 4.2.3.1.ii. Partner perceptions of behavioral health projects (3.a.i, 3.a.ii, 3.a.iii, 3.a.iv, 3.a.v)



Source: Authors’ analysis of the 2019 statewide partner survey.

4.2.3.2. Positive Perceptions of the DSRIP Program’s Impact on Behavioral Health Care

Most study participants described successes with the integration of primary care and behavioral health. They noted an increased focus on behavioral health in primary care practices, including a significant increase in depression screenings. Co-location models were viewed as particularly effective.

We have co-located behavioral health services in our primary care facilities who can do treatment for the patient right then and there with a warm handoff. Similarly, in the behavioral health setting, there is a primary care screen done on every single patient on every single visit, and if they have a primary care need, they can do a warm handoff to the primary care provider in that setting. This is occurring across all of our clinics, in all of our outpatient clinics for behavioral and primary care, and that is a big impact. In that setting, I think it helped to reduce stigma for behavioral health, and also capitalized in meeting the patients where they are. – 2018 hospital regional focus group participant

What I saw more than anything else was a heightened awareness of the importance of behavioral health on primary care. Having the majority of primary care providers start to embrace and understand the importance of integration was one of the bigger wins that DSRIP had, the community had; and for the implementation of the projects, that was a big piece. -2019 PPS key informant

We had great success with our partners in behavioral health/primary care integration. Part of our success was that it was a cross-sector strategy. We did not focus on just primary care providers or just behavioral health providers or just hospitals or just CBOs, but approached it

from a comprehensive strategy to try to collect and bring together all components that would be necessary to meet that client, wherever they arrived, to do a good assessment of what their needs were from a social determinants perspective. -2019 PPS key informant

Basically, primary care is now the frontline of behavioral health. They screen everybody, there's immediate warm handoffs, and it really is very well integrated. All the FQHCs we have in our network already started being co-located; they have been co-located for years, meaning having behavioral health in-house, but they never spoke to primary care. It's a different era now; it's really amazing. -2019 PPS key informant

Respondents referred to this integration as the breaking down of a silo, and said that while some primary care providers were reluctant at first, many became committed to funding the integration of behavioral health after the DSRIP program ends.¹²¹ Primary care providers obtained better resources to care for behavioral health patients, and both primary care and behavioral health providers increased their awareness of the connections between physical and behavioral health and recognized that these systems should not be segregated.

Behavioral health has been one of the greatest successes for our DSRIP implementation. In the primary care space, we have been able to integrate behavioral health into a number of primary care practices. When we started that journey, many PCPs were pretty reluctant, and they have now really embraced the program. Practices that don't have behavioral health resources are really eager to get started with the programs. Primary care providers are committed to helping find funding for these individuals once DSRIP ends, so that's been really great. As part of that initiative, we also saw a dramatic increase in depression screenings in primary care practices. Our PHQ¹²² screenings went from about 20 percent to almost 80 percent at most of our sites, and that was a real credit to medicine's support and willingness to get on board with the initiative. – 2018 PPS key informant

The mental health staff are learning a lot more about primary care and the importance of primary care. We are learning about chronic diseases, so it's opening up realms of new discovery for staff. – 2018 mental health and substance use regional focus group participant

The behavioral health world, certainly the addiction world, has not communicated much at all with the primary care world. We really lived in different worlds and the amount of collaborative care was minimal. That idea of co-location, that idea of embedding mental health into a primary care, has really allowed us to be more comfortable, more familiar, more trustful (to be honest) as well. It's complicated, especially when you bring in addiction and rehabilitation services. There's a lot of restrictions. I would say on their end, they're

¹²¹ Per the regulatory one year extension language in the New York 2020-2021 budget, DSRIP program Project 3.a.i (Integration of Primary Care and Behavioral Health Services) sites that had approved regulatory waivers were allowed to continue providing an additional year of integrated services beyond March 30, 2020 (the end of the DSRIP program).

¹²² Patient Health Questionnaire

more willing to really encourage those clients to allow the primary care offices to know what's going on. I think in the past there was honestly not a big push to that. "Oh, you want us to keep all your information protected? Okay, yeah. We can do that;" without really saying, "Well, you know, your primary care doctor is not going to know anything." I just feel that the way it's presented now is different. - 2019 primary care physician, Health Home, clinic, and specialist focus group participant

Almost universally, the primary care practices love that we're there because it really helps with their patients. They're really not trained mental health people, although we've heard this number over and over again; 60% of the people who show up at a primary care practice are in need of mental health services. So instead of having to sit with a patient who's upset and crying and spend a lot of time with them, they can walk them down the hall. –2019 behavioral health focus group participant

4.2.3.3 Challenges to Improved Behavioral Health Care Integration and Utilization

Challenges to improved behavioral health care integration and utilization included regulatory, billing, and workforce barriers.

Regulatory Barriers

Study participants said that different state agencies had different regulations, which presented barriers to developing procedures and services.

The regulatory side hurts us, though, because there are so many restrictions on Article 28¹²³ to set up behavioral health in the primary care space. If we don't see the regulatory requirements for Article 28 change, that is going to impact the ability to do this in the future. Partners are going to continue to carve out elements that don't need a waiver and continue to do that, but if we don't get regulatory relief in that, it will be near impossible to do in the future. – 2019 PPS key informant

I think, philosophically, everyone agrees that this is a great idea; everybody wants to do it. But I think part of the challenge is the regulatory issues; have they been worked out between OMH, OASAS, DOH? Our experience is no. – 2019 PPS key informant

We're an Article 31¹²⁴ clinic and the regulations make it really tough. We looked at hiring a nurse practitioner to provide primary care, but then you run into the barrier that she could only see so many clients that weren't receiving behavioral health. There are

¹²³ Article 28 clinics are primarily focused on physical health and are licensed by the New York State Department of Health.

¹²⁴ Article 31 clinics primary are primarily focused on behavioral health and are licensed by the New York State Office of Mental Health.

threshold limits. So then we looked at putting behavioral health in a primary care clinic, but it couldn't be an Article 28 clinic because there are regulation problems. - 2019 primary care physician, Health Home, clinic, and specialist focus group participant

A number of providers also noted regulatory barriers to data sharing. When electronic health records could be shared, that allowed for significantly better coordination between behavioral health and primary care providers, but it was not always possible.¹²⁵

Billing Barriers

Providers described difficulty in receiving appropriate reimbursement. In some cases, both physical and behavioral health visits could not be billed on the same day. The NYS DOH developed integrated service rate codes (effective from July 1, 2016) to allow reimbursement of both services in one day for providers participating in Project 3.a.i. While over 400 sites were approved to use these rate codes or Integrated Outpatient Service (IOS) rate codes, some sites were ineligible due to their specific program licensing or regulatory restrictions, and approval of rate codes could sometimes take months if it required further review by the NYS DOH, the Office of Mental Health (OMH), or the Office of Addiction Services and Supports (OASAS).

You couldn't bill a primary care visit and a behavioral visit on the same day, which completely destroys the system. Because in our primary care centers, we want to do what we call warm handoffs. We found even if they're on a different floor, like in [health center], once they get on the elevator, they're not going to stop it anywhere else; they're leaving. In [other health center] we actually walk them down to the counselor's/psychologist's office, but they can't bill; you can't get reimbursement on the same day for those two visits, which is absurd. – 2019 hospital, nursing home, hospice and home care focus group

Care coordination was time-consuming but could not be billed.

One of the big barriers is that there are a lot of things that we do in an integrated setting that are not reimbursable. So clearly when we sit with a patient, then we can bill for that and our people do the billing for being in that setting. But when we meet with the doctors, when we go to meetings, that's time. And our providers are paid based on the income that they generate, so that's time that they're not generating income. We're not getting paid for that, and we're doing it. In a sense, they are and we are taking the hit but payers, including Medicaid and Medicare and the commercial payers, have not really come around. I mean, they're in favor of this, but they're not necessarily supporting it financially. –2019 behavioral health focus group participant

¹²⁵ Medicaid members in New York have rights at the federal level under 42 CFR Part 2 to service confidentiality.

Workforce Barriers

Provider shortages were often identified as a challenge. Respondents experienced high vacancy rates and had trouble recruiting behavioral health providers in both rural and urban areas.

[Our behavioral health partner] has a difficulty of high, high turnover rates. I mean continuous, and when we would try to say, "Well, we would like you to go to [partner] because then we'll have something in your case work-up," I remember one kid saying, "We won't go back there; we went there for a while, and in that time had five different therapists." With each therapist, you're starting from scratch, again and again... If the therapist fell apart, it was back on us again. It's like, "Okay, you referred me to the therapist; the therapist is gone; take care of me now." That became hard, because that wasn't something that you were able to do. - 2019 primary care physician, Health Home, clinic, and specialist focus group participant

It was also sometimes a challenge for primary care providers to assume behavioral health roles. Some did not feel that they had sufficient training or capacity to do so. Others did not want to expand their practices into behavioral health.

The big push from above is for pediatricians to be dealing with mental health issues, but from that point of view, we're talking mainly about the medicine management, the psychiatric management...and with any kids, where we're going to be managing the psychiatric medications, we want all of them involved with a therapist. We're never going to be providing that; our time structure is insane to be able to do that, our training isn't in that, so we're looking at two different parts of the mental health. One, we're talking about what we're being asked to do, which is the psychiatrist role; and also what we're trying to integrate, which is the therapist's role. - 2019 primary care physician, Health Home, clinic, and specialist focus group participant

The IMPACT model I think was just a heavier lift than my nursing staff could do on a regular basis. It's not that we didn't identify people. We definitely made a difference. We just didn't quite have the capacity or maybe the numbers to continue with that. Financially, there's no real sustainability in that model after DSRIP. It's pretty labor intensive, the way it's set up. - 2019 primary care physician, Health Home, clinic, and specialist focus group participant

4.2.3.4 Challenges with the Quantitative Behavioral Health Measures

In addition to the barriers identified above, some respondents discussed how the behavioral health measures examined for performance did not fully reflect improvements in mental health and substance use, and the broader benefits of enhanced behavioral health.

I'm not sure that behavioral health organizations have found as much value in DSRIP because the measures driving DSRIP have not reflected the kinds of things that we work on...those kinds of measures that exist around behavioral health are not directly related to the kinds of interventions that we do. And the only thing that does exist doesn't appear in QARR measures or any of the things they laid on top of HEDIS around behavioral health measures. But what we have are clear measures for behavioral health around recovery and rehabilitation, and those are evidence based and well-researched and make a direct connection between the outcomes that are related to the outcomes DSRIP is interested in. So for instance, if a person is employed, they are less likely to go to the hospital and their cost for their medical care and inpatient hospitalization costs go way down. So for behavioral health, sure, you need an outpatient clinic. And sure, you might need some therapy or some of the other things. But if you get a person a job, you're going to drive that cost down more. We have Home and Community Based Services where some of those things end up in a claim. We know that safe and stable housing is going to increase the person's [outcomes] but we don't measure that. The kinds of things that care managers do, the kinds of things that most of behavioral health (aside from clinical therapy) interventions do, aren't really reflected in that kind of data. So, you then have to kind of have a proxy for it instead of measuring it directly. The fact is there is an evidence base around those interventions actually leading to increases in health and all of those things, but we don't measure it...Our care managers struggle with seeing the connection between what they're doing as they're working with a person and the metrics that we're talking about looking at as an organization. ...The longer you're in the community, the less you're in an institutional setting (jail, hospital, however you want to define those things), the better. We know that's a good outcome. ... And that's a gradual process. So, "I was in jail three times last month and now four months later I've only been in once." That's an improvement, but it's not something we're measuring. – 2019 primary care physician, health home, clinic, and specialist focus group participant

I think one of the problems with behavioral health services in terms of both the commercial payers and probably Medicare and Medicaid, is it's very short-sighted to look at just behavioral health measures, because we believe that the greatest impact we have on improving health and reducing cost is the changes that people undergo when their variable health needs are met that will lead to reduced medical utilization and people taking better care of themselves. I mean, there's already data that shows that people who have a chronic medical illness and who are depressed or anxious cost almost twice as much to care for as people who just have the chronic illness. So being able to help people reduce their anxiety, reduce their depression, take better care of themselves, be more likely to be compliant with physician's initiatives will do better, will be healthier, and will require less in the way of medical services. And to be able to evaluate us in terms of that additional information, not just because a PHQ score has gone from one level to another level. I don't know that that means too much. – 2019 behavioral health focus group participant

Part of the challenge was we had to, you know, transition very quickly to the performance metrics. And a lot of the programs, while good, don't necessarily impact a specific metric. So we try to balance both. For example, working on integrating behavioral health and primary care was a huge lift, and it isn't going to necessarily impact all of the behavioral health measures in a meaningful way... But I'd say that was a kind of a challenge; a lot of the resources had to be taken in the first few years building the prescribed programs, and then quickly we had to try to catch up to build other things that were more specific to the measures. – 2019 PPS key informant

I think the programs that we ended up spending a lot of time building in the early years, I don't think drive a lot of these specific measures. And then these measures, there's so many of them. I guess it would be the other thing; there's 56 measures that you can focus on. We have some new programs coming out now that we think will overall help our population. But by the time they exist they're not going to get measured; effectively they're MY6 MY7 if they ever exist. And so I think I think that would be for future would be to focus on just a lot fewer measures, very important measures, find the most five most important measures and focus on those. – 2019 PPS key informant

4.3. Assessment of Changes in Health Care Quality

Section Overview

This section addresses RQ-C:

Did health care quality improve as a result of clinical improvements in the treatment of selected diseases and conditions? (CMS RQ2)

Its associated hypothesis are below:

- **H4:** Health care quality will increase in the following areas:
 - **H4a:** Behavioral health¹²⁶
 - **H4b:** Cardiovascular health
 - **H4c:** Diabetes care
 - **H4d:** Asthma
 - **H4e:** HIV/AIDS
 - **H4f:** Perinatal care
 - **H4g:** Palliative care
 - **H4h:** Renal care

¹²⁶ Findings for behavioral health are presented in Section 4.2.

Summary-At-A-Glance

The *final* Summative Report examined changes in healthcare quality in diverse clinical areas corresponding to Domain 3 projects: behavioral health, cardiovascular health, diabetes care, asthma, HIV/AIDS, perinatal care, and palliative care. Section 4.2 reports findings on behavioral health.

Summary of Performance Measures

For the three sets of measures that were cross-cutting across multiple disease areas, outcomes improved or else remained high throughout the DSRIP program period among the 20 PPSs selecting associated projects:

- The percentage of patients who were advised to quit smoking and/or tobacco improved slightly from 85.8% in MY1 to 87.2% in MY5.
- There was a notable increase in the percentage of adults who received a flu shot, from 35.0% in MY1 to 47.8% in MY5.
- Health literacy did not increase notably, but these levels were already high at the start of the DSRIP program; for example, 94.5% of patients reported that their providers' instructions were easy to understand in MY1.

For the disease-specific measures, there were improvements in the diabetes and asthma measures across the study period among the 10 PPSs that selected the diabetes projects and the 13 PPSs that selected the asthma projects:

- The percentage of diabetic adults whose Hemoglobin A1c value was >9.0%, a marker of poor diabetes control, decreased from 47.5% in MY2 to 32.1% in MY5.
- The asthma medication ratio improved from 60.5% in MY0 to 69.6% in MY5.
- Asthma medication management, defined as filling medications for at least 75% of days covered, improved from 32.1% in MY0 to 36.8% in MY5.

There were mixed findings on the HIV/AIDS and perinatal measures:

- For the one PPS that selected the comprehensive HIV/AIDS care project, engagement in HIV care and chlamydia screening declined (worsened) from MY0 to MY5. However, the other two measures (viral load monitoring and syphilis screening) initially declined from MY0 through MY2, but thereafter increased with their MY5 values higher than their MY0 starting levels (improvement).¹²⁷
- For the four PPSs that selected the perinatal project, there were mixed findings for the percentage of early elective deliveries, and the percentage of infants having five or more well care visits within the first 15 months. However, all four PPSs experienced an increase in the proportion of children aged 2 whose blood lead levels were screened.

¹²⁷ The MY3 through MY5 improvement in viral load monitoring and syphilis screening generally coincided with the transition of Domain 3 measures to Pay for Performance, which started in DY3.

PPS Partner Survey Feedback on Health Care Quality

In the 2019 partner survey, about four-fifths of respondents reported that the services or clinical care at their organization had changed for the better since the DSRIP program was initiated, and about one-third observed improved clinical outcomes as a benefit of the DSRIP program. When rating specific clinical projects, most partners perceived that the projects made a positive change in patient care (cardiovascular projects: 84.6%, diabetes projects: 87.1%, asthma projects: 74.8%, perinatal projects: 76.9%, palliative care projects: 82.5%).

Limitations and Caveats

There are several important caveats for interpreting these findings:

- Due to the ICD-9 to ICD-10 coding change during the program's implementation, Prevention Quality Indicators (PQIs) and Pediatric Quality Indicators (PDIs) could not be trended for analysis. In the absence of these measures, the *final* Summative Report focused on process indicators that are important components of high quality clinical care but not direct health outcomes.
- The clinical quality measures that came from sources other than claims and encounter data are annual, and the low number of available data points for analysis make it difficult to isolate the causal impact of the DSRIP program.
- There were no additional disease-specific measures available for the cardiovascular and palliative care projects.
- Caution is warranted in making comparisons in partners' perceptions about specific projects because different partners worked on various projects, and the cohorts responding to each project were not the same.

4.3.1. Domain 3 Context and PPS Project Activities

The Domain 3 projects focused on clinical improvements. Projects were categorized into eight health conditions: behavioral health, cardiovascular health, diabetes care, asthma, HIV/AIDS, perinatal care, palliative care, and renal care.¹²⁸ Each PPS selected between two and four projects in Domain 3, of which at least one was behavioral health (projects 3.a.i through 3.a.iv).

Exhibit 4.3.1.i links each Domain 3 clinical improvement project to the CMS hypotheses, and for each project, the PPSs selecting each project. By design, all PPSs selected at least one of the "3a" projects (behavioral health), with all 25 PPSs selecting 3.a.i. The second most common "3a" project was 3.a.ii, selected by 10 PPSs.

After behavioral health, the most common disease areas selected were:

- Cardiovascular health, with 15 PPSs selecting project 3.b.i

¹²⁸ The PPSs chose projects in seven of the eight clinical categories in Domain 3. No PPSs selected the renal care project (project 3.h.i, Chronic Renal Failure Specialized Medical Home).

- Asthma, with 13 PPSs selecting projects 3.d.ii or 3.d.iii
- Palliative care, with 11 PPSs selecting projects 3.g.i or 3.g.ii
- Diabetes care, with 10 PPSs selecting projects 3.c.i and/or 3.c.ii (note: NCI selected both projects)

Only four PPSs selected the perinatal care project (3.f.i), and only one PPS selected the HIV/AIDS project (3.f.i). No PPSs selected the renal care project (3.h.i).

Exhibit 4.3.1.i. Summary table of Domain 3 projects and their selection by PPSs

Hypothesis	Projects	Name and Number of PPSs Selecting Projects
H4a: Behavioral health	3.a.i Integration of Primary Care and Behavioral Health Services	All PPSs (n=25)
	3.a.ii Behavioral Health Community Crisis Stabilization Services	AHI, BHNNY, CCN, CNYCC, FLPPS, MCC, MVHC, NQP, NYP, RCHC, WMC (n=11)
	3.a.iii Medication Adherence Programs in Community-Based Sites for Behavioral Health Medication Compliance	MSPPS, RCHC (n=2)
	3.a.iv Development of Withdrawal Management and Enhanced Abstinence Services in Community-Based Addiction Treatment Programs	AFBH, AHI, LCHP, SIPPS (n=4)
	3.a.v Behavioral Interventions Paradigm (BIP) in Nursing Homes	FLPPS (n=1)
H4b: Cardiovascular health	3.b.i Cardiovascular Disease Clinical Management	BHNNY, BPHC, CCB, CCN, CNYCC, CPWNY, MCC, MSPPS, MVHC, OCH, NCI, NQP, NYPQ, SCC, SOMOS (n=15)
	3.b.ii Cardiovascular Disease Self-Management and Community Prevention	None
H4c: Diabetes care	3.c.i Diabetes Disease Clinical Management	BHA, BPHC, MSPPS, NCI, NQP, NYUL, SCC, SIPPS, SOMOS, WMC (N=10)
	3.c.ii Diabetes Disease Self-Management and Community Prevention	NCI (N=1)
H4d: Asthma	3.d.i Asthma Medication Adherence Program Development	None
	3.d.ii Asthma Home-Based Self-Management Program Expansion	AFBH, BHA, BPHC, CCB, OCH, NYPQ, NYUL, SCC (n=8)

Hypothesis	Projects	Name and Number of PPSs Selecting Projects
	3.d.iii Evidence-Based Asthma Management	BHNNY, LCHP, MVHC, SOMOS, WMC (n=5)
H4e: HIV/AIDS	3.e.i HIV Prevention	NYP (n=1)
H4f: Perinatal care	3.f.i Maternal and Child Health Support Programs	BHA, CPWNY, FLPPS, MCC (n=4)
H4g: Palliative care	3.g.i Integration of Palliative Care into the PCMH Model	AFBH, AHI, CCB, CCN, CNYCC, CPWNY, LCHP, OCH, NYP (n=9)
	3.g.ii Integration of Palliative Care into Nursing Homes	NYPQ, SIPPS (n=2)
H4h: Renal care	3.h.i Chronic Renal Failure Specialized Medical Home	None

Notes: See New York State DSRIP Terminology guide at the beginning of the report for list of PPS names and acronyms.

Exhibit 4.3.1.ii lists performance measures for each project by disease area. For each measure, the exhibit lists associated projects and comments about the data. For the **final** Summative Report, all results are restricted to the PPSs with an associated project. For example, the asthma outcomes are only reported for the 13 PPSs that selected an asthma project.

The Prevention Quality Indicators (PQIs) and Pediatric Quality Indicators (PDIs) are commonly-used quality metrics. However, they could not be used to evaluate the DSRIP program’s impact on health care quality as initially proposed in the CMS-approved evaluation plan due to the transition from the ICD-9 to ICD-10 disease classification system in billing codes in October 2015. That date occurred during the second year of the DSRIP program (MY2 Month 4) and CMS concurred with the NYS DOH that these measures cannot be trended for the purposes of the DSRIP program (see Appendix 4). In the absence of trendable PQI and PDI measures, the **final** Summative Report focuses primarily on process indicators that are important components of high quality clinical care but not direct health outcomes.

Behavioral Health

As described in Section 4.2 there are four monthly claims-based measures of behavioral health: (1) *Follow-up Care for Children Prescribed ADHD Meds (Initiation Phase)*, (2) *Antidepressant Med Management (Effective Acute Phase Treatment)*, (3) *Antipsychotic Medication Adherence Among Persons with Schizophrenia*, and (4) *Initiation in Alcohol and Other Drug Dependence Treatment*. These are available for and applicable to all 25 PPSs, and they are reported in Section 4.2.

Cross-Cutting Measures

Seven measures are used for multiple projects, and classified as “cross-cutting” because they span different disease areas. Three measures address tobacco use: *Smoking/Tobacco Cessation: Advised to Quit*, *Smoking/Tobacco Cessation: Discussed Cessation Medication*, and *Smoking/Tobacco Cessation: Discussed Cessation Strategies*. These are related to the cardiovascular, diabetes, HIV/AIDS, and renal care projects.¹²⁹ One measure, corresponding to cardiovascular, diabetes, and renal care projects, is related to preventive care: *% of Adults with Flu Shot (Ages 18-64 Years)*. A third group of measures focuses on health literacy: *% Reporting Provider Explanations Easy to Understand (CAHPS Q11)*, *% Reporting Instructions for Condition Care Easy to Understand (CAHPS QHL13)*, and *% Reporting Provider Explained What to Do if Illness Worsened (CAHPS QHL16)*. These are related to the cardiovascular and diabetes projects.

Disease-Specific Measures

Additional measures are focused on specific disease areas:

- **Cardiovascular:** No additional measures available to trend
- **Diabetes:** *Poor Diabetes Control: HbA1c >9.0%*
- **Asthma:** *Asthma Medication Ratio (Ages 5-64 Years)* and *Asthma Medication Mgmt (75% Treatment Days Covered, Ages 5-64 Years)*
- **HIV/AIDS:** *HIV/AIDS Comprehensive Care (Engaged in Care)*, *HIV/AIDS Comprehensive Care (Viral Load Monitoring)*, and *HIV/AIDS Comprehensive Care (Syphilis Screening)*
- **Perinatal:** *% Early Elective Deliveries (Inductions & C-Sections Prior to Labor)*, *5+ Well Care Visits in First 15 Months (Ages 0-15 Months)*, and *% of Children Aged 2 with Blood Lead Levels Screened*
- **Palliative Care:** No additional measures available for trending. All measures were either replaced or else available for MY3-MY4 only.

Renal-specific measures are not listed in Exhibit 4.3.1.ii because no PPSs selected that project.

¹²⁹ Note: No PPSs selected the renal project from the project selection list.

Exhibit 4.3.1.ii. Health care quality measures used to evaluate hypotheses

Disease Area	Measure Name	Associated Projects	Comments
Behavioral health	<i>Follow-up Care for Children Prescribed ADHD Meds (Initiation Phase)</i>	3.a.i – 3.a.iv	<ul style="list-style-type: none"> • Monthly • Available for all PPSs • Overlaps RQ-B; see Section 4.2 for results
	<i>Antidepressant Med Management (Effective Acute Phase Treatment)</i>	3.a.i – 3.a.iv	<ul style="list-style-type: none"> • Monthly • Available for all PPSs • Overlaps RQ-B; see Section 4.2 for results
	<i>Antipsychotic Medication Adherence Among Persons with Schizophrenia</i>	3.a.i – 3.a.iv	<ul style="list-style-type: none"> • Monthly • Available for all PPSs • Overlaps RQ-B; see Section 4.2 for results
	<i>Initiation in Alcohol and other Drug Dependence Treatment</i>	3.a.i – 3.a.iv	<ul style="list-style-type: none"> • Monthly • Available for all PPSs • Overlaps RQ-B; see Section 4.2 for results
Cross-cutting across disease areas	<i>Smoking/Tobacco Cessation: Advised to Quit</i>	3.b.i – 3.b.ii	• Annual
		3.c.i – 3.c.ii	• Available for 20 PPSs, as it is associated with multiple projects
		3.e.i	• No PPSs selected project 3.h.i
		3.h.i	
	<i>Smoking/Tobacco Cessation: Discussed Cessation Medication</i>	3.b.i – 3.b.ii	• Annual
		3.c.i – 3.c.ii	• Available for 20 PPSs, as it is associated with multiple projects
		3.e.i	• No PPSs selected project 3.h.i
		3.h.i	
	<i>Smoking/Tobacco Cessation: Discussed Cessation Strategies</i>	3.b.i – 3.b.ii	• Annual
		3.c.i – 3.c.ii	• Available for 20 PPSs, as it is associated with multiple projects
		3.e.i	• No PPSs selected project 3.h.i
		3.h.i	
	<i>% of Adults with Flu Shot (Ages 18-64 Years)</i>	3.b.i – 3.b.ii	• Annual
		3.c.i – 3.c.ii	• Available for 19 PPSs, as it is associated with multiple projects
		3.h.i	

Disease Area	Measure Name	Associated Projects	Comments
			<ul style="list-style-type: none"> No PPSs selected project 3.h.i
	<i>% Reporting Provider Explanations Easy to Understand (CAHPS Q11)</i>	3.b.i – 3.b.ii 3.c.i – 3.c.ii	<ul style="list-style-type: none"> Annual Available for 19 PPSs, as it is associated with multiple projects
	<i>% Reporting Instructions for Condition Care Easy to Understand (CAHPS QHL13)</i>	3.b.i – 3.b.ii 3.c.i – 3.c.ii	<ul style="list-style-type: none"> Annual Available for 19 PPSs, as it is associated with multiple projects
	<i>% Reporting Provider Explained What to Do if Illness Worsened (CAHPS QHL16)</i>	3.b.i – 3.b.ii 3.c.i – 3.c.ii	<ul style="list-style-type: none"> Annual Available for 19 PPSs, as it is associated with multiple projects
Cardio-vascular	<i>No other measures available*</i>	3.b.i – 3.b.ii	<ul style="list-style-type: none"> Not applicable
Diabetes	<i>Poor Diabetes Control: HbA1c >9.0%</i>	3.c.i – 3.c.ii 3.h.i	<ul style="list-style-type: none"> Annual Limited data points (MY2-MY4) Available for 10 PPSs No PPSs selected project 3.h.i
Asthma	<i>Asthma Medication Ratio (Ages 5-64 Years)</i>	3.d.i – 3.d.iii	<ul style="list-style-type: none"> Monthly Available for 13 PPSs
	<i>Asthma Medication Mgmt (75% Treatment Days Covered, Ages 5-64 Years)</i>	3.d.i – 3.d.iii	<ul style="list-style-type: none"> Monthly Available for 13 PPSs
HIV/AIDS	<i>HIV/AIDS Comprehensive Care (Engaged in Care)</i>	3.e.i	<ul style="list-style-type: none"> Monthly Available for 1 PPS
	<i>HIV/AIDS Comprehensive Care (Viral Load Monitoring)</i>	3.e.i	<ul style="list-style-type: none"> Monthly Available for 1 PPS
	<i>HIV/AIDS Comprehensive Care (Syphilis Screening)</i>	3.e.i	<ul style="list-style-type: none"> Monthly Available for 1 PPS
Perinatal	<i>% Early Elective Deliveries (Inductions & C-Sections Prior to Labor)</i>	3.f.i	<ul style="list-style-type: none"> Annual Available for 4 PPSs
	<i>5+ Well Care Visits in First 15 Months (Ages 0-15 Months)</i>	3.f.i	<ul style="list-style-type: none"> Monthly Available for 4 PPSs
	<i>% of Children Aged 2 with Blood Lead Levels Screened</i>	3.f.i	<ul style="list-style-type: none"> Annual Available for 4 PPSs

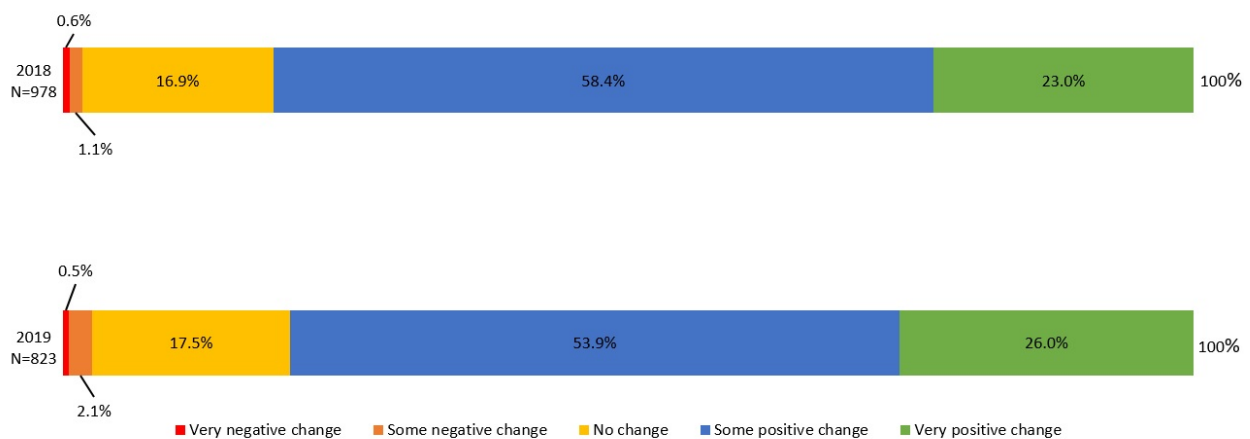
Disease Area	Measure Name	Associated Projects	Comments
Palliative care	No measures available for trending. All measures were either replaced or else available for MY3-MY5 only.	3.g.i – 3.g.ii	• Not applicable
Renal care	Not applicable, as no PPS selected this project	3.h.i	• No PPSs selected project 3.h.i.

* There was a measure of cardiovascular monitoring for people with cardiovascular disease and schizophrenia. However, that was not included here because it was a performance measure for projects 3.a.i – 3.a.iv. Notes: For the *final* Summative Report, the monthly measures are presented annually, using the last observation of each MY. The last month of each MY is in June, so the MY0 value corresponds to June 2014, the MY1 value corresponds to June 2015, etc. This is done for ease of interpretation. The annual measures correspond to the MY overall, but are not attached to a specific month.

4.3.2. Overall Perceptions of Changes in Clinical Care Quality

In the 2018 and 2019 partner surveys, about 80% of respondents reported that the services or clinical care at their organization had changed for the better since the DSRIP program was initiated (see Exhibit 4.3.2.i).

Exhibit 4.3.2.i. How have the services or clinical care changed at your organization?



Source: Authors' analysis of the 2018 and 2019 statewide partner surveys.

Note: Direct comparison to the 2017 statewide partner survey is not possible for this survey item due to some wording changes to improve clarity.

Approximately one-third of respondents to the 2019 partner survey (32.0%) observed improved clinical outcomes as a benefit of the DSRIP program.

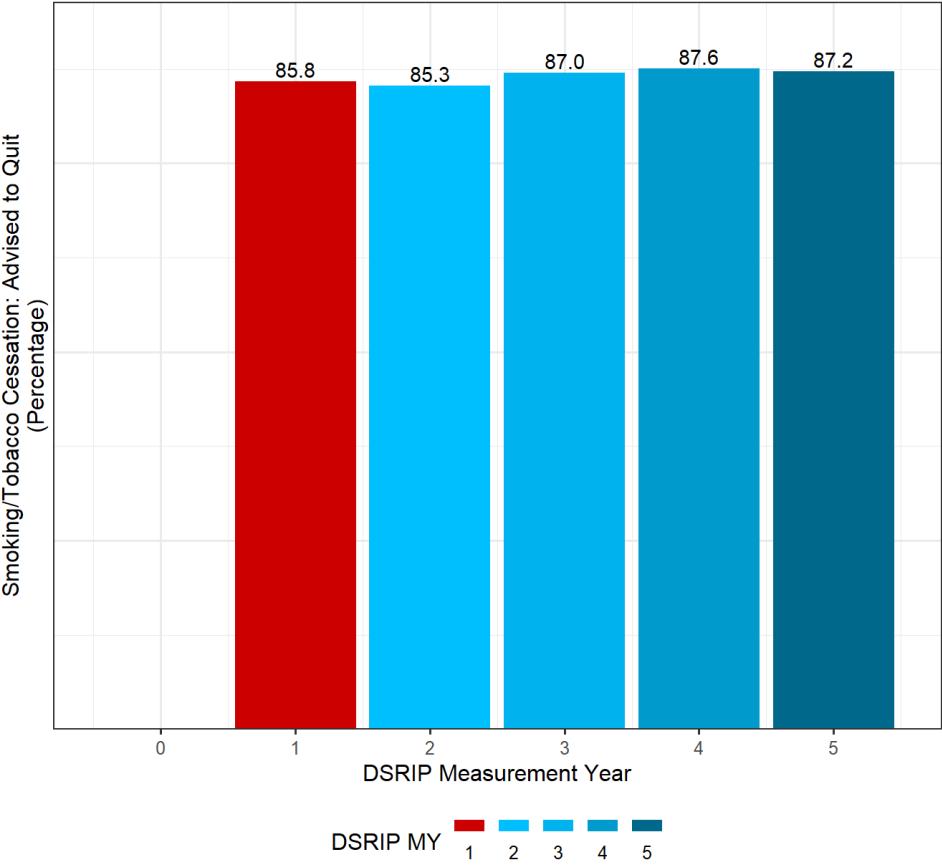
4.3.3. Cross-Cutting Health Care Quality Measures

4.3.3.1. Smoking and Tobacco Cessation

Exhibits 4.3.3.1.i, 4.3.3.1.ii, and 4.3.3.1.iii show annual changes in conversations with providers about smoking and tobacco cessation at the statewide level. These HEDIS measures come from the CAHPS survey. Red bars correspond to the pre-DSRIP program initiation period (MY1) and blue bars correspond to the post-DSRIP program initiation period (MY2 through MY5). Higher values reflect an improvement. Data are limited to the 20 PPSs that selected projects 3.b.i – 3.b.ii, 3.c.i – 3.c.ii, and/or 3.e.i.

Overall, these measures had improvements during the five-year period although the magnitude of the changes was very modest and without additional pre-DSRIP program initiation data it is not possible to determine the impact of the DSRIP program. The largest improvement was in the percentage of patients reporting they discussed cessation strategies with their provider (see Exhibit 4.3.3.1.iii), which increased from 59.2% in MY1 to 61.5% in MY5. From MY1 to MY5, the percent of patients who were advised to quit and discussed cessation strategies with their providers (see Exhibits 4.3.3.1.i and 4.3.3.1.ii) increased from 85.8% to 87.2% and 68.9% to 70.2%, respectively.

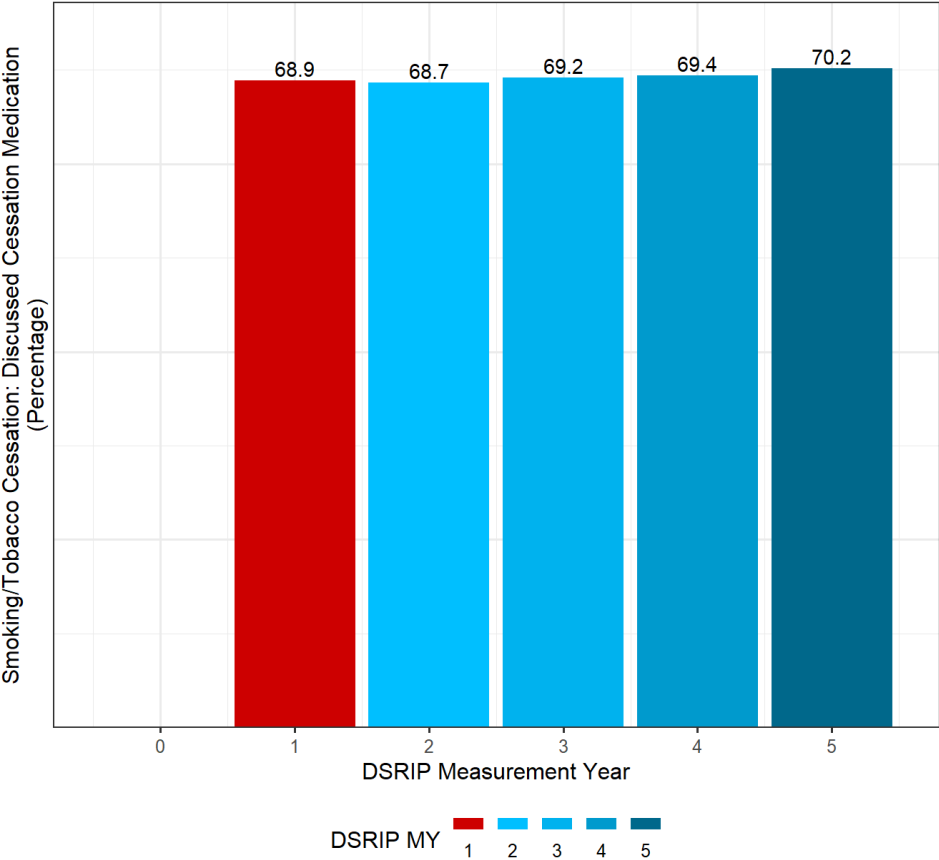
Exhibit 4.3.3.1.i. Statewide annual changes in conversations with providers about smoking and tobacco cessation (advised to quit), from MY1 to MY5



Source: Authors’ analysis of the DSRIP Dataset.

Notes: Data are restricted to the 20 PPSs that selected associated projects 3.b.i – 3.b.ii, 3.c.i – 3.c.ii, and/or 3.e.i.

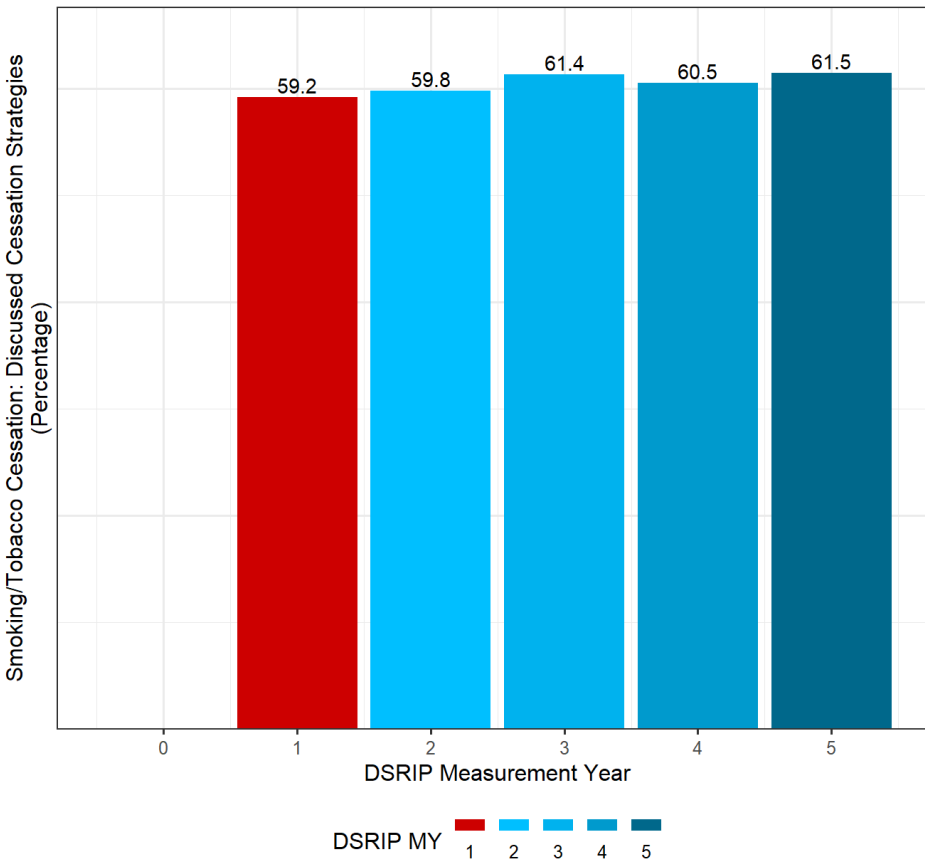
Exhibit 4.3.3.1.ii. Statewide annual changes in conversations with providers about smoking and tobacco cessation (discussed cessation medication), from MY1 to MY5



Source: Authors’ analysis of the DSRIP Dataset.

Notes: Data are restricted to the 20 PPSs that selected associated projects 3.b.i – 3.b.ii, 3.c.i – 3.c.ii, and/or 3.e.i.

Exhibit 4.3.3.1.iii. Statewide annual changes in conversations with providers about smoking and tobacco cessation (discussed cessation strategies), from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

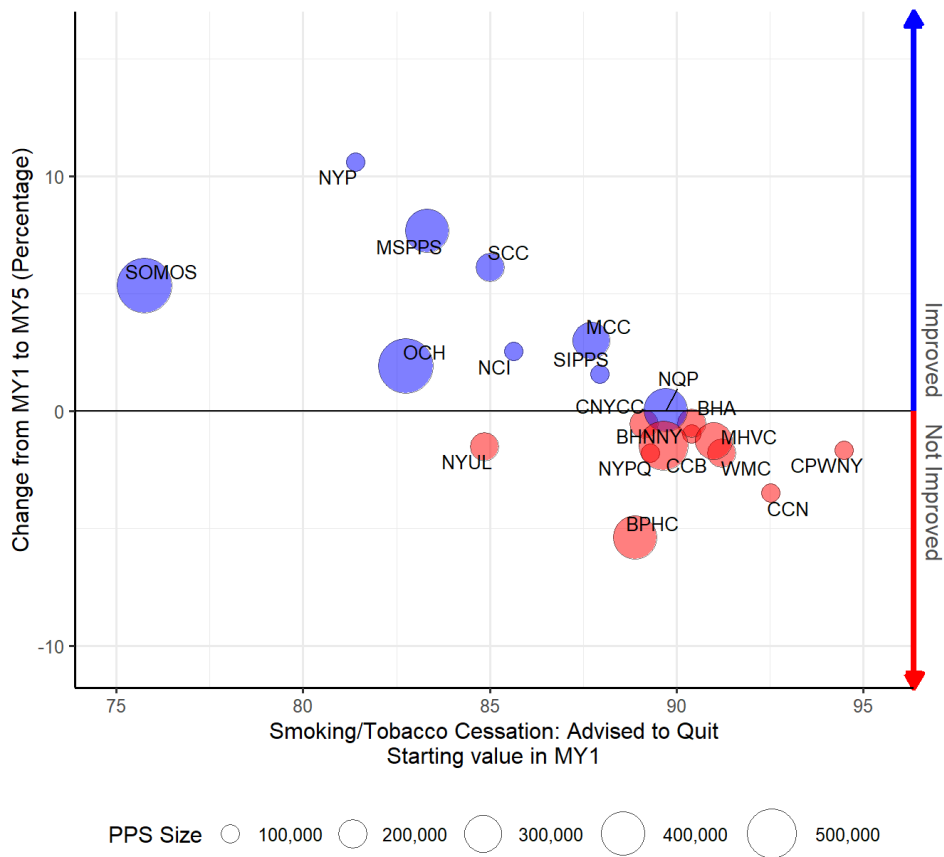
Notes: Data are restricted to the 20 PPSs that selected associated projects 3.b.i – 3.b.ii, 3.c.i – 3.c.ii, and/or 3.e.i.

The bubble charts in Exhibits 4.3.3.1.iv, 4.3.3.1.v, and 4.3.3.1.vi show, for each measure, the overall change throughout the entire period (from MY1 to MY5) for each PPS. The X-axis is the measure value in the first available time period (MY1) and the Y-axis is the change in the measure value at the last available value (MY5). A value below the horizontal line (zero value) means that the measure value declined during the period, while a value above the horizontal line means that the measure value increased. Improvements are displayed in blue, and trends that worsened are in red. For each measure, an increase denotes an improvement and thus values above the zero horizontal line are in blue. The size of the bubble corresponds to the number of members in each PPS, with larger bubbles for PPSs with more members.

Overall, most PPSs had improvements in the period, with the largest increases among PPSs that had the lowest levels at the starting period and thus more room for improvement (top left corner). In general, PPSs were not consistently higher or lower across the measures; for example, SOMOS and OneCity Health (OCH) had improvements in members being advised to

quit but had declines in discussing cessation strategies. Although most PPSs had improvements in the measure of discussing cessation strategies, the statewide average was pulled down because the two largest PPSs (SOMOS and OCH) had declines.

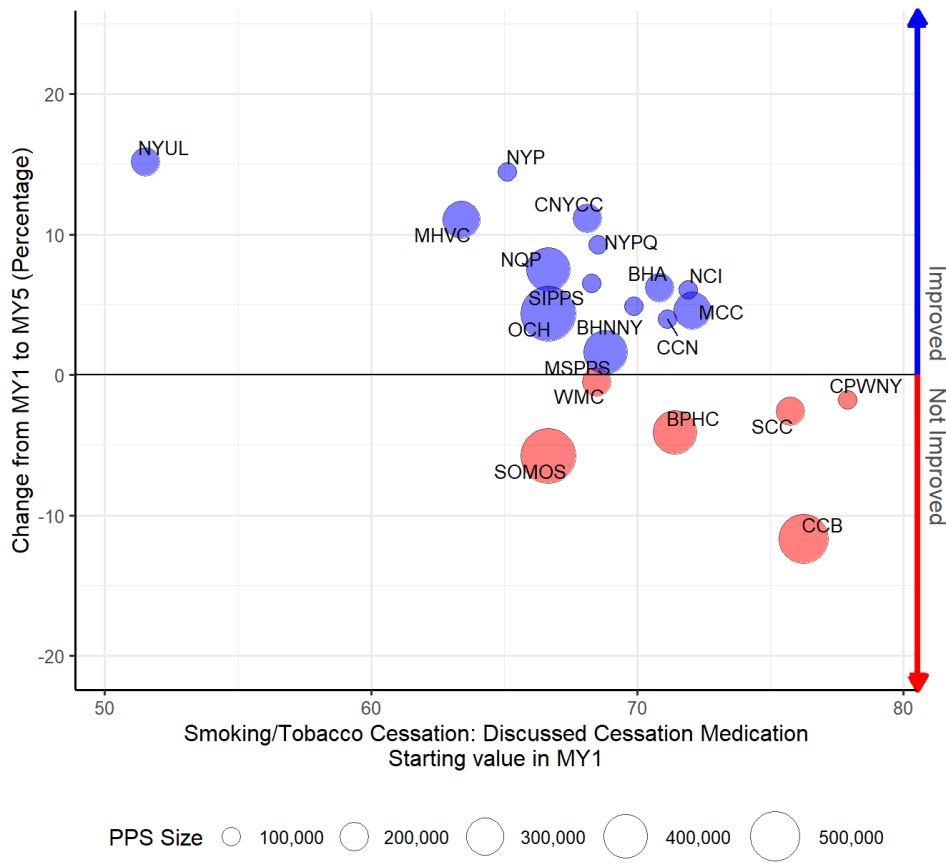
Exhibit 4.3.3.1.iv. Bubble charts of the changes in conversations with providers about smoking and tobacco cessation (advised to quit), by PPS from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 20 PPSs that selected associated projects 3.b.i – 3.b.ii, 3.c.i – 3.c.ii, and/or 3.e.i.

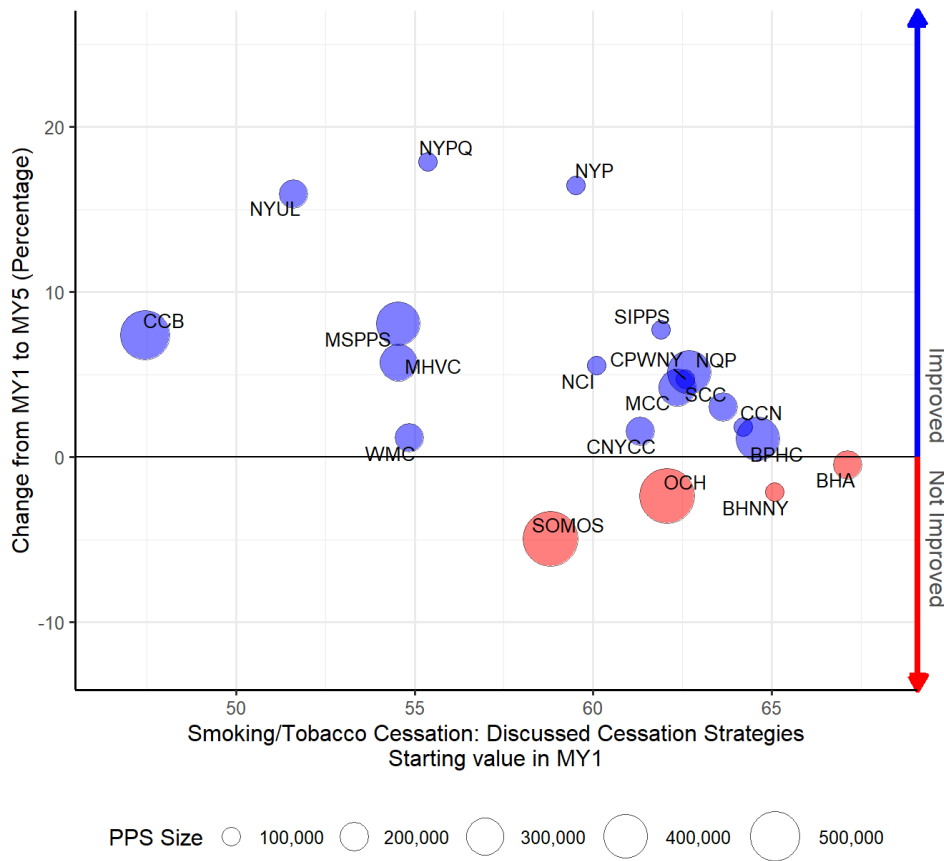
Exhibit 4.3.3.1.v. Bubble charts of the changes in conversations with providers about smoking and tobacco cessation (discussed cessation medication), by PPS from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 20 PPSs that selected associated projects 3.b.i – 3.b.ii, 3.c.i – 3.c.ii, and/or 3.e.i.

Exhibit 4.3.3.1.vi. Bubble charts of the changes in conversations with providers about smoking and tobacco cessation (discussed cessation strategies), by PPS from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 20 PPSs that selected associated projects 3.b.i – 3.b.ii, 3.c.i – 3.c.ii, and/or 3.e.i.

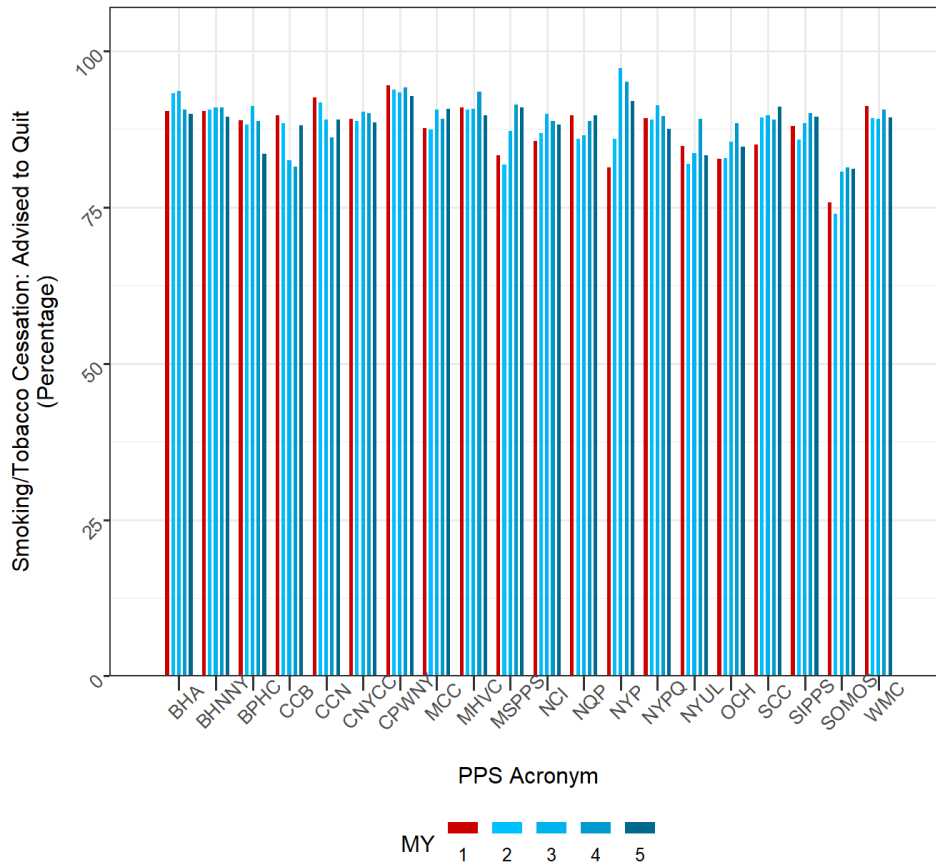
Exhibit 4.3.3.1.vii, 4.3.3.1.viii, and 4.3.3.1.ix display the three smoking cessation provider conversations outcomes from MY1 to MY5, by PPS. Each PPS has one bar per MY. Similar to the statewide bar chart, pre-DSRIP program initiation time periods are in red and post-DSRIP program initiation time periods are in blue. Exhibit 4.3.3.1.x displays variability in the values across PPSs and time. For each measure, the median, minimum, and maximum values are reported by MY.

For each measure, there was wide variability in PPSs' starting values in MY1: from 75.8% to 94.5% for being advised to quit, from 51.5% to 77.9% for discussing cessation medications, and from 47.5% to 67.1% for discussing cessation strategies.

There was also a range in PPSs' ending values in MY5: from 81.1% to 92.8% for being advised to quit, from 60.9% to 79.6% for discussing cessation medications, and from 53.9% to 76.0% for discussing cessation strategies. Consistent with the bubble charts (see Exhibits 4.3.3.1.iv

through 4.3.3.1.vi), while most PPSs had patterns of improvements in these measures, a few PPSs had declines. Individual PPSs were not consistently higher or lower on all measures compared to the statewide average.

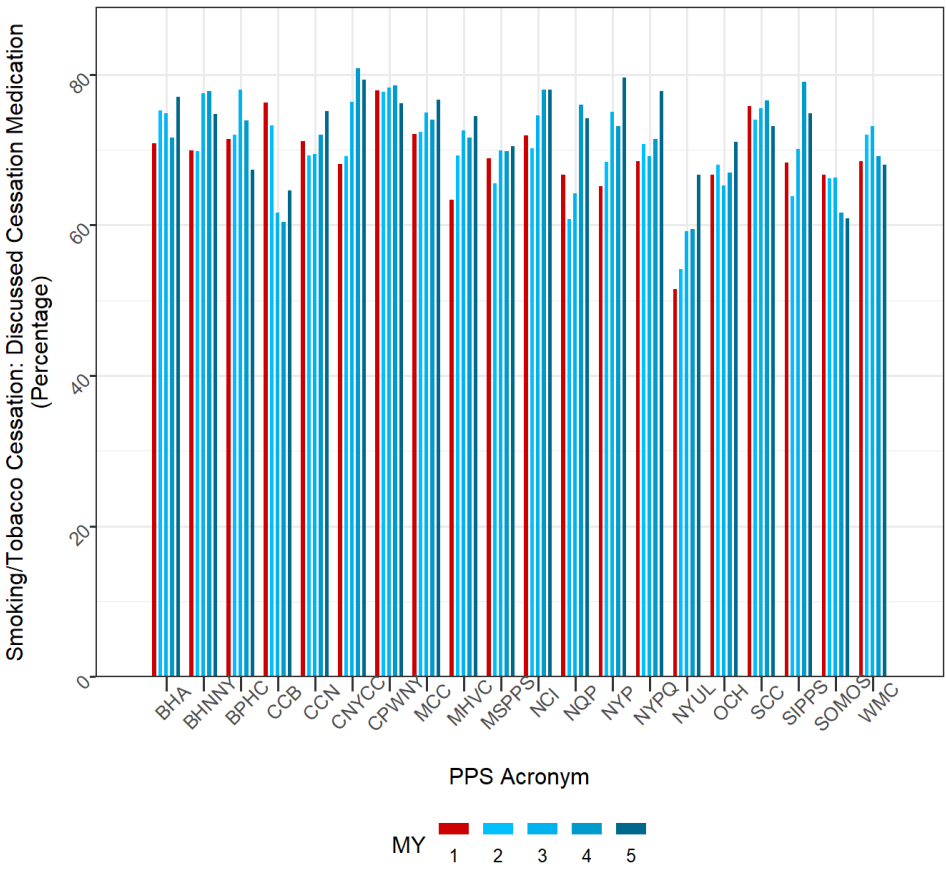
Exhibit 4.3.3.1.vii. Annual changes in conversations with providers about smoking and tobacco cessation (advised to quit) from MY1 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 20 PPSs that selected associated projects 3.b.i – 3.b.ii, 3.c.i – 3.c.ii, and/or 3.e.i.

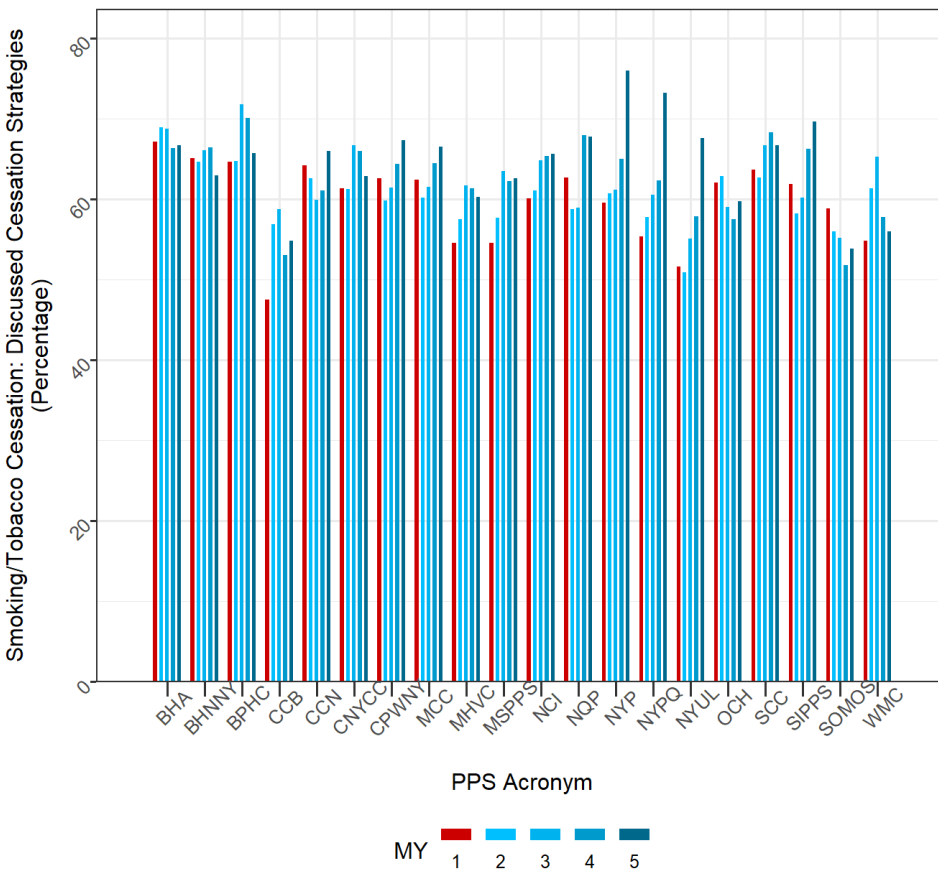
Exhibit 4.3.3.1.viii. Annual changes in conversations with providers about smoking and tobacco cessation (discussed cessation medication) from MY1 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 20 PPSs that selected associated projects 3.b.i – 3.b.ii, 3.c.i – 3.c.ii, and/or 3.e.i.

Exhibit 4.3.3.1.ix. Annual changes in conversations with providers about smoking and tobacco cessation (discussed cessation strategies) from MY1 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 20 PPSs that selected associated projects 3.b.i – 3.b.ii, 3.c.i – 3.c.ii, and/or 3.e.i.

Exhibit 4.3.3.1.x. Variability in conversations with providers about smoking and tobacco cessation across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
% patients who were advised to quit	MY1	89.0	75.8	94.5
	MY2	88.3	74.0	93.8
	MY3	89.9	80.7	97.3
	MY4	89.4	81.4	95.1
	MY5	89.4	81.1	92.8
% patients who discussed cessation medication	MY1	68.7	51.5	77.9
	MY2	69.5	54.1	77.7
	MY3	72.8	59.2	78.2
	MY4	72.6	59.5	80.8
	MY5	74.6	60.9	79.6

Measure	Measurement Year	Median	Minimum	Maximum
% patients who discussed cessation strategies	MY1	61.6	47.5	67.1
	MY2	60.4	50.9	68.9
	MY3	61.4	55.1	71.7
	MY4	64.4	51.8	70.1
	MY5	65.9	53.9	76.0

Source: Authors' analysis of the DSRIP Dataset.

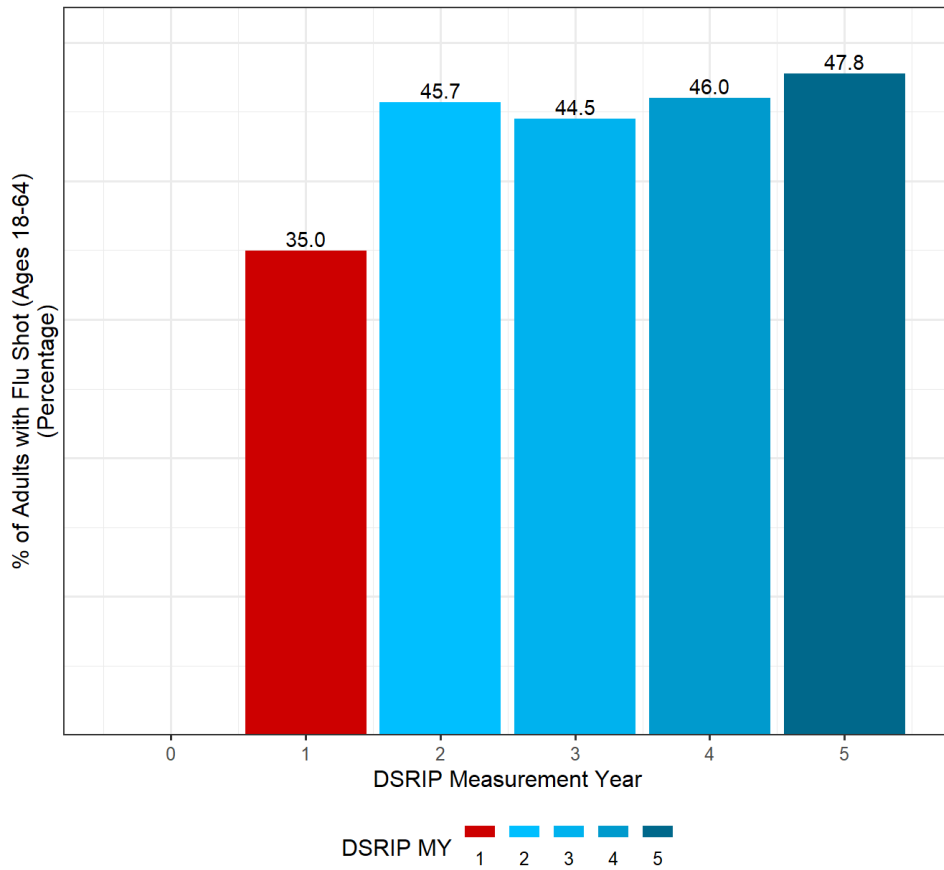
Notes: The summary statistics are based on all observations within the MY; for example, the statistics for MY1 are based on all PPS-month observations from MY0 Month 1 through MY0 Month 12.

4.3.3.2. Adult Flu Shots

Exhibit 4.3.3.2.i shows annual changes in the percentage of adults ages 18 to 64 who received a flu shot at the statewide level. This HEDIS measure comes from the CAHPS survey. Higher values reflect an improvement. Data are limited to the 19 PPSs that selected projects 3.b.i – 3.b.ii and/or 3.c.i – 3.c.ii.

Around the start of the DSRIP program's initiation, this measure had a large increase from MY1 (35.0%) to MY2 (45.7%). Thereafter, the level had a slight rise to a final level of 47.8% of surveyed patients in MY5. While this 10-percentage-point improvement between MY1 and MY2 was remarkable, without additional pre-DSRIP program initiation data, caution is warranted in attributing this change to the DSRIP program.

Exhibit 4.3.3.2.i. Statewide annual changes in the percentage of adults ages 18-64 who received a flu shot, from MY1 to MY5



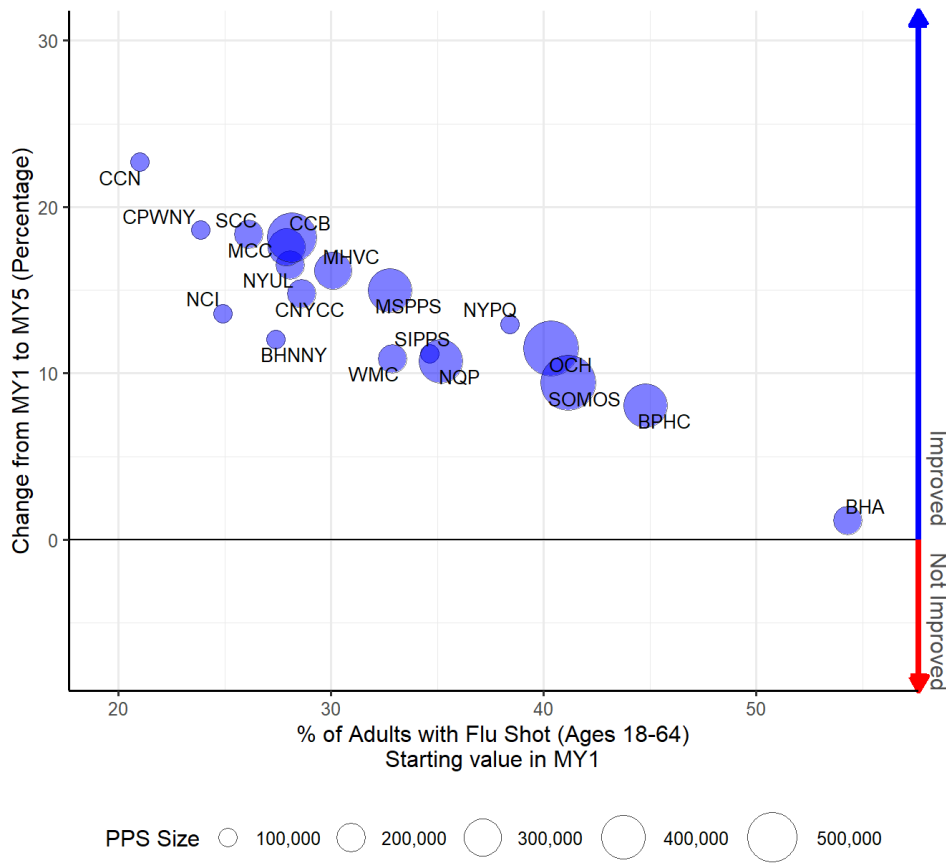
Source: Authors’ analysis of the DSRIP Dataset.

Notes: Data are restricted to the 19 PPSs that selected associated projects 3.b.i – 3.b.ii and/or 3.c.i – 3.c.ii.

The bubble chart and clustered bar chart in Exhibits 4.3.3.2.ii and 4.3.3.2.iii show the changes from MY1 to MY5 for each PPS. Exhibit 4.3.3.2.iv displays variability in the values across PPSs and time, with the median, minimum, and maximum values are reported by MY.

This measure varied considerably across PPSs in each time period, ranging from 21.0% to 54.3% of surveyed patients in MY1 and from 38.5% to 55.5% of surveyed patients in MY5. All PPSs improved during the period. Bronx Health Access (BHA) had a small improvement compared to other PPSs; however, it started at the highest level among all PPSs in MY1 and had less room for improvement.

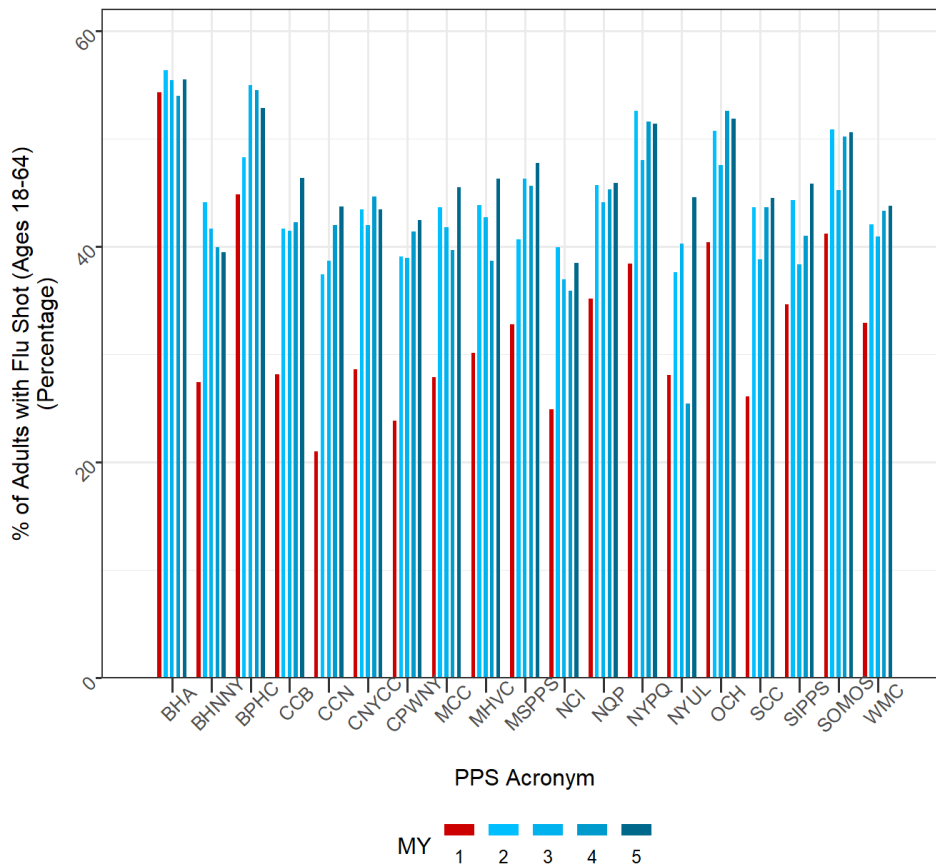
Exhibit 4.3.3.2.ii. Bubble chart of changes in the percentage of adults ages 18-64 who received a flu shot, from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 19 PPSs that selected associated projects 3.b.i – 3.b.ii and/or 3.c.i – 3.c.ii.

Exhibit 4.3.3.2.iii. PPS-level bar chart of changes in the percentage of adults ages 18-64 who received a flu shot, from MY1 to MY5



Source: Authors’ analysis of the DSRIP Dataset.
 Notes: Data are restricted to the 19 PPSs that selected associated projects 3.b.i – 3.b.ii and/or 3.c.i – 3.c.ii.

Exhibit 4.3.3.2.iv. Variability in the percentage of adults ages 18-64 who received a flu shot across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
% of adults ages 18-64 who received a flu shot	MY1	30.1	21.0	54.3
	MY2	43.7	37.4	56.4
	MY3	41.8	36.9	55.4
	MY4	43.3	25.4	54.5
	MY5	45.8	38.5	55.5

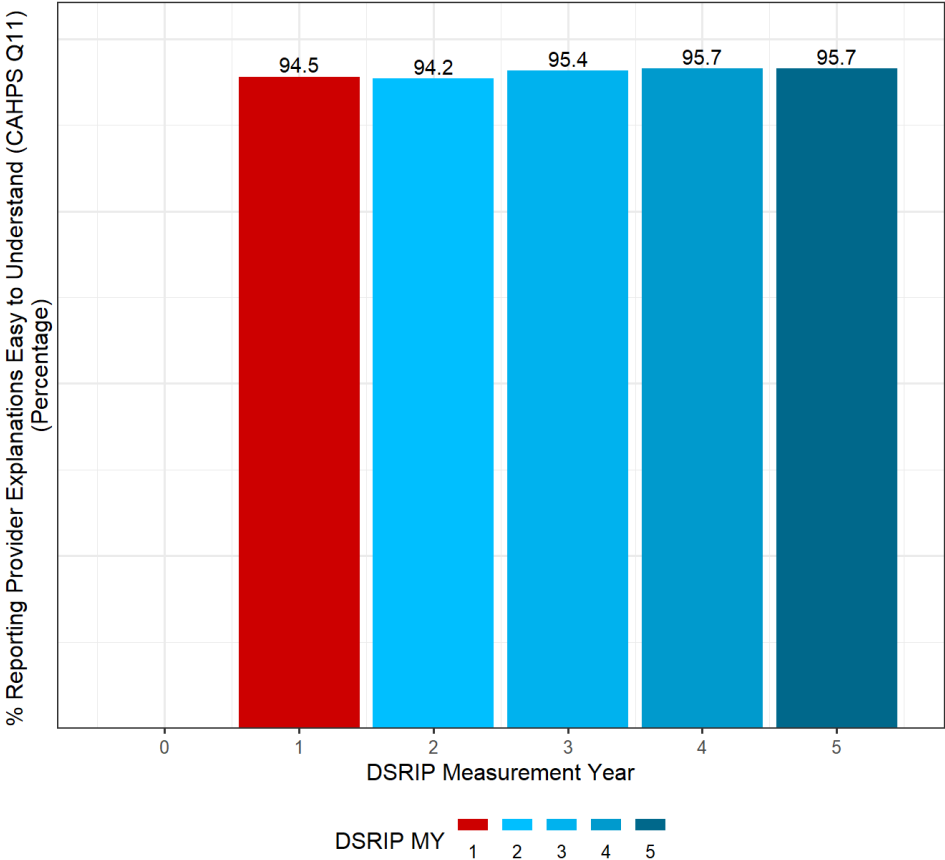
Source: Authors’ analysis of the DSRIP Dataset.

4.3.3.3. Health Literacy

Exhibits 4.3.3.3.i, 4.3.3.3.ii, and 4.3.3.3.iii show annual changes in three health literacy measures at the statewide level: percentage of patients reporting that the provider's instructions are easy to understand, percentage of patients reporting that instructions for caring for their condition are easy to understand, and the percentage of patients reporting that the provider explained what to do if the illness worsened. These three survey-based measures are derived from the CAHPS, and higher values are desirable.

Improvements from MY1 to MY5 were modest: from 94.5% to 95.7% reporting that explanations were easy to understand, and from 80.0% to 81.0% reporting that instructions for their condition's care were easy to understand. The percent of surveyed patients reporting that the provider explained what to do if the illness worsened remained at a steady level throughout the period (starting at 86.3% in MY1). Surveyed patients were more likely to report that the provider explanations were easy to understand in general (first measure), compared to reporting the ease of understanding explanations for the specific condition or what to do if the illness worsened (second and third measures).

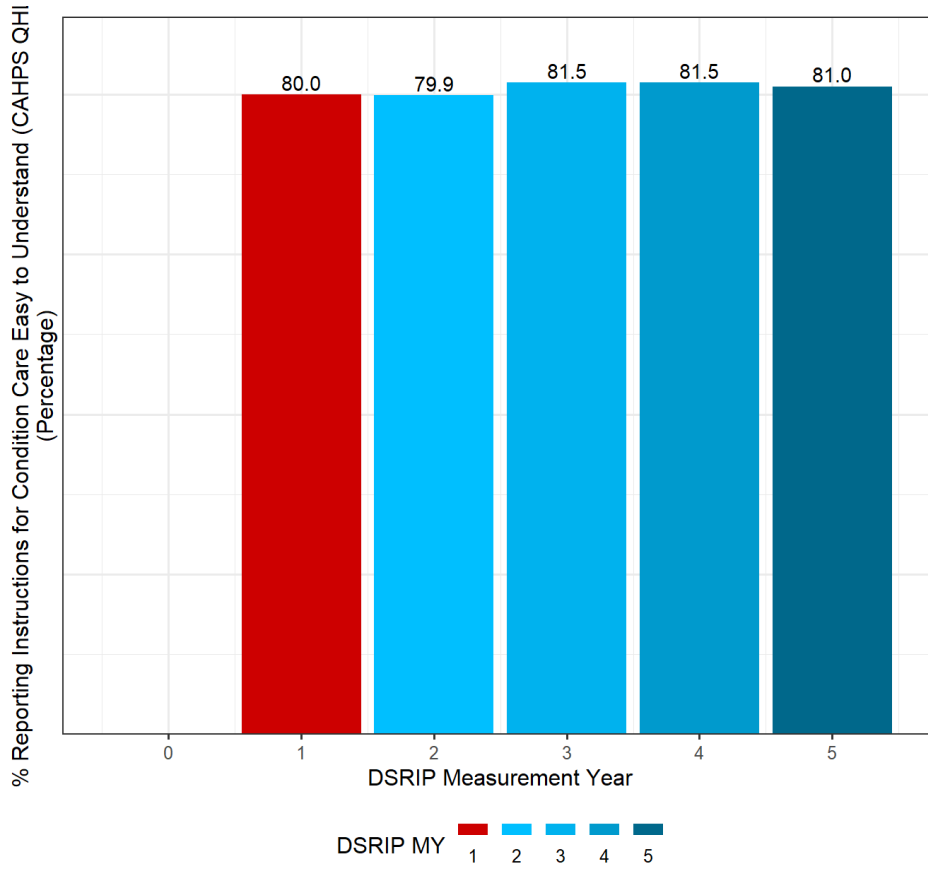
Exhibit 4.3.3.3.i. Statewide annual changes in health literacy (provider explanations clear and easy to understand), from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 19 PPSs that selected associated projects 3.b.i – 3.b.ii and/or 3.c.i – 3.c.ii.

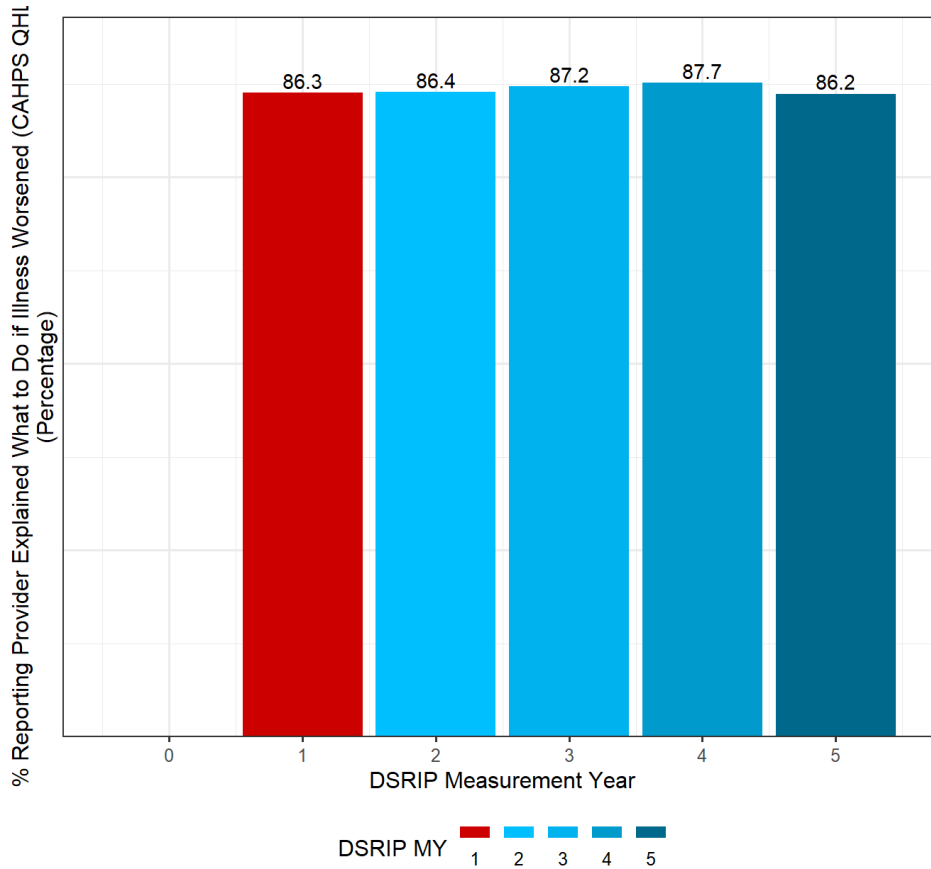
Exhibit 4.3.3.3.ii. Statewide annual changes in health literacy (instructions for condition care easy to understand), from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 19 PPSs that selected associated projects 3.b.i–3.b.ii and/or 3.c.i–3.c.ii.

Exhibit 4.3.3.3.iii. Statewide annual changes in health literacy (provider explained what to do if illness worsened), from MY1 to MY5



Source: Authors’ analysis of the DSRIP Dataset.

Notes: Data are restricted to the 19 PPSs that selected associated projects 3.b.i– 3.b.ii and/or 3.c.i– 3.c.ii.

The bubble charts in Exhibits 4.3.3.3.iv through 4.3.3.3.vi and the clustered bar charts in Exhibits 4.3.3.3.vii through 4.3.3.3.ix show, for each health literacy measure, the overall change throughout the period for each PPS. Exhibit 4.3.3.3.x displays variability in the values across PPSs and time. For each measure, the median, minimum, and maximum values are reported by MY.

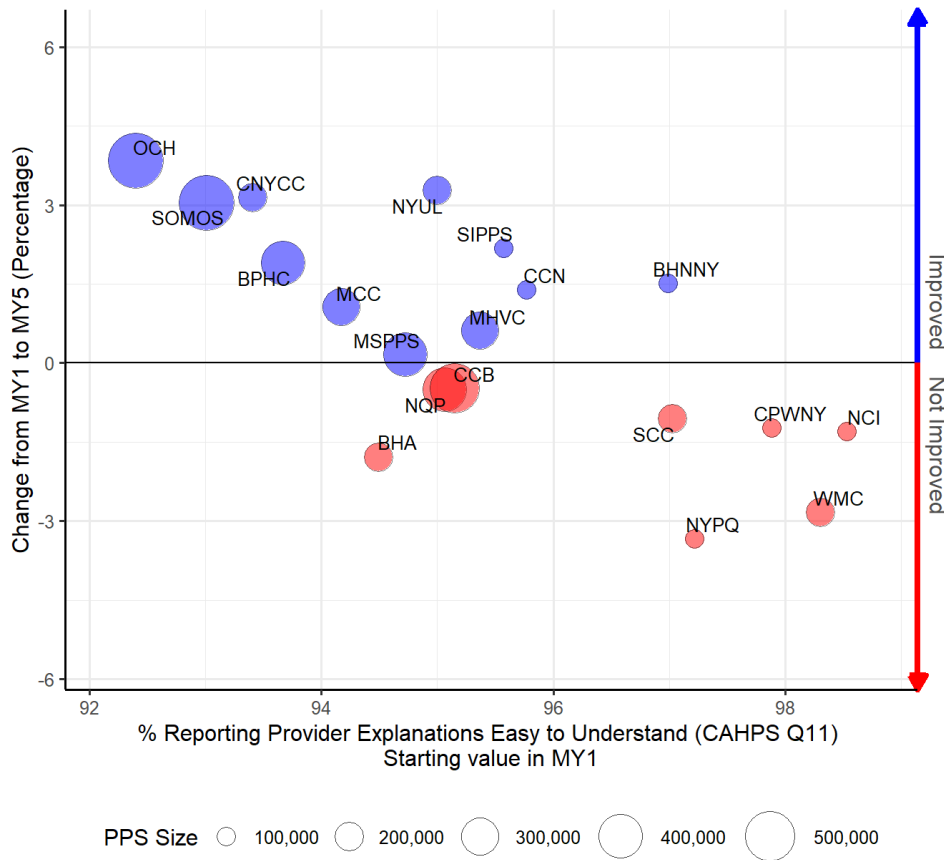
For all three measures, the largest improvements were among the PPSs that started at lower levels (top left of the bubble charts) and the largest declines were among the PPSs that started at higher values (bottom right of the bubble charts). This is as expected, as it is often easier to make progress among organizations and systems at the lower bounds but more challenging to maintain a high rate particularly during a period of system transformation.

There was little variability across PPSs and years in the measure of whether providers’ explanations were easy to understand, as many PPSs started with high values (MY1: from 92.4%

to 98.5%, MY5: from 92.7% to 98.5%). Compared to the other health literacy measures, the MY1 to MY5 changes in whether providers' explanations easy to understand within PPSs were very small (as shown by the Y-axes in the three bubble charts).

The measure of whether instructions for the condition's care were easy to understand had the widest variability across PPSs (MY1: from 71.6% to 87.1%, MY5: from 73.8% to 86.9%). For the measure of whether the provider explained what to do if illness worsened, the values range from 81.8% to 92.6% in MY1 and 81.3% to 92.7% in MY5. While many PPSs had year-to-year changes, there was no discernable patterns in their trajectories.

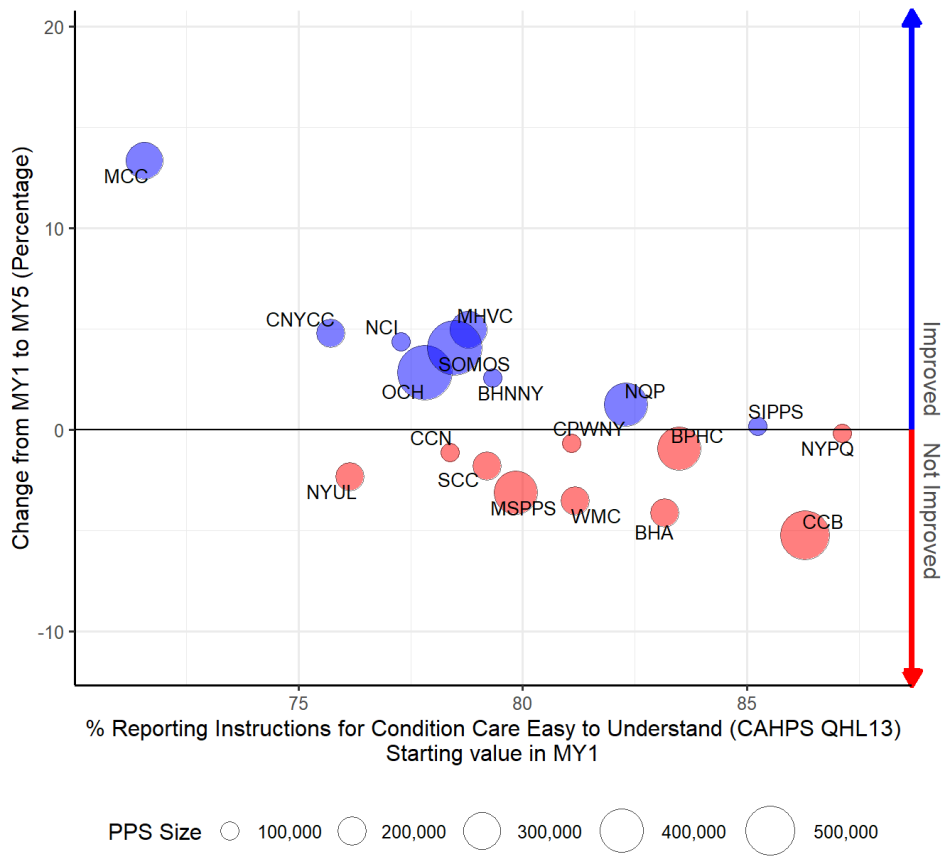
Exhibit 4.3.3.3.iv Bubble charts of changes in health literacy (provider explanations easy to understand), by PPS from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 19 PPSs that selected associated projects 3.b.i – 3.b.ii and/or 3.c.i – 3.c.ii.

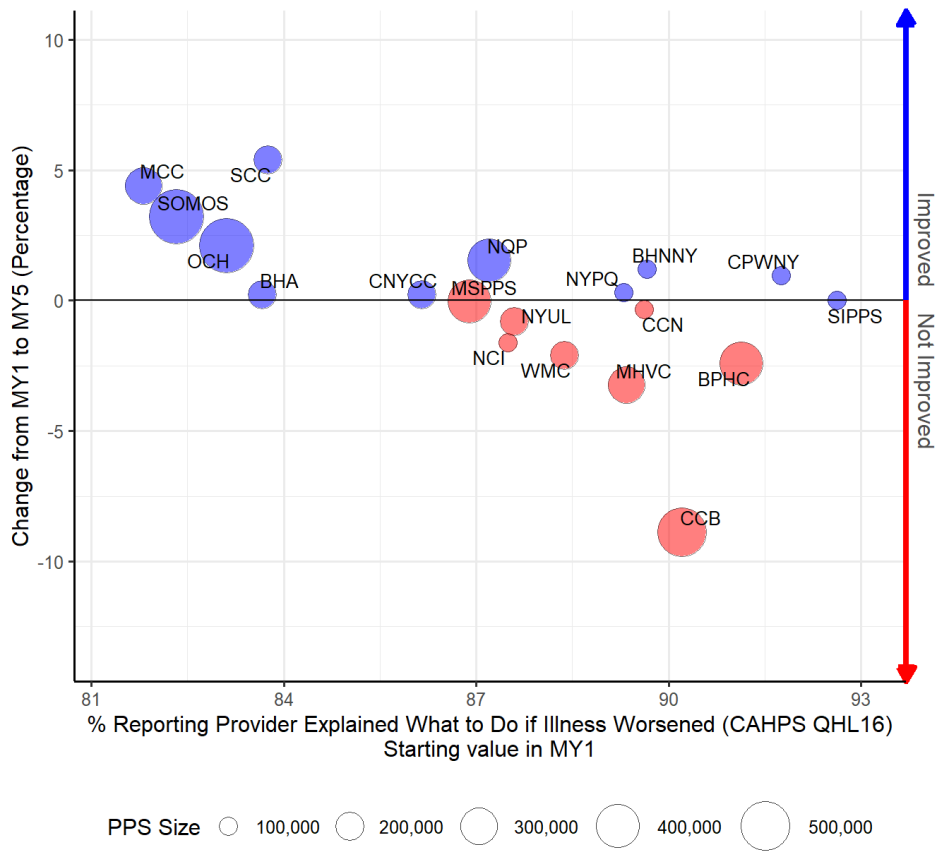
Exhibit 4.3.3.3.v. Bubble charts of changes in health literacy (instructions for condition care easy to understand), by PPS from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 19 PPSs that selected associated projects 3.b.i–3.b.ii and/or 3.c.i–3.c.ii.

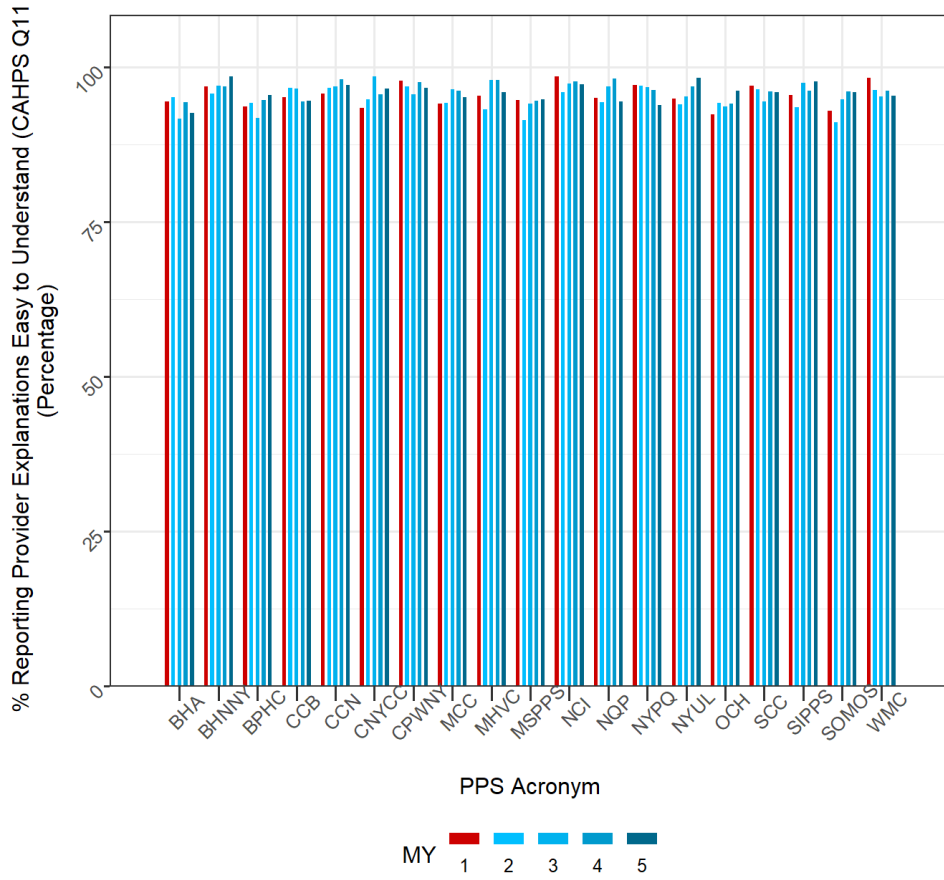
Exhibit 4.3.3.3.vi. Bubble charts of changes in health literacy (provider explained what to do if illness worsened), by PPS from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 19 PPSs that selected associated projects 3.b.i – 3.b.ii and/or 3.c.i – 3.c.ii.

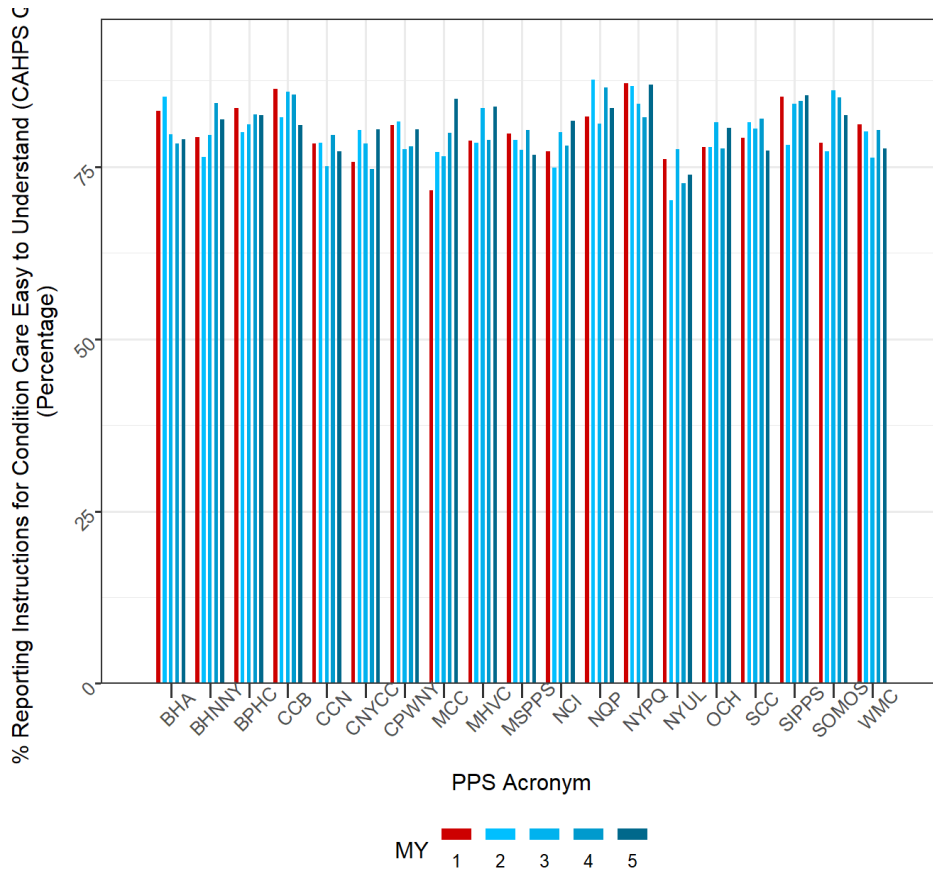
Exhibit 4.3.3.3.vii. Annual changes in health literacy (provider explanations easy to understand) from MY1 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 19 PPSs that selected associated projects 3.b.i – 3.b.ii and/or 3.c.i – 3.c.ii.

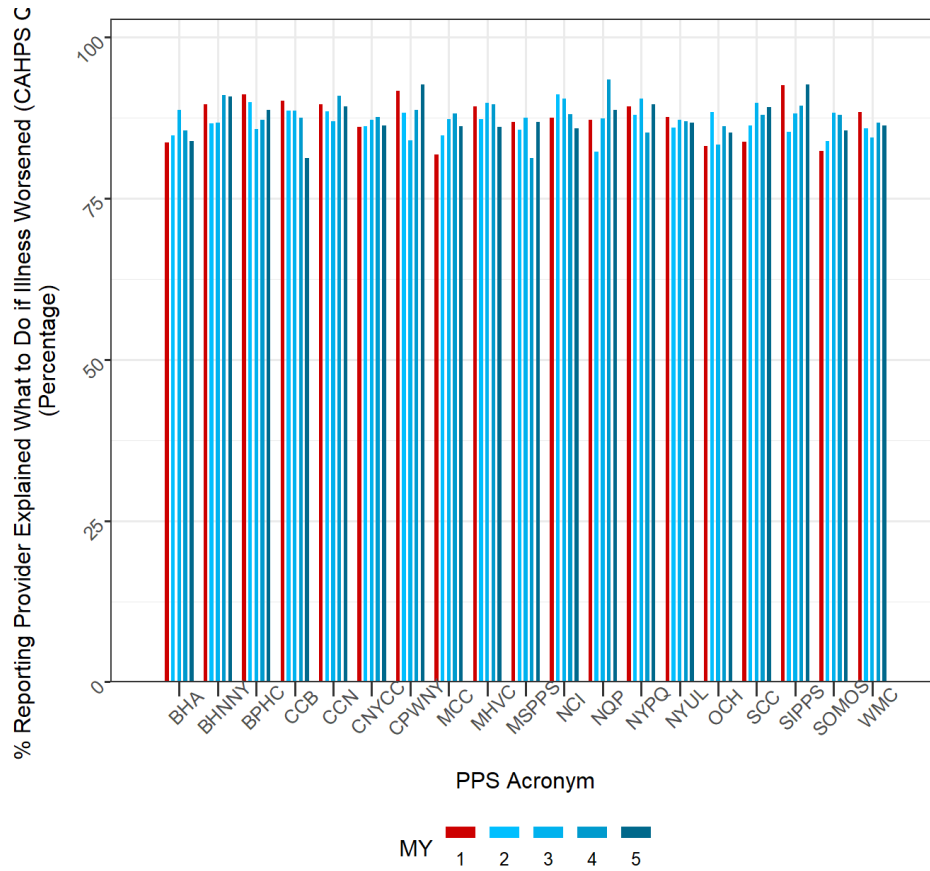
Exhibit 4.3.3.3.viii. Annual changes in health literacy (instructions for condition care easy to understand) from MY1 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 19 PPSs that selected associated projects 3.b.i–3.b.ii and/or 3.c.i–3.c.ii.

Exhibit 4.3.3.3.ix. Annual changes in health literacy (provider explained what to do if illness worsened) from MY1 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 19 PPSs that selected associated projects 3.b.i – 3.b.ii and/or 3.c.i – 3.c.ii.

Exhibit 4.3.3.3.x. Variability in health literacy measures across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
% reporting provider explanations easy to understand	MY1	95.1	92.4	98.5
	MY2	94.8	91.1	97.1
	MY3	96.5	91.7	98.6
	MY4	96.3	94.2	98.2
	MY5	96.0	92.7	98.5
% reporting instructions for condition care easy to understand	MY1	79.3	71.6	87.1
	MY2	78.9	70.2	87.7
	MY3	80.0	75.1	86.1
	MY4	80.4	72.7	86.5
	MY5	81.0	73.8	86.9
% reporting provider	MY1	87.6	81.8	92.6
	MY2	86.3	82.3	91.2

Measure	Measurement Year	Median	Minimum	Maximum
explained what to	MY3	87.4	83.3	90.5
do if illness	MY4	87.9	81.3	93.5
worsened	MY5	86.6	81.3	92.7

Source: Authors' analysis of the DSRIP Dataset.

4.3.4. Disease-Specific Health Care Quality Measures

Additional measures associated with specific health conditions and relevant findings from the 2019 partner survey are described in Sections 4.3.4.1 through 4.3.4.8. They are ordered by disease for consistency with the CMS research questions and hypotheses.

4.3.4.1. Behavioral Health

See section 4.2 for changes in behavioral health over time, which are also related to RQ-C (“Did utilization of behavioral health care services increase as a result of the DSRIP program?”) and hypothesis H3 (“Behavioral health care service utilization will increase”).

4.3.4.2. Cardiovascular Disease

Performance Measures for Cardiovascular Projects

No additional measures were available to evaluate hypothesis H4a (“Health care quality will increase in the following areas....(b) cardiovascular health”). The cross-cutting measures described in Section 4.3.3 were used to evaluate projects 3.b.i and 3.b.ii.

Qualitative Findings on Perceptions of Cardiovascular Projects

In the 2019 partner survey, 78.9% of respondents were satisfied with the operations of cardiovascular health projects. A total of 84.6% believed the project made a positive change in patient care, and 71.5% perceived the project as at least moderately effective in meeting its intended goals (see Exhibit 4.3.4.2.i).

Exhibit 4.3.4.2.i. Partner perceptions of cardiovascular health projects (3.b.i)



Source: Authors’ analysis of the 2019 statewide partner survey.

In addition to the DSRIP program’s improved chronic disease care coordination and management, partners and PPS key informants reported particular success with free walk-in blood pressure clinics, self-management programs (including provision of home blood pressure monitors), home visiting programs for congestive heart failure patients, and connections with community-based organizations that could provide assistance with environmental aids such as air conditioners.

One emphasized the importance of providing greater resources to patients without the ability to self-manage their conditions.

But the second group of people who use the ED unnecessarily– who represent a greater strain on the system– are the frequent flyers; patients with CHF, COPD, asthma, diabetes, whatever it is. The reason they are coming to the ED is not because they don’t necessarily have a primary care physician; it’s because they don’t have the resources at home to manage their illness. Sending them home and saying, “You have an appointment with a cardiologist or your primary care physician in 30 days,” is completely and totally meaningless because this person came to the ED because they don’t have the tools at home to manage their CHF exacerbations. – 2018 hospital, nursing home, hospice, and home care focus group participant

4.3.4.3. Diabetes

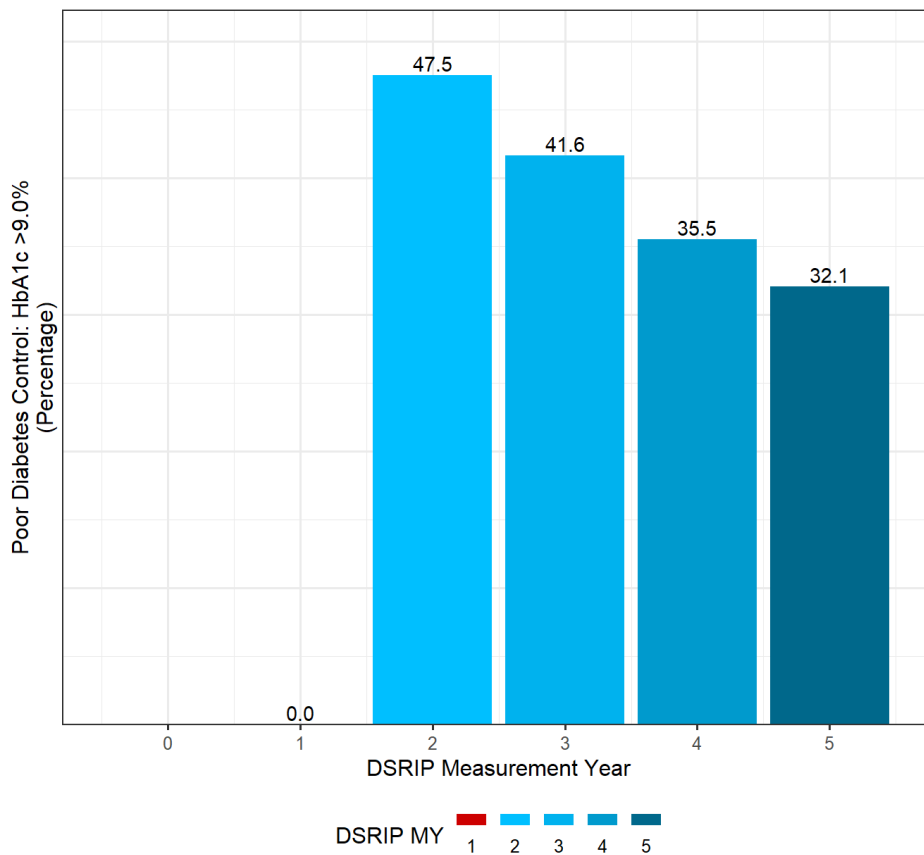
Performance Measures for Diabetes Projects

Exhibit 4.3.4.3.i shows annual changes in the percentage of diabetic adults ages 18 to 75 with diabetes whose Hemoglobin A1c (HbA1c) has a value of >9.0%. This HEDIS indicator is a

common measure of poor control of diabetes, and lower rates are desired. Data are limited to the 10 PPSs that selected project 3.c.i – 3.c.ii.

Across the 10 PPSs, the statewide average (among Medicaid members attributed to a PPS that selected the project) declined from 47.5% in MY2 to 32.1% in MY5. While this improvement was impressive, there were no pre-DSRIP program data available for analysis, so it is not possible to determine whether this improvement was a continuation of prior trends. Because information for this measure was based on a review of a random sample of medical records of the eligible attributed population from PPSs selecting the project, it was not feasible to obtain pre-DSRIP program data.

Exhibit 4.3.4.3.i. Statewide annual changes in the percentage of diabetic adults with poor diabetes control (HbA1c > 9.0%), from MY2 to MY5



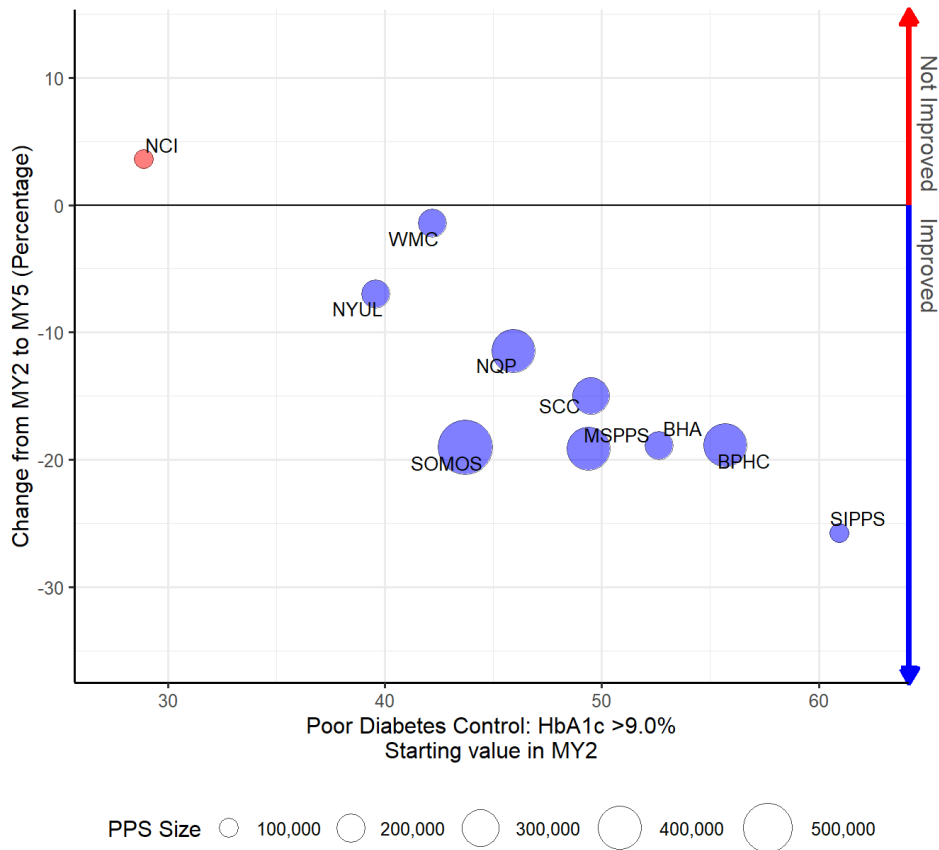
Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 10 PPSs that selected associated projects 3.c.i – 3.c.ii. While this measure was also relevant to project 3.h.i, no PPSs selected project 3.h.i.

The bubble chart and clustered bar chart in Exhibits 4.3.4.3.ii and 4.3.4.3.iii show the changes from MY2 to MY5 for each PPS. Exhibit 4.3.4.3.iv displays variability in the values across PPSs and time. For each measure, the median, minimum, and maximum values are reported by MY.

All PPSs except North Country Initiative (NCI) had an improvement (i.e., their values declined). During the four-year period when data were available, the variation across PPSs also diminished (MY2: from 28.9% to 61.0%, MY5: from 24.7% to 40.8%). Changes over time were notable for the diabetes measure, compared to the other clinical care measures examined.

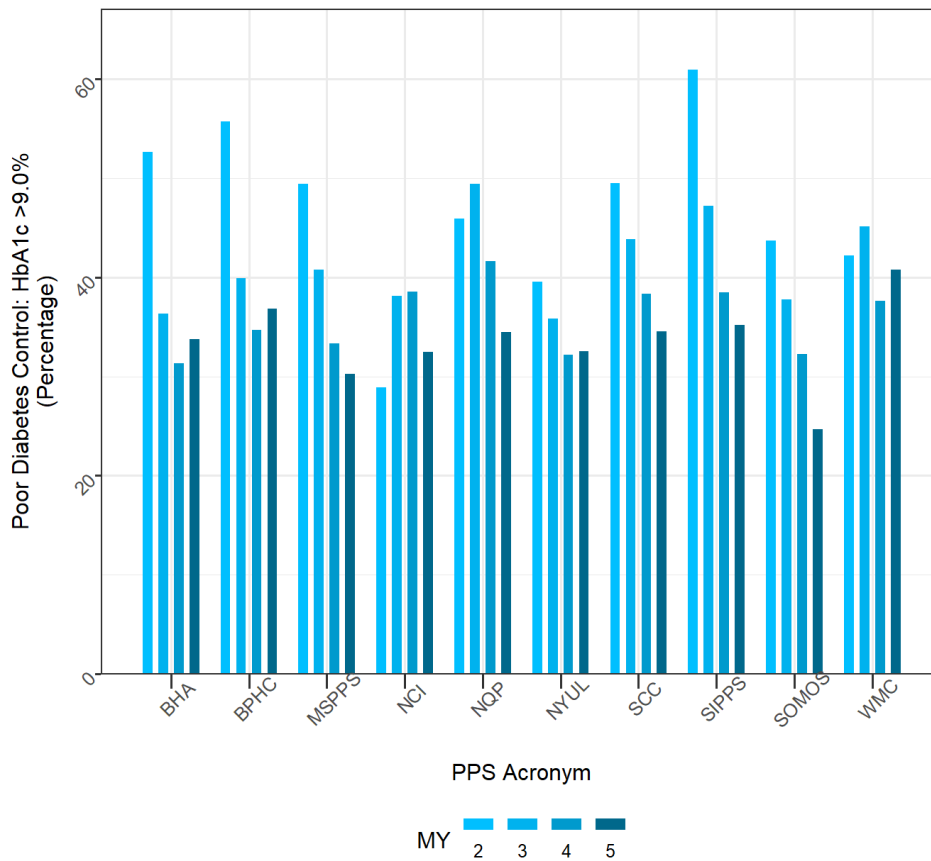
Exhibit 4.3.4.3.ii. Bubble chart of changes in the percentage of diabetic adults with poor diabetes control (HbA1c > 9.0%), from MY2 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 10 PPSs that selected associated projects 3.c.i – 3.c.ii. While this measure was also relevant to project 3.h.i, no PPSs selected project 3.h.i.

Exhibit 4.3.4.3.iii. PPS-level bar chart of changes in the percentage of diabetic adults with poor diabetes control (HbA1c > 9.0%), from MY2 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 10 PPSs that selected associated projects 3.c.i – 3.c.ii. While this measure was also relevant to project 3.h.i, no PPSs selected project 3.h.i.

Exhibit 4.3.4.3.iv. Variability in the percentage of diabetic adults with poor diabetes control (HbA1c > 9.0%) across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
% adults with poor diabetes control	MY2	47.7	28.9	61.0
	MY3	40.3	35.8	49.4
	MY4	36.1	31.3	41.7
	MY5	34.1	24.7	40.8

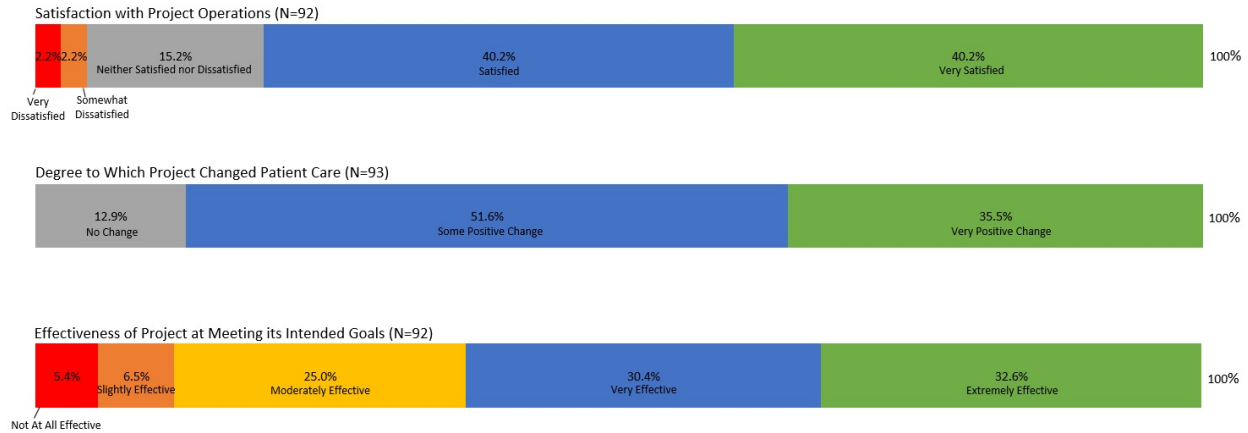
Source: Authors' analysis of the DSRIP Dataset.

Qualitative Findings on Perceptions of Diabetes Projects

In the 2019 partner survey, 80.4% of respondents were satisfied with the operations of diabetes care projects. A total of 87.1% believed the projects made a positive change in patient

care, and 88.0% perceived the projects as at least moderately effective in meeting their intended goals (see Exhibit 4.3.4.3.v).

Exhibit 4.3.4.3.v. Partner perceptions of diabetes care projects (3.c.i and 3.c.ii)



Source: Authors' analysis of the 2019 statewide partner survey.

Diabetes interventions considered successful by focus groups participants and PPS key informants included peer mentoring (both in-person and web-based), diabetes self-management workshops, training community health providers to compensate for endocrinologist shortages and to provide early intervention, and education about antipsychotic medications' side effect of increased diabetes risk.

We came up with a whole set of new guidelines for our aides for observations for chronic disease, and what brings them to the point where they should report to the nurse or when they should call the ambulance. It's just a simple green-yellow-red card for each condition their clients have. So they may be at home with somebody that has mild dementia and diabetes and CHF or whatever. They aren't medically trained, any of them. But the warning signs, in very easy layman's terms, are printed on the card and put on the refrigerator in the client's home. And when [the aides] see something that arises to the level of concern, they report that. That works very well because they are likely to be the first person to see that other than a family member. If you're going to intervene, that's when you have to do it. If you're going to prevent that unnecessary hospitalization, you have to do it when the weight starts to go up for the CHFers or when the sugar becomes unstable. – 2019 hospital, nursing home, hospice, and home care focus group participant

Several noted success with transferring diabetes care to outpatient providers. Community-based organizations and care management agencies were particularly praised for their success with patient engagement. More integrated behavioral health care was also said to improve

diabetes care by improving patients' ability to manage their condition and by enabling them to get physical health care in behavioral health settings.

That's something we have gotten feedback on from both providers and patients, that they benefit being able to go to even a smaller practice, and still have their behavioral health care needs addressed. That is super important, because you can't really address hypertension, diabetes, or substance abuse disorder unless you deal with the behavioral health issues. -2019 PPS key informant

While diabetes self-management programs were viewed as very effective for those who attended, they required the patients to make a significant time commitment, so did not always reach everyone who needed them.

4.3.4.4. Asthma

Performance Measures for Asthma Projects

Exhibits 4.3.4.4.i and 4.3.4.4.ii show annual changes in the asthma measures at the statewide level: asthma medication ratio and asthma medication management. Data are limited to the 13 PPSs selecting projects 3.d.ii-3.d.iii. These measures are in effect 12-month moving averages; as such, effects during the DSRIP program period will appear gradually and with a lag. They are presented annually for ease of interpretation.

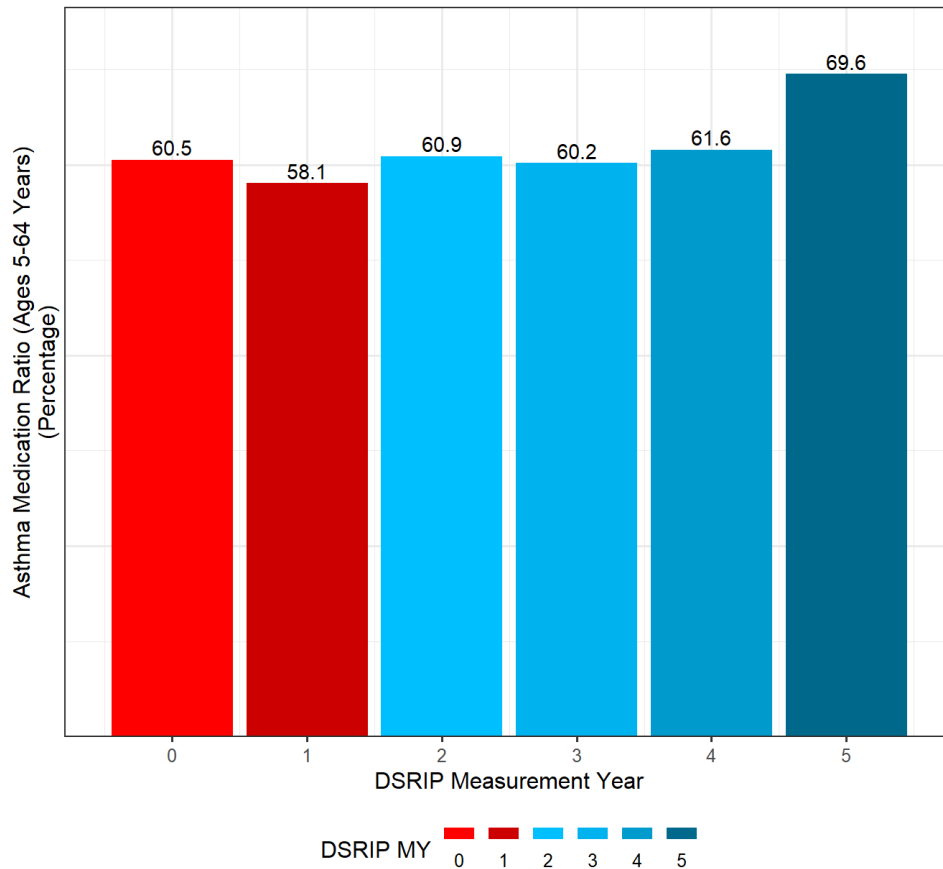
The asthma medication ratio assesses appropriate medication prescribing to attributed members with asthma, whereas the asthma medication management measure focuses on access and adherence to care among those prescribed a controller medication. The asthma medication ratio quantifies the percentage of members with a controller-to-total asthma medication ratio of 0.5 or higher, among attributed members aged 5 to 64 years with persistent asthma who received at least one asthma medication (either controller or reliever). A controller-to-total asthma medication ratio of 0.50 or higher denotes high quality clinical care.¹³⁰ The asthma medication management measure assesses the percentage of members who filled prescriptions for asthma controller medications during at least 75% of their treatment period, among attributed members aged 5 to 64 years with persistent asthma and who received at least one controller medication. Both measures have values from 0% to 100%, and higher values indicate better quality of care.

Both measures showed improvements during the time period, particularly at the end of the DSRIP program period. The asthma medication ratio had an initial decline from MY0 to MY1

¹³⁰ These measures use Healthcare Effectiveness Data and Information Set (HEDIS) measure specifications by the National Committee for Quality Assurance (NCQA) for health plans and other health care organizations. For more information, see: NCQA. (n.d.). Medication management for people with asthma and asthma medication ratio (MMA, AMR). Retrieved from <https://www.ncqa.org/hedis/measures/medication-management-for-people-with-asthma-and-asthma-medication-ratio/>

(60.5% to 58.1%), followed by improvements and a final value of 69.6% in MY5. The asthma medication management measure started at 32.1% and remained steady at that level through MY2; thereafter, it increased with a final value of 36.8% in MY5.

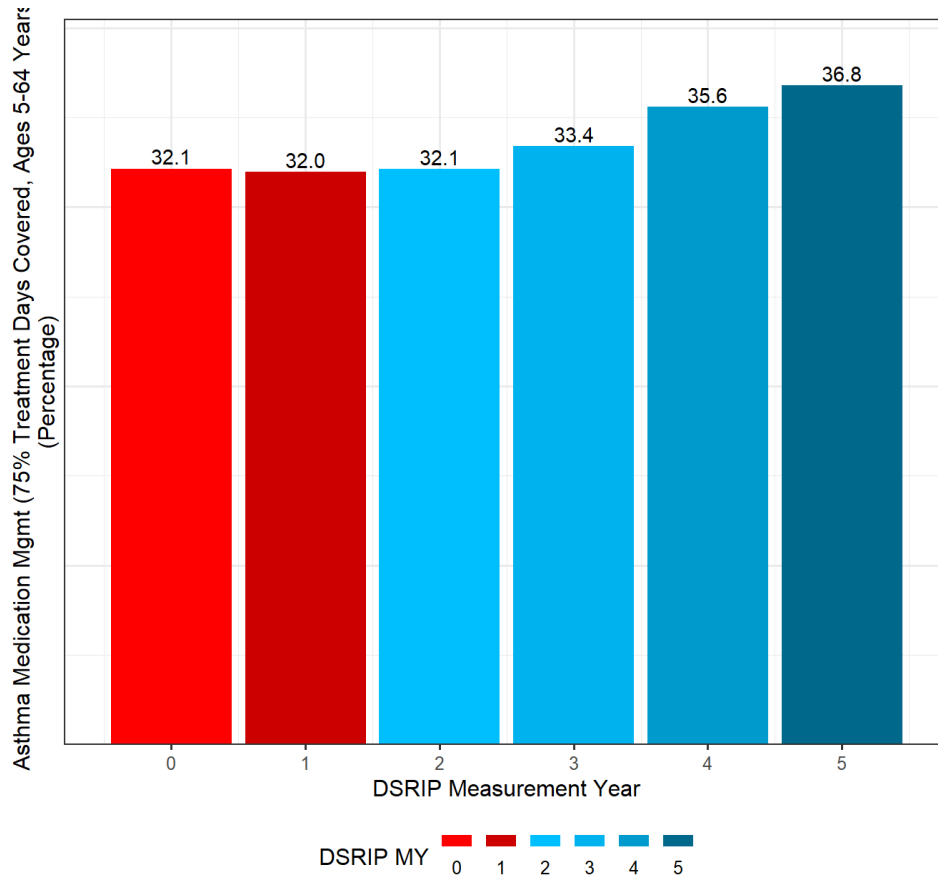
Exhibit 4.3.4.4.i. Statewide annual changes in asthma medication ratio, from MY0 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 13 PPSs that selected associated projects 3.d.ii – 3.d.iii. The data are monthly, and the time points refer to the last month of each MY, i.e., MY0 Month12, MY1 Month12, et cetera.

Exhibit 4.3.4.4.ii. Statewide annual changes in asthma medication ratio and 75% of asthma treatment days covered, from MY0 to MY5



Source: Authors’ analysis of the DSRIP Dataset.

Notes: Data are restricted to the 13 PPSs that selected associated projects 3.d.ii – 3.d.iii. The data are monthly, and the time points refer to the last month of each MY, i.e., MY0 Month12, MY1 Month12, et cetera.

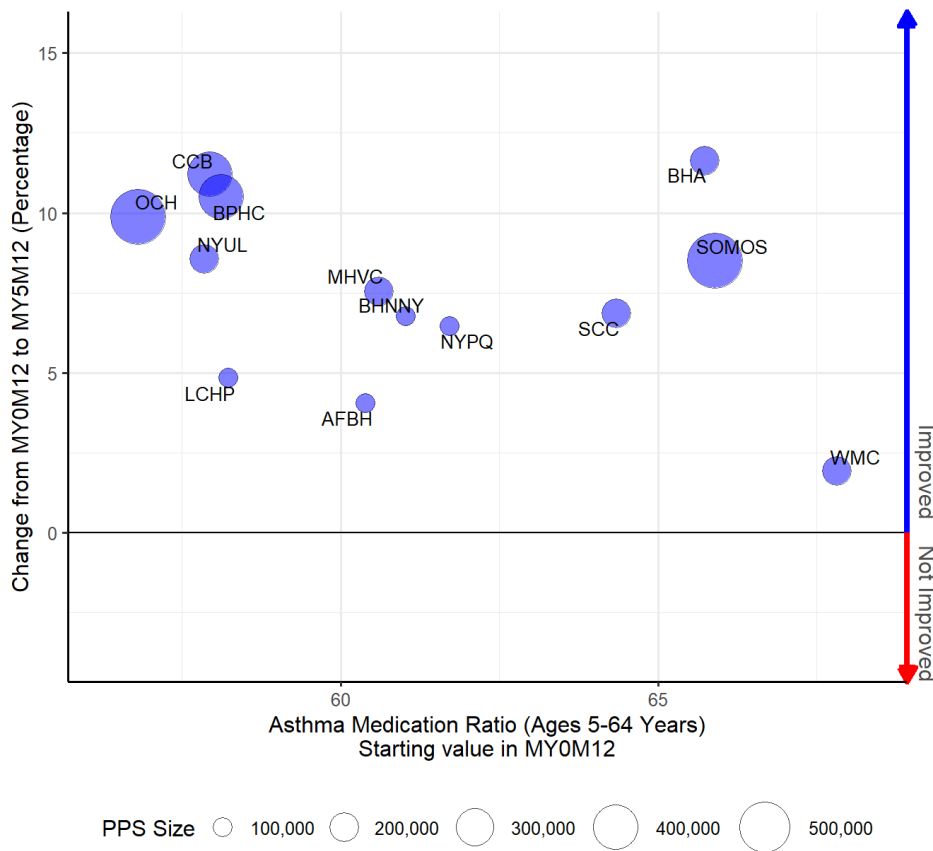
The bubble charts in Exhibits 4.3.4.4.iii and 4.3.4.4.iv and the clustered bar charts in Exhibits 4.3.4.4.v and 4.3.4.4.vi show, for each asthma measure, the overall changes throughout the period for each PPS. All 13 PPSs that selected the asthma project had improvements in both measures from MY0 to MY5. Exhibit 4.3.4.4.vii displays variability in the values across PPSs and time. For each measure, the median, minimum, and maximum values are reported by MY.

For the asthma medication ratio, there was variability across PPSs in the values (MY0: from 56.8% to 67.8%, MY5: from 53.0% to 77.4%). However, most PPSs followed a similar pattern of maintaining a similar level in the first few years followed by a large increase between MY4 and MY5.

Compared to the asthma medication ratio, there was more variability across PPSs for the asthma medication management measure (MY0: from 25.0% to 35.1%, MY5: from 22.6% to

45.5%). Although all PPSs had improvements between MY0 and MY5, there was more fluctuation in levels from year to year; for example, Leatherstocking Collaborative Health Partners (LCHP) had an initial increase from MY0 to MY1, then a decline for the years MY2-MY3, and another increase in years MY4-MY5.

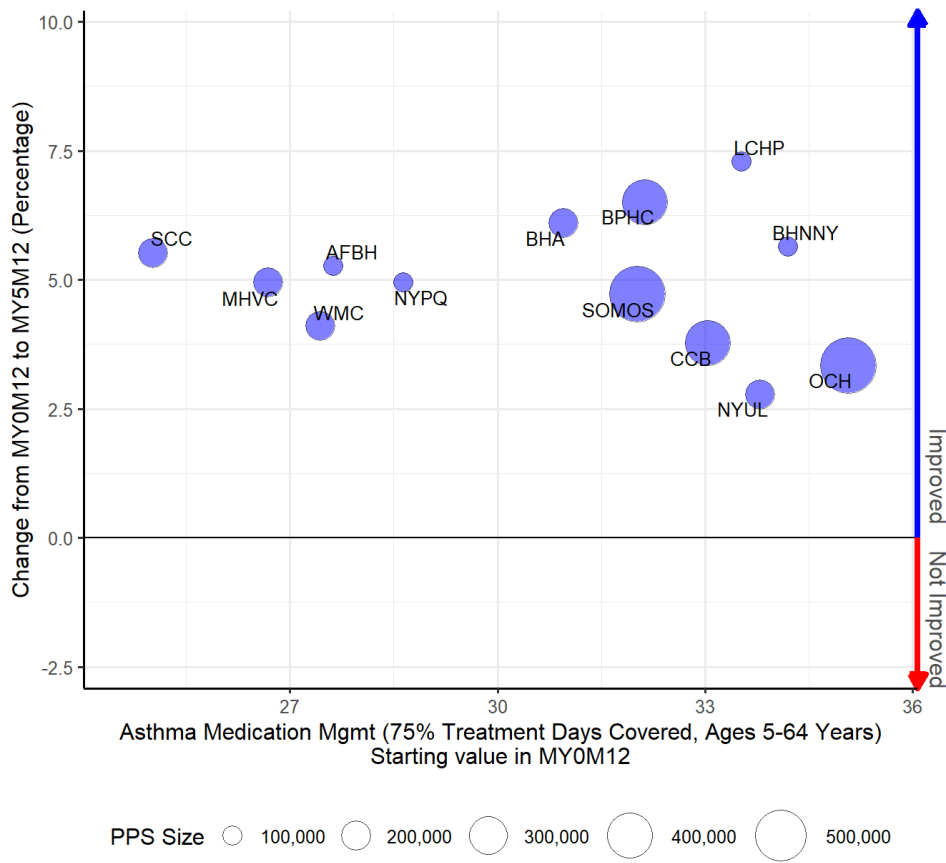
Exhibit 4.3.4.4.iii. Bubble chart of the changes in asthma medication ratio, by PPS from MY0 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 13 PPSs that selected associated projects 3.d.ii – 3.d.iii. The data are monthly, and the time points refer to the last month of each MY, i.e., MY0 Month12, MY1 Month12, et cetera.

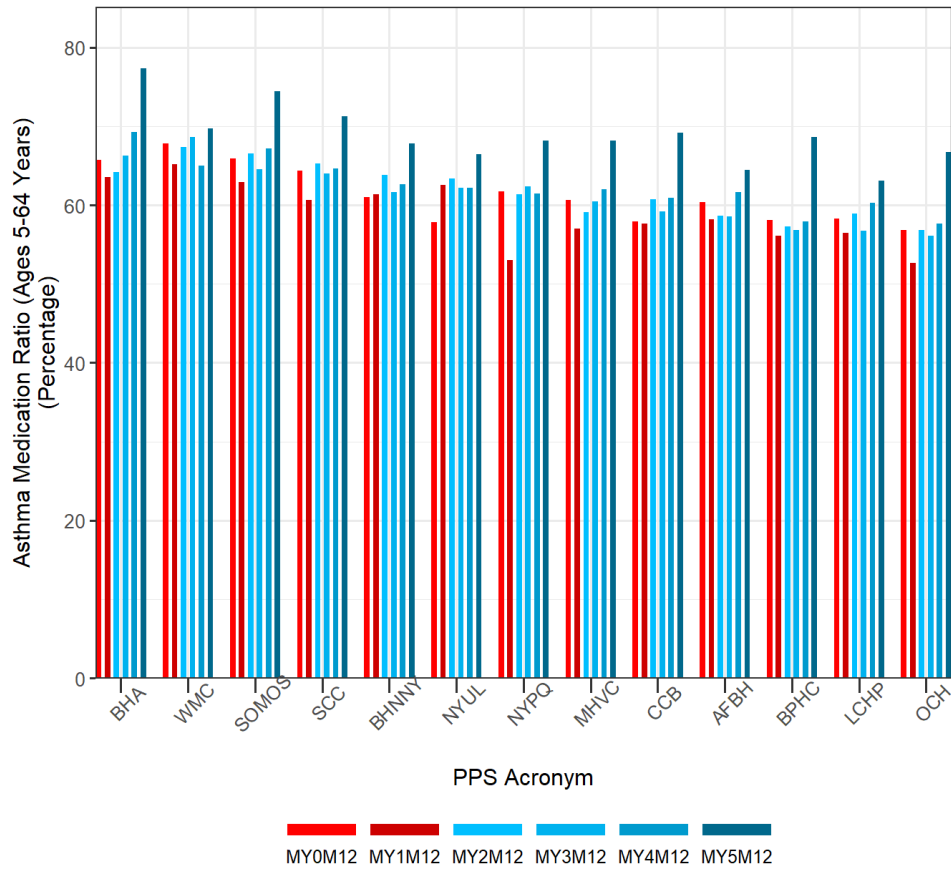
Exhibit 4.3.4.4.iv. Bubble chart of the changes in 75% of asthma treatment days covered, by PPS from MY0 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 13 PPSs that selected associated projects 3.d.ii – 3.d.iii. The data are monthly, and the time points refer to the last month of each MY, i.e., MY0 Month12, MY1 Month12, et cetera.

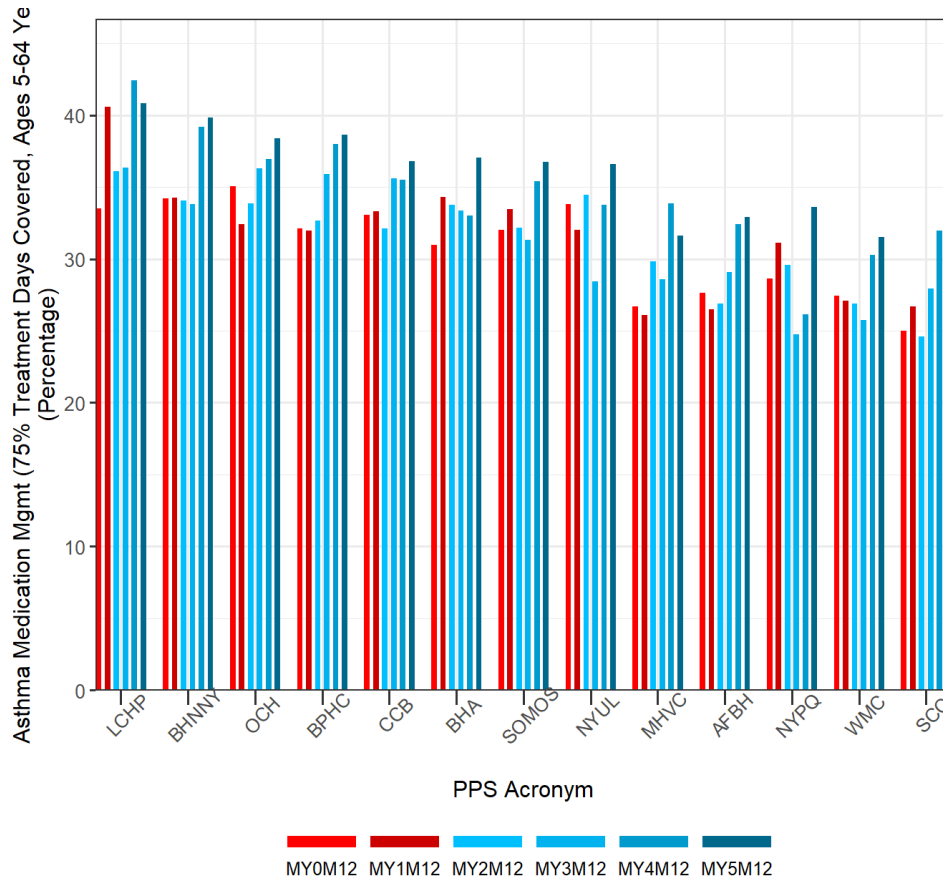
Exhibit 4.3.4.4.v. Annual changes in asthma medication ratio from MY0 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 13 PPSs that selected associated projects 3.d.ii – 3.d.iii. The data are monthly, and the time points refer to the last month of each MY, i.e., MY0 Month12, MY1 Month12, et cetera.

Exhibit 4.3.4.4.vi. Annual changes in 75% of asthma treatment days covered from MY0 to MY5, by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 13 PPSs that selected associated projects 3.d.ii – 3.d.iii. The data are monthly, and the time points refer to the last month of each MY, i.e., MY0 Month12, MY1 Month12, et cetera.

Exhibit 4.3.4.4.vii. Variability in asthma medication ratio and 75% of asthma treatment days covered across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
% patients with controller-to-total asthma medication ratio ≥ 0.5	MY0	60.6	56.8	67.8
	MY1	60.6	52.7	68.2
	MY2	59.9	47.1	68.0
	MY3	61.3	53.1	70.3
	MY4	61.1	56.1	69.5
	MY5	62.1	53.0	77.4
% patients with 75% asthma treatment days covered	MY0	32.0	25.0	35.1
	MY1	31.0	20.5	41.3
	MY2	31.9	20.7	37.4
	MY3	31.2	22.1	38.4
	MY4	32.6	20.1	43.0

Measure	Measurement Year	Median	Minimum	Maximum
	MY5	35.3	22.6	45.5

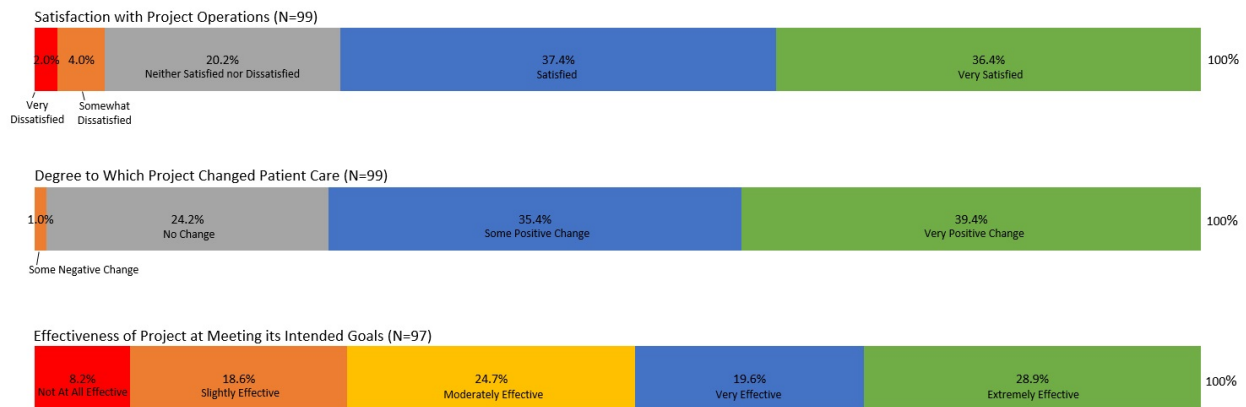
Source: Authors’ analysis of the DSRIP Dataset.

Notes: The summary statistics are based on all observations within the MY; for example, the statistics for MY1 are based on all PPS-month observations from MY0 Month 1 through MY0 Month 12.

Qualitative Findings on Perceptions of Asthma Projects

In the 2019 partner survey, 73.8% of respondents were satisfied with the operations of asthma projects. A total of 74.8% believed the projects made a positive change in patient care, and 73.2% perceived the projects as at least moderately effective in meeting their intended goals (see Exhibit 4.3.4.4.viii).

Exhibit 4.3.4.4.viii. Partner perceptions of asthma projects (3.d.ii and 3.d.iii)



Source: Authors’ analysis of the 2019 statewide partner survey.

A number of PPS key informants and partners participating in focus groups discussed asthma interventions they perceived as successful. These included home environmental assessments and pest control, training and education for providers and case managers, improved asthma care coordination, increased community-based care, dedicated staff to address asthma embedded in the emergency department, patient education on trigger identification and management, and standardization of clinical guidelines and best practices.

Another pilot was “stop and watch.” We were creating tool for home health aides to monitor patients to catch warning signs and work with supervisors to make referrals. Right now we’re working with them to detect asthma warning signs of patients and make referrals for home visits and integrated pest management. – 2019 PPS key informant

Through the partnership with some of the PPS, we were introduced to the asthma coalitions, who then started to train our nurses in asthma education. – 2018 hospital, nursing home, hospice, and home care focus group participant

When we went out and met with all the PPSs and let them know what our services were, some were so interested that they wanted to put aside some of their funding to provide home services to asthma clients who met the conditions. So what we did was we had team meetings with the community health workers who are receiving the clients once they get discharged and then following up with them in the home environment. If they saw that they had asthma patients who had pests in the home, they called us in. – 2018 hospital, nursing home, hospice, and home care focus group participant

If you listen to the testimonial from a patient with a child whose was missing school because of asthma, and we're able to have a CBO partner do an assessment in the home and provide services, that is a success story. – 2018 PPS key informant

4.3.4.5. HIV/AIDS

Performance Measures for HIV/AIDS Project

Exhibits 4.3.4.5.i through 4.3.4.5.iv show annual changes in four measures of comprehensive HIV/AIDS care: engagement in care, viral load monitoring, syphilis screening, and chlamydia screening. Engagement in care is measured as the proportion of persons living with HIV/AIDS (ages two and older) that had two visits for primary care or HIV-related care with at least one visit during each half of the past year. Viral load monitoring is measured as the proportion of persons living with HIV/AIDS (ages two and older) that had two viral load tests, of which at least one was performed during each half of the year. Syphilis screening is measured as the proportion of persons living with HIV/AIDS (ages 19 and older) who were screened for syphilis in the past year. These are three common measures of comprehensive HIV/AIDS care that are recommended for use as state and national indicators to document changes in HIV care quality over time. Chlamydia screening is measured as the proportion of sexually active females aged 16 to 24 who had at least one test for chlamydia.¹³¹ For each measure, a higher value is desirable. These measures are in effect 12-month moving averages; as such, effects during the DSRIP program period will appear gradually and with a lag. They are presented annually for ease of interpretation.

Data are limited to NewYork-Presbyterian PPS (NYP), which is the only PPS to select project 3.e.i. With only one PPS reporting these measures, caution is warranted in interpreting changes and the impact of the DSRIP program on comprehensive HIV/AIDS care. Seven other PPSs in

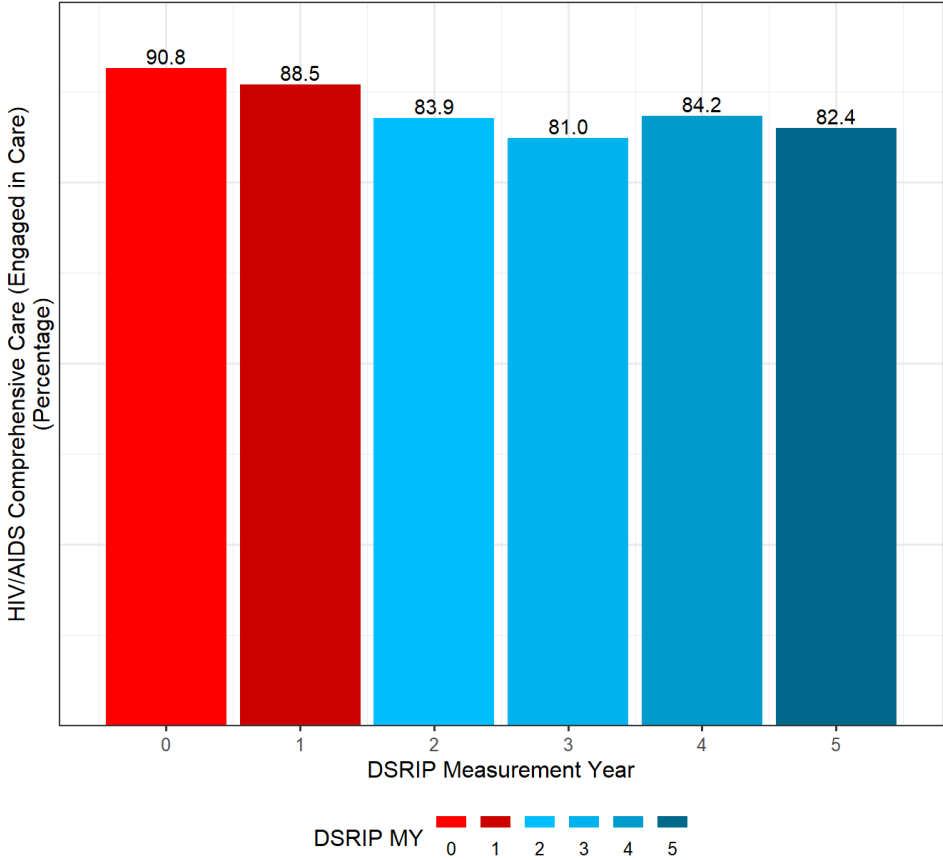
¹³¹ Institute of Medicine, 2012. Monitoring HIV Care in the United States: Indicators and Data Systems. Washington, DC: The National Academies Press. <https://doi.org/10.17225/13225>

New York City selected the Domain 4 population health project 4.c.ii (Increase Early Access to and Retention in HIV Care) and the eight PPSs including NYP developed the NYC HIV DSRIP Coalition to coordinate their projects to improve HIV care. The results presented here do not reflect their collective activities and likely underestimate the impact of improvements in HIV care and clinical outcomes.

The engagement in care measure declined throughout the period (worsened), from 90.8% in MY0 to 82.4% in MY5, although the level was relatively high throughout the period. The steepest decline was in the pre-DSRIP program initiation period (MY0 and MY1) (see Exhibit 4.3.4.5.i). The viral load monitoring measure had an initial decline from 55.4% in MY0 to 52.1% in MY2, followed by an increase ending at 60.2% in MY5 (improvement from MY0) (see Exhibit 4.3.4.5.ii). The syphilis screening measure had a similar pattern of an initial decrease from 60.9% in MY0 to 53.6% in MY2, and subsequent increase ending at 62.2% in MY5 (improvement from MY0) (see Exhibit 4.3.4.5.iii). The chlamydia screening measure had a steady decline from 77.9% in MY0 to 72.6% in MY5 (worsening) (see Exhibit 4.3.4.5.iv).

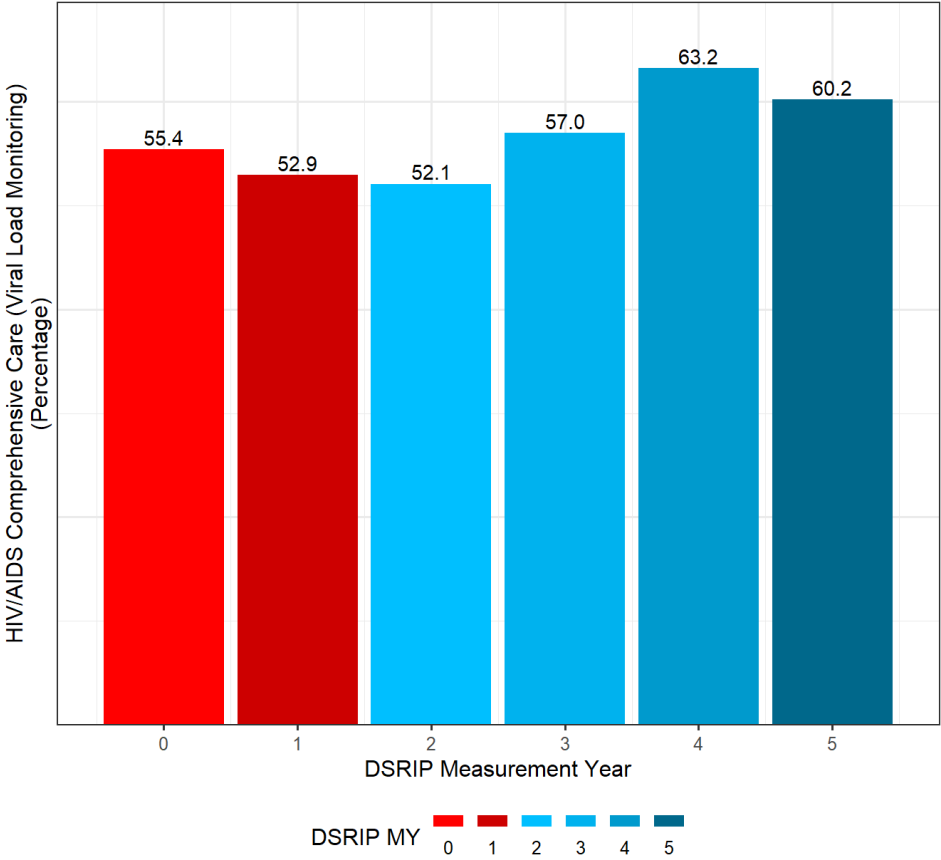
Results should be interpreted with caution. In addition to the exclusion of the other seven PPSs that selected a Domain 4 HIV project, the engagement in HIV care and viral load testing are process measures. While two visits and tests per year are commonly-used national indicators of HIV care quality, a decrease in these outcomes could either reflect worse clinical care or else improved health among persons living with HIV/AIDS. The DSRIP program projects coincided with a movement in clinical practice and by HIV Medicaid Special Needs Plans (SNPs) such as Amida Care to recommend that persons with durable viral suppression (i.e., undetectable viral loads for a continuous time) have fewer provider visits because their disease was well-managed. A better measure is HIV viral load suppression, which is not available in claims data.

Exhibit 4.3.4.5.i. Annual changes in HIV/AIDS comprehensive care (engaged in care), from MY0 to MY5.



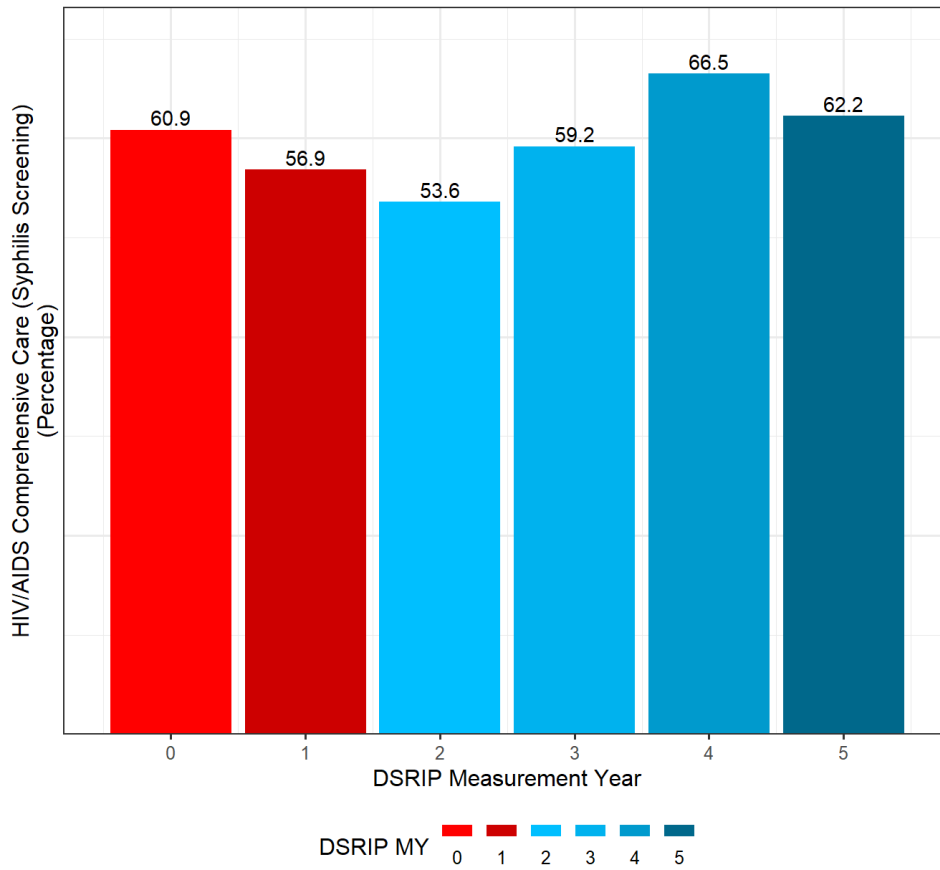
Source: Authors’ analysis of the DSRIP Dataset.
Note: Data are limited to NewYork-Presbyterian PPS (NYP), which is the only PPS that selected project 3.e.i. The data are monthly, and the time points refer to the last month of each MY, i.e., MY0 Month12, MY1 Month12, et cetera.

Exhibit 4.3.4.5.ii. Annual changes in HIV/AIDS comprehensive care (viral load monitoring), from MY0 to MY5.



Source: Authors’ analysis of the DSRIP Dataset.
Note: Data are limited to NewYork-Presbyterian PPS (NYP), which is the only PPS that selected project 3.e.i. The data are monthly, and the time points refer to the last month of each MY, i.e., MY0 Month12, MY1 Month12, et cetera.

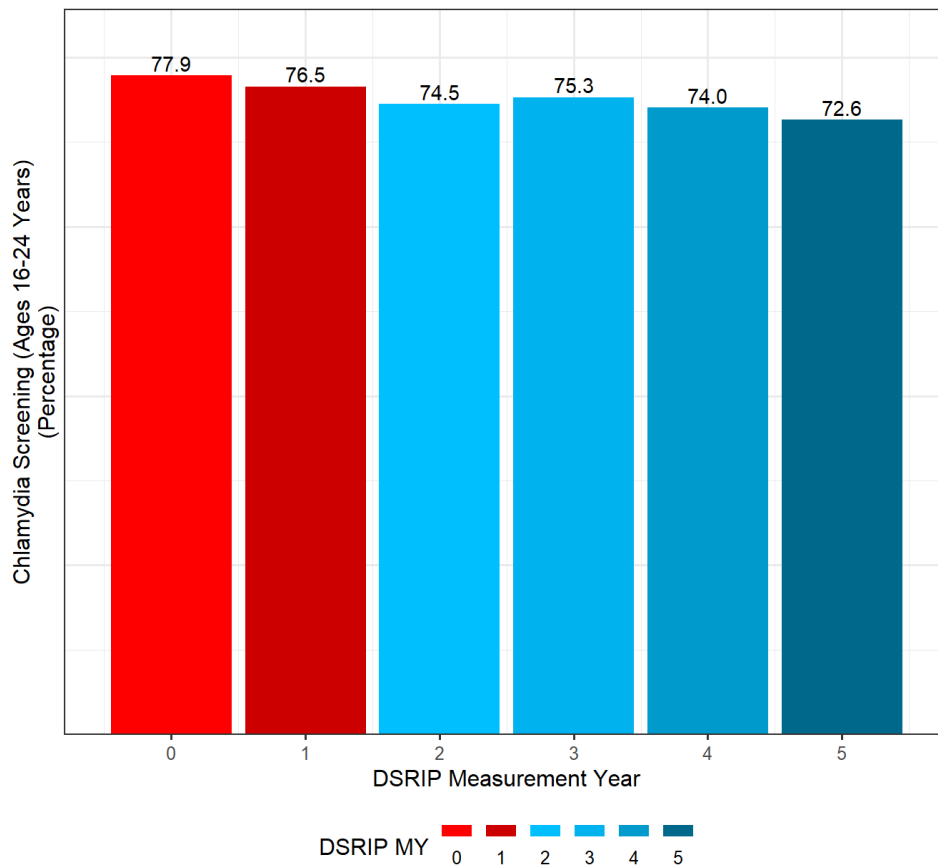
Exhibit 4.3.4.5.iii. Annual changes in HIV/AIDS comprehensive care (syphilis screening), from MY0 to MY5.



Source: Authors' analysis of the DSRIP Dataset.

Note: Data are limited to NewYork-Presbyterian PPS (NYP), which is the only PPS that selected project 3.e.i. The data are monthly, and the time points refer to the last month of each MY, i.e., MY0 Month12, MY1 Month12, et cetera.

Exhibit 4.3.4.5.iv. Annual changes in HIV/AIDS comprehensive care (chlamydia screening), from MY0 to MY5.



Source: Authors’ analysis of the DSRIP Dataset.

Note: Data are limited to NewYork-Presbyterian PPS (NYP), which is the only PPS that selected project 3.e.i. The data are monthly, and the time points refer to the last month of each MY, i.e., MY0 Month12, MY1 Month12, et cetera.

Qualitative Findings on Perceptions of HIV/AIDS Project

Partner survey data are not available for project 3.e.i because only one response was received regarding this project, and there was insufficient data available for analysis.

While only one PPS selected project 3.e.i, several PPS key informants said that DSRIP program funding increased their region’s ability to provide HIV services. They credited it for increasing access to prevention programming and providing the resources to identify and re-engage patients who had left care. One said:

The HIV group led by the PPS formed a coalition to work together, organize itself, establish bylaws, hold standing committee meetings, testify about the work they are

doing together, and has remained in effect for the last several years. My opinion, given what they said they wanted to do, what they have been able to do, and what is left to be done, is that the coalition will extend beyond 2020, which was the original endpoint for the coalition work. It has enabled the HIV group to work very directly together on things like viral load suppression, screening, linkage, VBP, the electronic systems that support us, and trying to maximize resources we have. I do think the HIV work has been a success. – 2018 PPS key informant

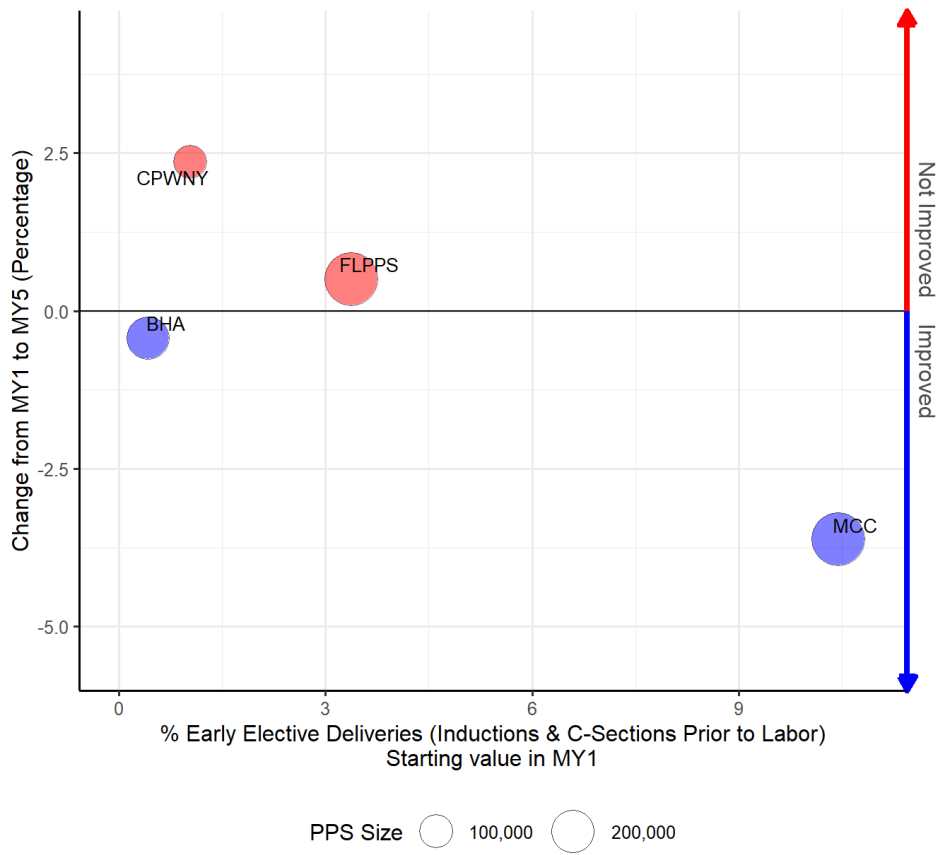
4.3.4.6. Perinatal Care

Performance Measures for Perinatal Projects

The bubble charts in Exhibits 4.3.4.6.i through 4.3.4.6.iii and the clustered bar charts in Exhibits 4.3.4.6.iv through 4.3.4.6.vi show changes for each PPS for three perinatal care outcomes. The outcomes are: the percent of deliveries that were early elective (inductions and Cesarean sections prior to labor), the percentage of children turning 15 months of age who had five or more well-care child visits with a primary care provider in their first 15 months of life, and the percentage of children turning age two who had their blood tested for lead poisoning prior to their second birthday. The well-care child visits and blood lead screening measures are HEDIS measures commonly used to evaluate perinatal outcomes. For the early elective deliveries measure, a lower value is desirable. For the well care visits and blood lead level screening measures, a higher value is desirable. Data are limited to the four PPSs that selected project 3.f.i, and thus no statewide trends or summary statistics (median, minimum, and maximum) are provided because few PPSs were included in these measures. The well-care child visits measure is in effect a 12-month moving average, and presented annually for consistency with the other perinatal measures and ease of interpretation.

For the early elective deliveries measure, Bronx Health Access (BHA) and Community Partners of Western New York (CPWNY) started at very low levels and had limited room for improvement. The bubble chart showing MY1 to MY5 changes, in which Millennium Collaborative Care (MCC) improved, masks a notable increase (worsening) of this measure in MY3 among this PPS's members. There were some year-to-year fluctuations in the children's well care visits measure within PPSs, but the magnitudes of these changes were small. All four PPSs had improvements in the blood lead level screening measure from MY1 to MY5.

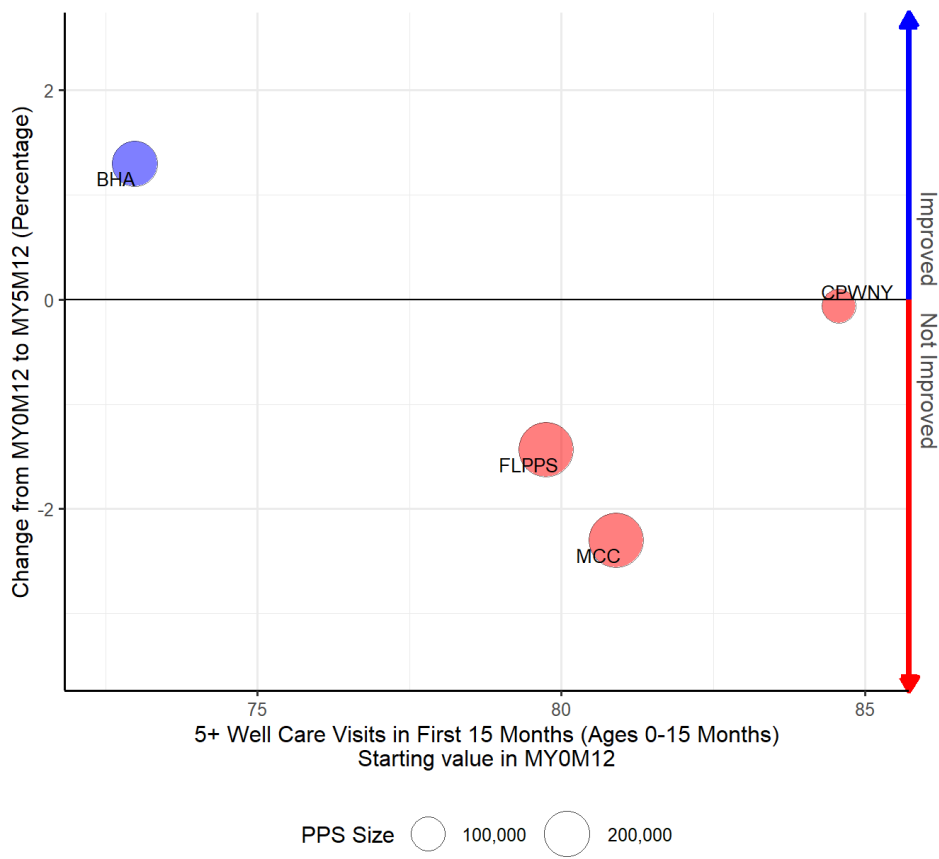
Exhibit 4.3.4.6.i. Bubble chart of the changes in perinatal care outcomes (early elective deliveries), by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the four PPSs that selected associated project 3.f.i.

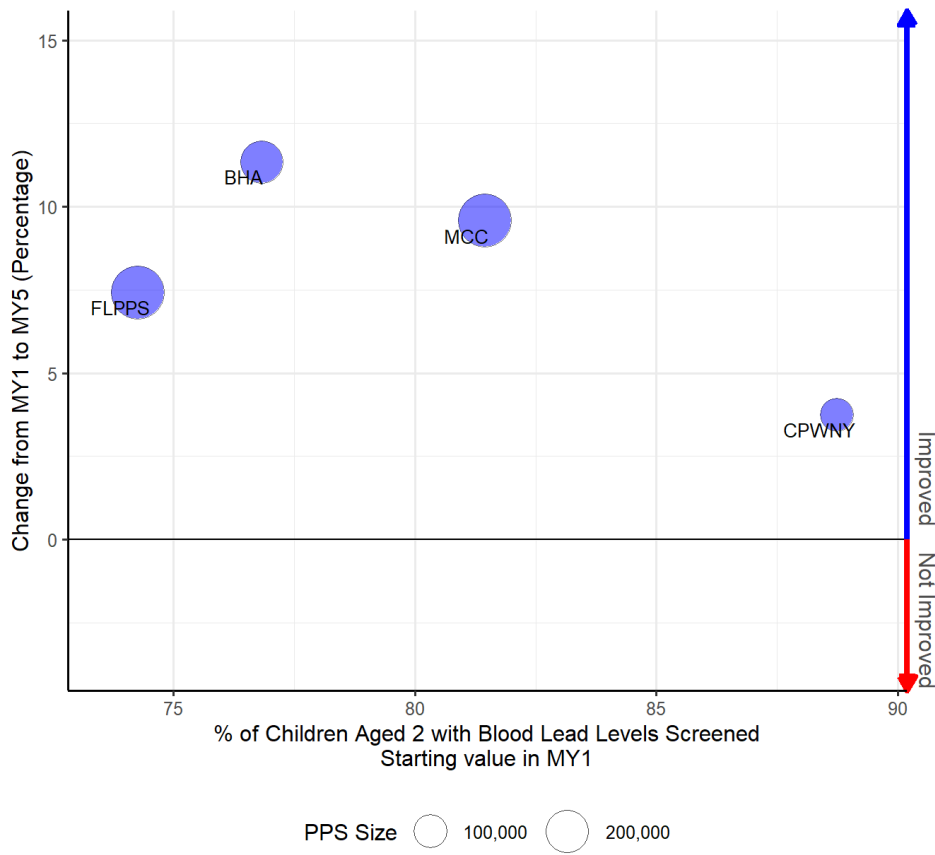
Exhibit 4.3.4.6.ii. Bubble chart of the changes in perinatal care outcomes (well care visits in the first 15 months), by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the four PPSs that selected associated project 3.f.i.

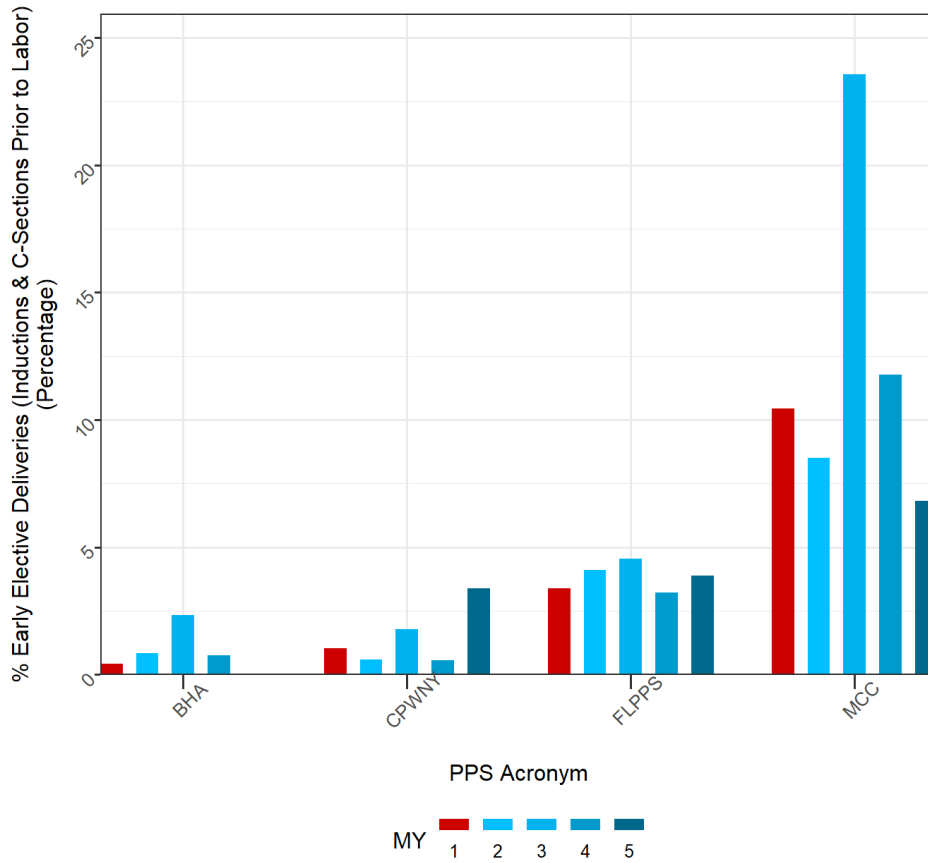
Exhibit 4.3.4.6.iii. Bubble chart of the changes in perinatal care outcomes (blood lead level screening), by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the four PPSs that selected associated project 3.f.i.

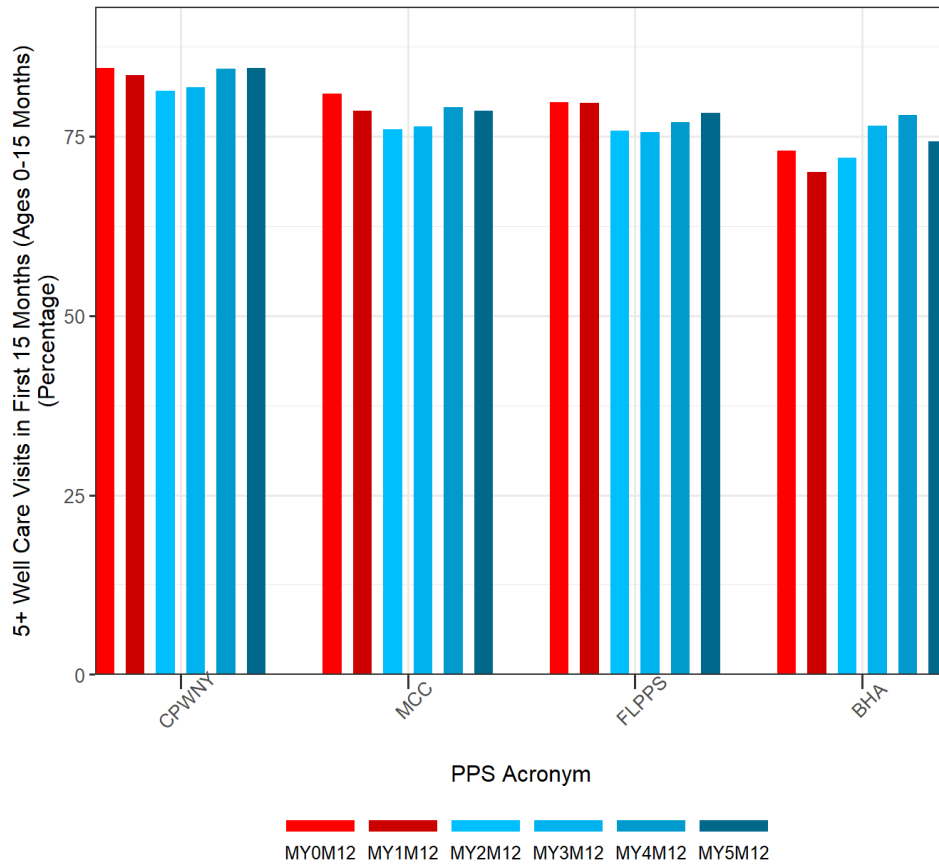
Exhibit 4.3.4.6.iv. Annual changes in perinatal care outcomes (early elective deliveries), by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the four PPSs that selected associated project 3.f.i. There is no visible MY5 bar for Bronx Health Access (BHA) because this value was zero.

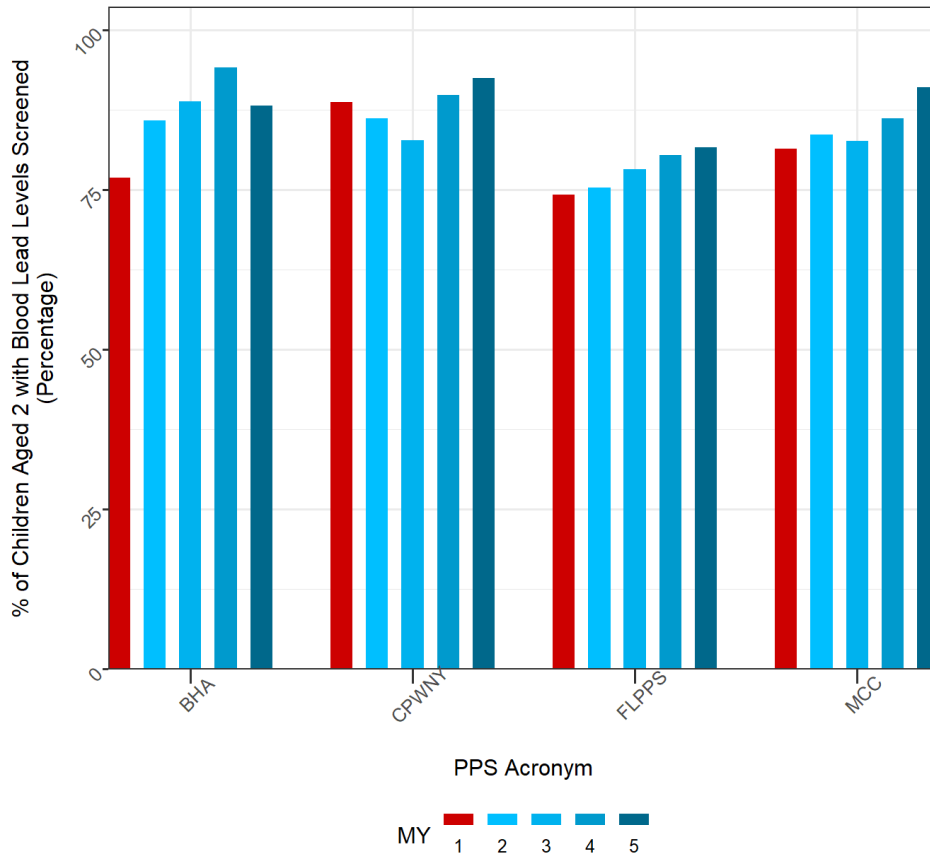
Exhibit 4.3.4.6.v. Annual changes in perinatal care outcomes (well care visits in the first 15 months), by PPS



Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the four PPSs that selected associated project 3.f.i.

Exhibit 4.3.4.6.vi. Annual changes in perinatal care outcomes (blood lead level screening), by PPS



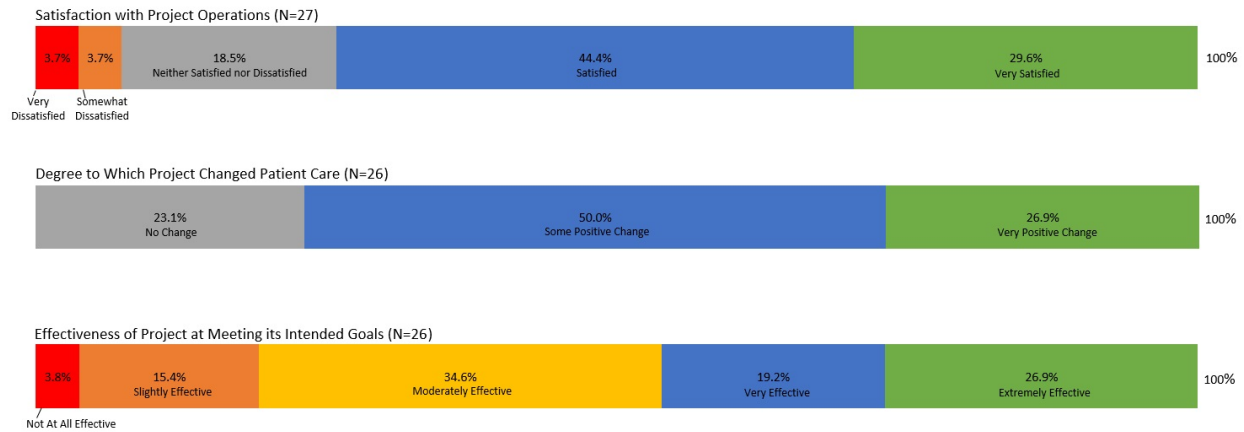
Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the four PPSs that selected associated project 3.f.i.

Partner Survey Findings on Perceptions of Perinatal Projects

In the 2019 partner survey, 74.0% of respondents were satisfied with the operations of perinatal care projects. A total of 76.9% believed the project made a positive change in patient care, and 80.7% perceived the project as at least moderately effective in meeting its intended goals (see Exhibit 4.3.4.6.vii).

Exhibit 4.3.4.6.vii. Partner perceptions of perinatal care projects (3.f.i)



Source: Authors’ analysis of the 2019 statewide partner survey.

4.3.4.7. Palliative Care

Performance Measures for Palliative Care Projects

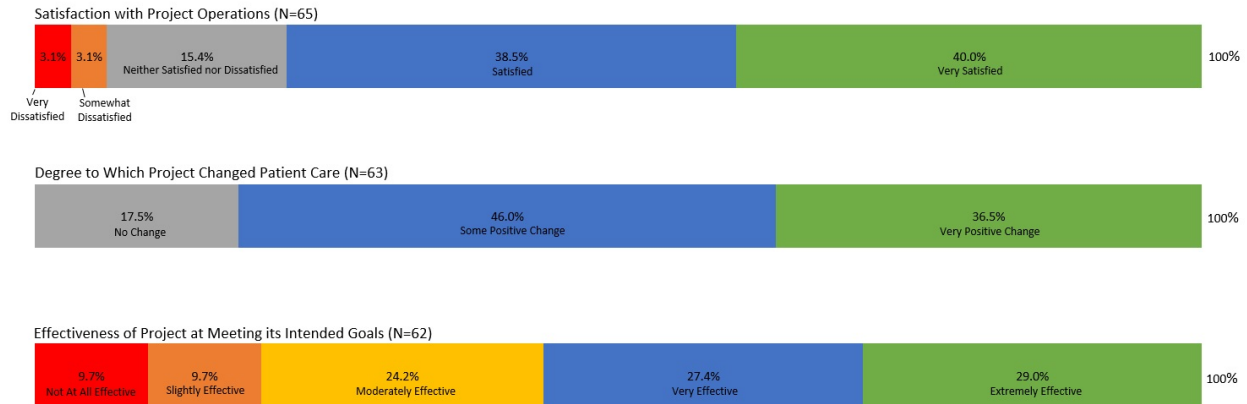
No measures were available for this project to address the associated hypothesis H4h (“Health care quality will increase in the following areas...(f) palliative care”). Although five measures are available, their data collection began in MY3 and thus data is only available MY3-MY5, which does not allow for analysis of how these were impacted by the DSRIP program.¹³²

Qualitative Findings on Perceptions of Palliative Care Projects

In the 2019 partner survey, 78.5% of respondents were satisfied with the operations of palliative care projects. A total of 82.5% believed the projects made a positive change in patient care, and 80.6% perceived the projects as at least moderately effective in meeting their intended goals (see Exhibit 4.3.4.7.i).

¹³² These measures, available MY3-MY5 only, are: 1) percentage of patients who were offered or provided an intervention for pain symptoms experienced during the past week, 2) percentage of patients who were offered or provided an intervention for pain symptoms experienced during the past week, 3) percentage of patients who were offered or provided an intervention for not feeling at peace during the past week, 4) percentage of patients who were offered or provided an intervention for depressive feelings experienced during the past week, and 5) percentage of patients who were offered or provided an intervention when there was no advanced directive in place.

Exhibit 4.3.4.7.i. Partner perceptions of palliative care projects (3.g.i and 3.g.ii)



Source: Authors' analysis of the 2019 statewide partner survey.

Partners and PPS key informants described significant success with palliative care initiatives. They perceived increased availability of palliative care and greater collaboration with palliative care teams. Implementation of the Integrated Palliative care Outcome Scale (IPOS) to assess patient needs was seen to improve the quality of care. One PPS said that the DSRIP program's successes helped them convince a managed care organization to initiate a palliative care service contract.

We've been able to offer palliative services to patients that would not have had a pay source without DSRIP. And in providing palliative services, we're managing symptoms, trying to keep them out of the ER, and enhancing quality of life; mentally, emotionally and spiritually. – 2019 community-based organization focus group participant

With our project to integrate palliative care into the nursing homes, a lot of readmissions were attributed to lack of palliative care. We were able to work with providers to understand that lack of palliative services are one of the drivers, so we successfully helped to implement palliative care in some of the SNFs we work with. We are working on processes to standardize care for palliative patients coming in from SNFs. DSRIP has changed the behaviors of not only the SNF providers but also the hospital providers, because now they are aware that they should look at certain elements of a patient's chart when admitted to the hospital. – 2018 PPS key informant

Referrals for palliative care increased due to engagement and training of primary care providers and nurses at skilled nursing facilities that did not provide palliative care.

One aspect we found was successful was with integration of knowledge. We were trying to figure out how to get access to various providers in the community, teaching them basic skills, how do we test their knowledge; and we embarked on a relationship with CAPC (Center to Advance Palliative Care) and having their educational online modules

available. We are starting to see an up-tick in use of their modules and completing them for primary care providers. We are sort of moving the needle a little bit in terms of seeing that PCPs are actively engaged, and that's something we weren't able to do on our own given our resources.” – 2018 PPS key informant

4.3.4.8. Renal Care

No PPSs selected the renal care project (3.h.i) and its associated hypothesis H4g was not relevant (“Health care quality will increase in the following areas....(h) renal care”).

4.4. Assessment of Changes in Health System Transformation

Section Overview

This section addresses RQ-D:

To what extent did PPSs achieve health care system transformation, including increasing the availability of behavioral health care? (CMS RQ1)

Its associated hypotheses are below:

- **H5:** Health care service delivery integration will increase.
- **H6:** Health care coordination will increase.
- **H7a:** Primary care, behavioral health, and dental service utilization among the uninsured, non-utilizing, and low-utilizing populations will increase.
- **H7b:** Emergency department utilization among the uninsured, non-utilizing, and low-utilizing populations will decrease.

Summary-At-A-Glance

The **final** Summative Report examined system transformation measures in three areas: (1) health care service delivery integration; (2) health care coordination; (3) utilization among the uninsured, non-utilizing, and low-utilizing populations (with a focus on use of preventive care services among the Medicaid members), and emergency department (ED) services among the uninsured population. The findings in the third area were limited to the 14 PPSs that selected the eleventh “patient activation” project.

Summary of Performance Measures

The following key findings emerged, organized by topic area.

Health care service delivery integration:

- The percentage of providers meeting Meaningful Use criteria who had participating agreements with Qualified Entities improved from 70.2% in MY2 to 88.0% in MY5, and the percentage who conducted bidirectional exchange with Qualified Entities improved from 51.4% in MY2 to 71.6% in MY5.
- The percentage of primary care providers who achieved certification in Patient-Centered Medical Home or Advanced Primary Care Models (PCMH/APC) standards increased from 32.7% to 42.4% from MY1 to MY5.
- There was high PPS variability in health information technology capabilities. The percentage of providers in PPSs who had participating agreements with Qualified Entities varied from 38.3% to 98.7% in MY2; this range narrowed markedly by MY5, when it varied from 72.2% to 100% across PPSs.
- PPS variability in the adoption of PCMH/ACP standards also narrowed over time, although to a lesser extent than the health information measures.
- The PPS variation in health information technology measures is consistent with findings from the implementation and process study, with some PPSs reporting larger start-up challenges due to their level of health information technology infrastructure.

Health care coordination:

- Approximately 93% of patients had positive experiences with their health care transition plans after hospital discharges.
- Approximately 82% of patients had positive experiences with up-to-date coordination in clinical settings.
- These positive experiences remained consistent throughout the period.

Patient activation:

- Among the 14 PPSs that selected the “eleventh” patient activation project, the non-use of preventive services increased slightly (worsened) from 10.4% (MY0) to 11.3% (MY5), although the overall increase was driven by a sudden change between MY0 and MY1 in the pre-DSRIP program initiation period, the level was steady thereafter.
- Among the 14 PPSs that selected the patient activation project, the percentage of ED visits that were from self-pay patients, presumed to be uninsured, decreased overall from 15.2% in MY0 to 10.0% in MY5.
- There was high PPS variability for both measures, and particularly for the ED visit measure (ranging from 7.9% to 29.6% in MY0, and from 4.3% to 21.4% in MY5). Much of the statewide average for both measures was driven by a large PPS that was an outlier.

PPS Partner Survey and Key Informant Feedback on System Transformation

Partners reported a high degree of satisfaction with the Domain 2 system transformation projects, and a strong majority of partners believed that the projects made a positive change in patient care. More broadly, most partner survey respondents reported that patient care had changed for the better since the launch of the DSRIP program, with about three-quarters

of survey respondents in 2018 and 2019 saying that patients were experiencing some positive change or very positive change in care. Supporting the survey results, a significant majority of the partners and administrators who participated in the focus groups and key informant interviews emphasized improvements in patient care coordination as a result of the DSRIP program. Respondents shared that patients were connected to health homes, received more appropriate referrals to both specialists and community-based organizations, received more integrated behavioral health services, and experienced more support after hospital discharge.

Limitations and Caveats

There are several caveats for interpreting these findings:

- Without additional information on these measures over a longer time period, it is not possible to quantify the degree to which their trajectories changed following the DSRIP program's implementation.
- There was a methodology change to the health information technology measures between MY1 and MY2, which limits examination of changes to the MY2-MY5 period.
- PPSs had annual opportunities to add partners. Variability in the health care service delivery integration measures may reflect differences in partners, although they are nonetheless useful indicators of the state of PPSs over time.
- Changes in self-pay ED utilization (presumably the uninsured population) could reflect changes in utilization of uninsured versus insured patients, declines in the percentage of uninsured individuals due to implementation of the Affordable Care Act's Medicaid expansion and health insurance marketplace, or a combination.
- The public hospitals and safety net providers that qualified for the eleventh project had limited ability to influence these measures in a short time frame because their patient populations are particularly vulnerable.

4.4.1. Overall Perceptions of System Transformation from Partners and Key Informants

In interviews and focus groups, study participants discussed collaboration improvements and cultural shifts that led to system transformation.

Improvements in Collaboration and Care Coordination

According to most PPS key informants and partners, stronger and more effective collaborations between providers led to improved care coordination and better care transitions.

I think that the ability to align a number of different kinds of organizations that directly provide health services, behavioral services, and deal with the social determinants of health care, and bring them all together, was really helpful. I think that one could always

attempt to do it by pointing out the positive outcomes, but frankly, money is always helpful. And [money] enabled us to work as a convener, bringing those organizations together and forming a system that really is, at this point, reasonably well integrated and sees a path forward together. I don't think that would have happened, absent something like the DSRIP program, at least not on such a scale. -2019 PPS key informant

Before, everyone sort of did their own thing, and worked in a silo, and didn't want to share anything because it's all about profitability, and who was going to get the patient, and where they were going to go next. DSRIP taught us that we had to work together towards a common goal, because we all are looking for the same things and really working towards prevention. There was greater collaboration amongst peers, and working together, and just having more awareness of things that are out there. -2019 PPS key informant

The number of practices that became certified as Patient-Centered Medical Homes (PCMH), which was seen in the quantitative data (described in Section 4.4.2.1), was also perceived as a major success. The development of new relationships between community-based organizations and health care providers, and between physical and behavioral health providers, improved the health care system's ability to address a wider range of patient needs. See Section 4.7.2.1 for more discussion of collaborations, Section 4.4.5.2 for further information about care coordination, and Section 4.2.3 for discussion of behavioral health integration.

Cultural Shifts

Most study participants perceived cultural shifts that increased attention to population health and social determinants of health.

I think [DSRIP] is changing the whole perspective and opening eyes as we move from fee-for-service to population health. Our revenues are going to be coming from keeping the population healthy, and what are we doing to help ensure that they are getting their medications, taking their medications, and not just letting them become ill and get readmitted. It's changing our worldview. – 2019 PPS key informant

All of the analytics work around identifying who your patients are and caring for them beyond the clinical exam room, I think is something that DSRIP has helped crystallize. Keeping clinicians accountable for managing populations are all very positive aspects of DSRIP. I think if you asked clinicians that are boots-on-the-ground doing the work, they would say to you that that's a change they could feel. – 2019 PPS key informant

I am very grateful for a lot of the material and intellectual knowledge resources that have come out of this process. They have absolutely helped our organization through some of this transformational system-wide changes. We weren't thinking VBP. Even

though that was being talked about, substance abuse disorder in particular has always been carved out of so many things, that we're like, "They'll get to us eventually, right?" We're dealing with an urgent thing, the opioid crisis. We don't have time to be bothered with that. And without a process like DSRIP, I think we could not have responded as effectively to some of the newer challenges in substance abuse. – 2019 behavioral health focus group participant

I think part of the change too is going from, "We provide care to the people that walk in our doors," to, "We have a community of patients that even though we don't know necessarily who's assigned to us, there are certain people we are responsible for." That leads to proactive outreach to bring in those people that are disconnected, or mobile work to get people who aren't insured linked to coverage to address those other needs that our members have. In the past, we haven't really addressed whether it's housing or food or other needs. – 2019 PPS key informant

Hospitals began devoting resources to reducing admissions, which was viewed as a significant paradigm change.

Before DSRIP...hospitals didn't do that much to keep people out of the hospital. Here, you have all of the administration of the hospital trying to figure out how to keep people out. It's interesting, where they're investing in care transition staff to get people out, investing in initiatives to keep people out of the emergency room. I think without DSRIP, you wouldn't have had this huge push from the hospital staff to do this. – 2018 PPS key informant

However, many said that while they were seeing movement towards system transformation, more time and resources were needed to maintain momentum in that direction.

When we all came to work here, we thought we would change the world in five years. It didn't take long to realize we need more time. There is a lot of change management, a lot of politics, our region is huge, the power balance is a little skewed. We've had a lot of learnings, we've got a lot of scars, but it's really good work; we have some really great successes and we need more time and potentially more investment. -2019 PPS key informant

We have accomplished a tremendous amount in the last five years in being able to really develop a cohesive network of providers that know each other, and are beginning to understand clear roles and responsibilities and how they can work together to provide integrated care, but there is a lot of work to be done in continuing what has started. - 2019 PPS key informant

We're really hoping that DSRIP 2.0 can be an opportunity where the state puts in place, and celebrates, the successes; and allows us to then have those conversations with managed care plans with more role definition and expectation definition in that

structure. So the successes of what we've created can be articulated and translated to managed care plans, and we create win-win solutions with the payers in the same way we created win-win solutions with our partners. -2019 PPS key informant

Some did not perceive cultural change due to the DSRIP program.

At my age, I've gone through this three or four times, and what I see is an illusion and deception... The whole system is being run by the medical system, in spite of the fact that we know 80% of the health care costs are derived from other factors. That's what value based payment is based on. So until we as a culture, as a society, evaluate those other things that affect health, and are willing to pay for them, none of this is going to change. The system needs to completely rethink, society needs to completely rethink, what they value in terms of health. As long as we let the health care system, hospitals and so on, run this program, they're just going to substitute one thing that benefits them for another thing, and they're not going to give a damn about social determinants of health. – 2019 community-based organization regional focus group participant

In particular, partners participating in focus groups often said that hospitals had too much control over PPSs, and a few PPS key informants agreed. They said that hospitals remained incentivized to admit patients, and in some cases, hospitals used DSRIP funds to build their own capacity rather than distribute funds to other organizations that were already providing services.

To fundamentally change how health care is delivered, you've got to take the hospitals out of control a little bit and move the center of gravity more towards non-hospital care. – 2018 PPS key informant

Get rid of hospitals...I know they have ulterior motives, but they won't come out and say it and they won't see it because they are holding the purse strings. You have actually given the keys to the kingdom to the people who you don't want to give it to. – 2018 hospital regional focus group participant

Early on, several years ago, they were talking about how a lot of the hospital systems were increasing their beds. They were taking the funds that were supposed to be reducing avoidable emergency room visits, and they were expanding their bed capacity. – 2018 mental health and substance use regional focus group participant

There were already existing programs operated by CBOs and different agencies that had been around for a long time. And instead of recognizing that and working to help hospitals partner with those agencies, I felt like a lot of the fund distribution was to allow hospitals to develop their own programs, that already existed. And that was frustrating and we, many times, were trying to identify what our [organization] did and, "Look, we already kind of do this. This agency already does this." And I felt like that sort of fell on

deaf ears, a lot of times, and that kind of turned some people away from the table. –
2019 community-based organization regional focus group participant

The shift from an inpatient to outpatient care focus was a new way of thinking for many clinical sector professionals, and the DSRIP program's goal to reduce potentially preventable emergency department visits and potentially preventable hospital readmissions was noted to conflict with the current payment and reimbursement structure.

Across all the partners, especially some of the larger institutional partners, it was very challenging to engage their current culture and push through systems and expectations in a very aggressive way. The DSRIP Year 0 came and went and DSRIP Year 1 came and we started building very quickly....but there are cultural norms and cultural expectations that exist for many years with our partners. Pushing through some of that to get them to grasp new ideas and want to change the way they've done work for a while was very challenging. Many have moved in a way that they're able to accept the new systems and workflows, but the cultural settings need to be engaged and maybe a bit slower next time. Shifting resources and shifting the thinking from an inpatient focus to ambulatory is a huge move for many in the hospital field. Also, the insurance companies and state DOH still pay for in-patient care more than they do for ambulatory care and ambulatory behavioral health. Obstacles still in the way are billing, and managed-care infrastructures are what we get paid for in the industry. –
2018 PPS key informant

An overarching challenge is convincing providers, hospitals, partners, etc. to do work in a way that is very different from how they've done it and is sometimes at odds with the way they are reimbursed. We definitely share the message and speak the language that VBP is coming, and quality is going to drive payments, and fee-for-service won't be here anymore. It's hard though (even with all of that, because I think they've heard that for a long time and fee-for-service is still very much here), to convince providers they should start acting in a way that doesn't necessarily generate more money for them and in some cases generates less money for them. I think here now in DY4, there are VBP contracts that are happening and we are making moves in that direction, but it doesn't seem at the end of DSRIP that fee for service will be anywhere close to completely gone. –
2018 PPS key informant

Key informants explained that it was a struggle to get hospitals on board with reducing emergency department visits because of the consistent source of revenue. Without value based contracts in place, there was no incentive, in a fee-for-service system, to keep patients out.

We've gotten a lot of pushback from the hospitals because of the loss of value that has to do with decreasing the ED visits. That part wasn't very well thought out. We wanted to do it, we wanted to do it right, we knew it was the right thing to do...but it created kind of like a division within the hospital. –
2018 PPS key informant

We do not want these patients coming to the emergency room, but when paramedics pick up a patient, they are not paid unless they bring the patient to the emergency room.
– 2018 PPS key informant

4.4.2. Health Care Service Delivery Integration Projects and Metrics

The DSRIP program included three Pay for Reporting measures of progress in adopting standards for integrated service delivery models and health information exchange with Qualified Entities: (1) the percentage of primary care providers meeting Patient-Centered Medical Home (PCMH) standards from the National Committee for Quality Assurance, or else New York’s Advanced Primary Care (APC) standards; (2) the percentage of providers meeting Meaningful Use criteria who have participating agreements with Qualified Entities; and (3) the percentage of providers meeting Meaningful Use criteria who conduct bidirectional exchange with Qualified Entities. Regional health information organizations (RHIOs), now referred to as Qualified Entities, are regional networks that store electronic health information. New York has eight Qualified Entities in different service areas across the state that collectively make up the Statewide Health Information Network of New York (SHIN-NY).

These measures are relevant to successful implementation of DSRIP projects, and system transformation more generally. In the DSRIP program, PPSs received data on their attributed members to create “chase lists” of individuals who are flagged as out of care, identify areas for quality improvement, and other uses. More broadly, despite claims period lags, New York invested considerable resources to promote health information exchange and interoperability across clinics to improve care coordination, improve patient safety, and other outcomes.¹³³

Adequate infrastructure for health information technology is requisite for meeting PCMH/APC standards. For example, the PCMH certification standards include electronic access for patients, electronic prescribing, and utilization of data for population management. Other PCMH activities demand adequate health management data, such as identification of high-risk patients, tracking tests and referrals, and performance reporting. New York’s APC model also explicitly promotes the effective use of health information technology. Beyond health information technology, the PCMH/APC standards require numerous other aspects of integrated care including coordination with other providers, comprehensive patient-centered care, implementing evidence-based guidelines, and care management. The PCMH/APC measure is directly relevant to the Project 2.a.ii (Primary Care Certification (PCMH/APC Models)), selected by five PPSs.

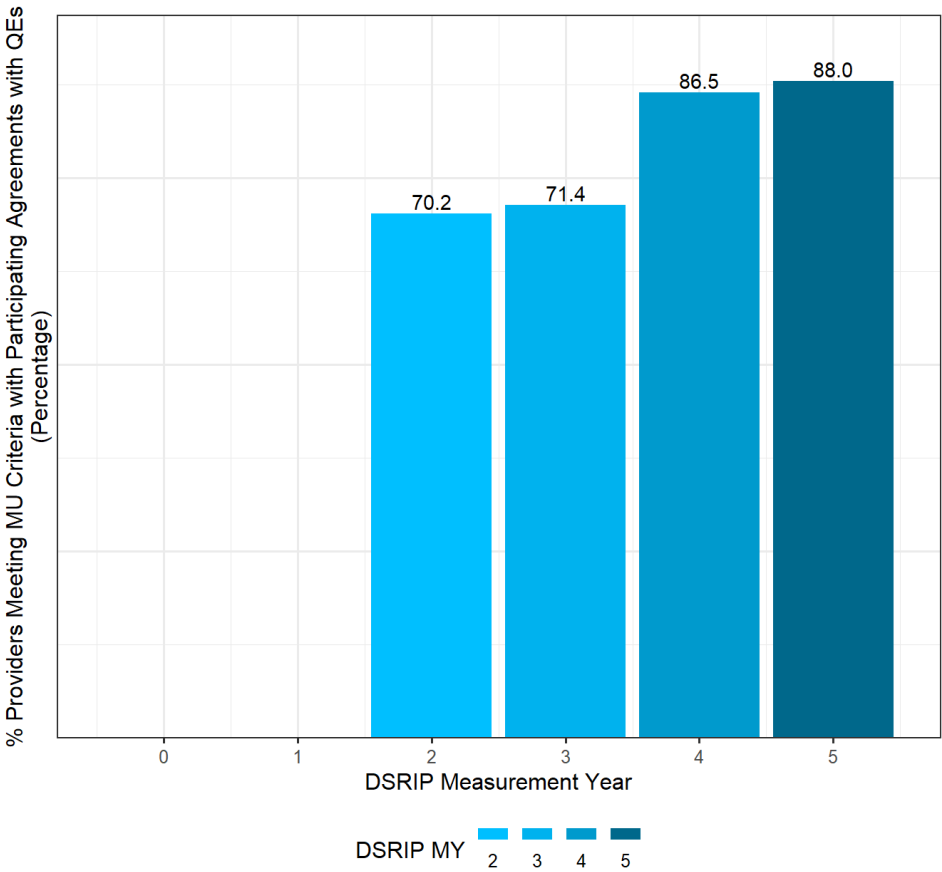
¹³³ Vest, J.R. & Martin, E.G. (2016). Creating a 21st century health information technology infrastructure: New York’s Health Care Efficiency and Affordability Law for New Yorkers capital grant program. In: Dixon, B.E. (ed.) Health Information Exchange: Navigating and Managing a Network of Health Information Systems. San Diego, CA: Elsevier Inc., pp. 295-312.

4.4.2.1. Performance Measures for Health Care Service Delivery Integration

Exhibits 4.4.2.1.i and 4.4.2.1.ii show annual statewide changes in the percentage of primary care providers who have met Meaningful Use criteria who: (a) had participating agreements with Qualified Entities and (b) reported conducting bidirectional exchange with Qualified Entities. Both measures increased from MY2 to MY5.¹³⁴ The percentage with participating agreements increased from 70.2% in MY2 to 88.0% in MY5 (see Exhibit 4.4.2.i), and the percentage participating in bidirectional exchange increased from 51.4% in MY2 to 71.6% in MY5 (see Exhibit 4.4.2.ii). These positive improvements were in the expected direction. The increase in bidirectional information exchange is consistent with the DSRIP program's large emphasis on health information technology and was applicable to the successful implementation of many DSRIP projects.

¹³⁴ Although MY1 data were available, they are excluded because they were collected using a different methodology and thus cannot be trended with the data from MY2 through MY5.

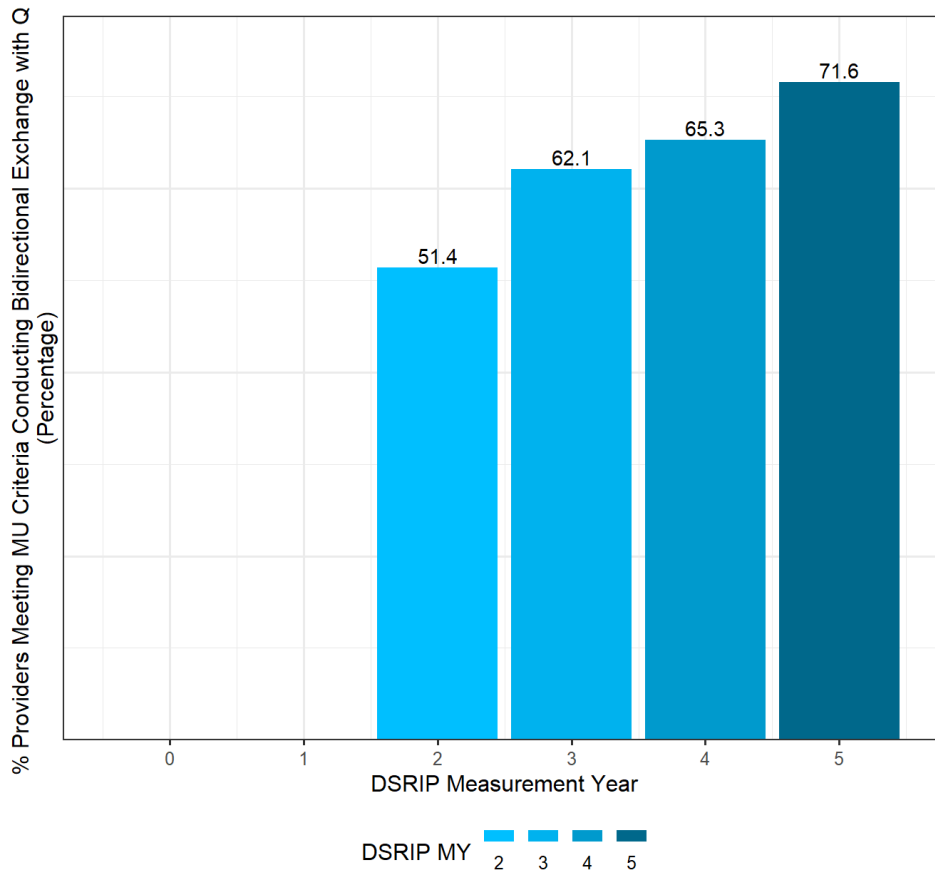
Exhibit 4.4.2.1.i. Statewide annual changes in the percent of providers meeting Meaningful Use criteria with participating agreements with Qualified Entities, from MY2 to MY5



Source: Authors’ analysis of the DSRIP Dataset.

Note: MY1 data were available but omitted because they were collected using a different methodology and thus not suitable for inclusion in the time trend.

Exhibit 4.4.2.1.ii. Statewide annual changes in the percent of providers meeting Meaningful Use criteria conducting bidirectional exchange with Qualified Entities, from MY2 to MY5



Source: Authors’ analysis of the DSRIP Dataset.

Note: MY1 data were available but omitted because they were collected using a different methodology and thus not suitable for inclusion in the time trend.

Exhibits 4.4.2.1.iii through 4.4.2.1.vi display bubble charts and clustered bar charts to illustrate changes over time by PPSs for the two health information technology outcomes of having participating agreements with Qualified Entities and conducting bidirectional exchange with Qualified Entities. The bubble charts show changes from MY2 to MY5, and the clustered bar charts illustrate year to year changes. Exhibit 4.4.2.1.vii displays variability in the values across PPSs and time. For each measure; the median, minimum, and maximum values are reported by MY. Consistent with the statewide bar charts, the MY1 observations are omitted because the data were collected using a different methodology in that year.

In the bubble charts, the X-axis is the measure value in the first available time period (MY2) and the Y-axis is the change in the measure value at the last available value (MY5). A value below

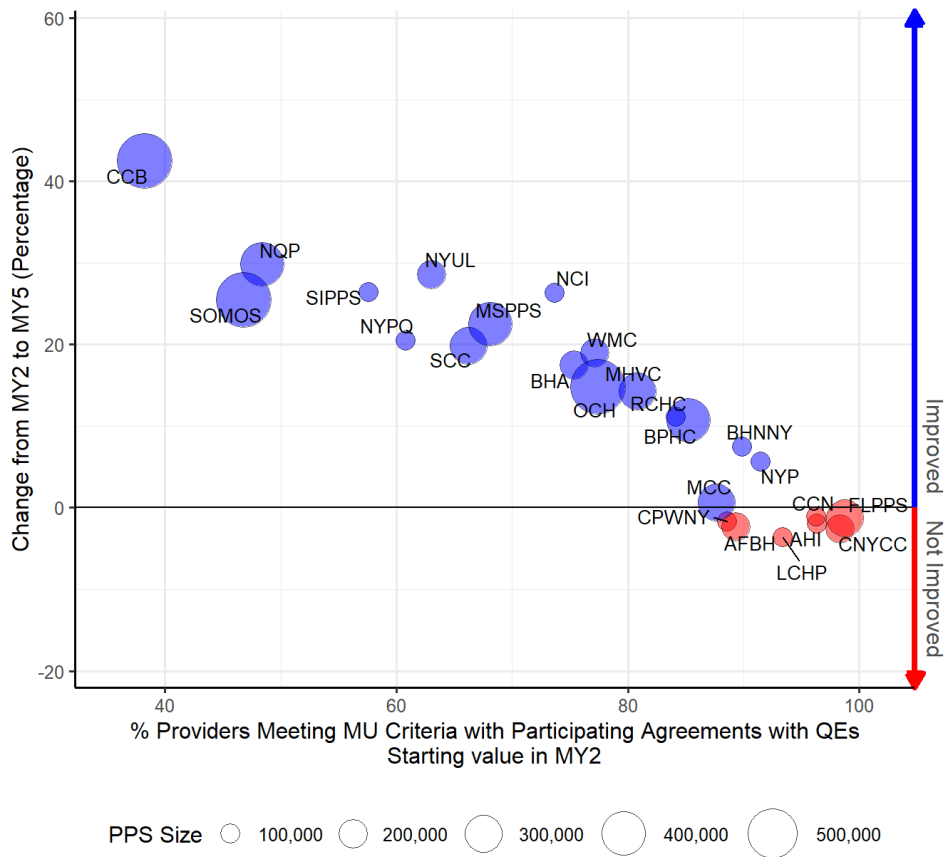
the horizontal line (zero value) means that the measure value declined during the period, while a value above the horizontal line means that the measure value increased. Improvements are displayed in blue, and trends that worsened are in red. For each measure, an increase denotes an improvement and thus values above the zero horizontal line are in blue. The size of the bubble corresponds to the number of members in each PPS, with larger bubbles for PPSs with more members.

In the clustered bar charts, all bars are blue because they are in the post-DSRIP initiation period (MY2-MY5). Although MY1 data were available, MY1 bars were omitted because the data were collected using a different methodology in that year.

From MY2 to MY5, 18 PPSs experienced an increase in the percentage of primary care providers meeting Meaningful Use criteria who had participating agreements with Qualified Entities. In the bubble chart (see Exhibit 4.4.2.1.iii), there was a clear trend with PPSs that had the fewest providers meeting this metric in MY2 having the greatest improvement (upper left of the chart) and the PPSs with the largest proportion of providers meeting this metric in MY2 having the smallest improvement (bottom right of the chart). At the start of the period, three of the NYC PPSs started with less than 50% of providers having participating agreements (Community Care of Brooklyn (CCB), Nassau Queens PPS (NQP), and SOMOS) but each had notable improvements by MY5. Several of the PPSs that had no improvement (shaded in red) started with over 95% of providers having participating agreements and had little room for improvement. This pattern of strong improvement among all PPSs is also visible in the clustered bar charts, in which most PPSs increased over time (except for those that started with very high values, as noted above) and also the variability between PPSs decreased over time as adoption increased statewide (range in values across PPSs, MY2: from 38.3% to 98.7%, MY5: from 72.2% to 100%).

From MY2 to MY5, 23 of the PPSs also experienced an increase in the percentage of providers meeting Meaningful Use criteria who conducted bidirectional exchange with Qualified Entities. The two PPSs that had a worsening (Community Care of Brooklyn (CCN) and NewYork-Presbyterian Queens PPS (NYPQ)) had declines that were nearly zero and not meaningful; i.e., their values remained similar between MY2 and MY5. The bubble chart for the bidirectional exchange measure (see Exhibit 4.4.2.1.iv) had similar patterns to the bubble chart for participating agreements: PPSs that started with the lowest values in MY2 had the strongest improvements by MY5 (upper left of the chart) and PPSs that started with the highest values in MY2 had the lowest improvements by MY5 (bottom right of the chart). Similar to the participating agreements measure, the variability between PPSs in the percentage of providers meeting Meaningful Use criteria who conducted bidirectional exchange declined over time (range in values across PPSs, MY2: from 18.3% to 87.9%, MY5: from 42.7% to 95.6%). Section 4.7.2.6 discusses the experiences that different PPSs had in connecting their partners with Qualified Entities.

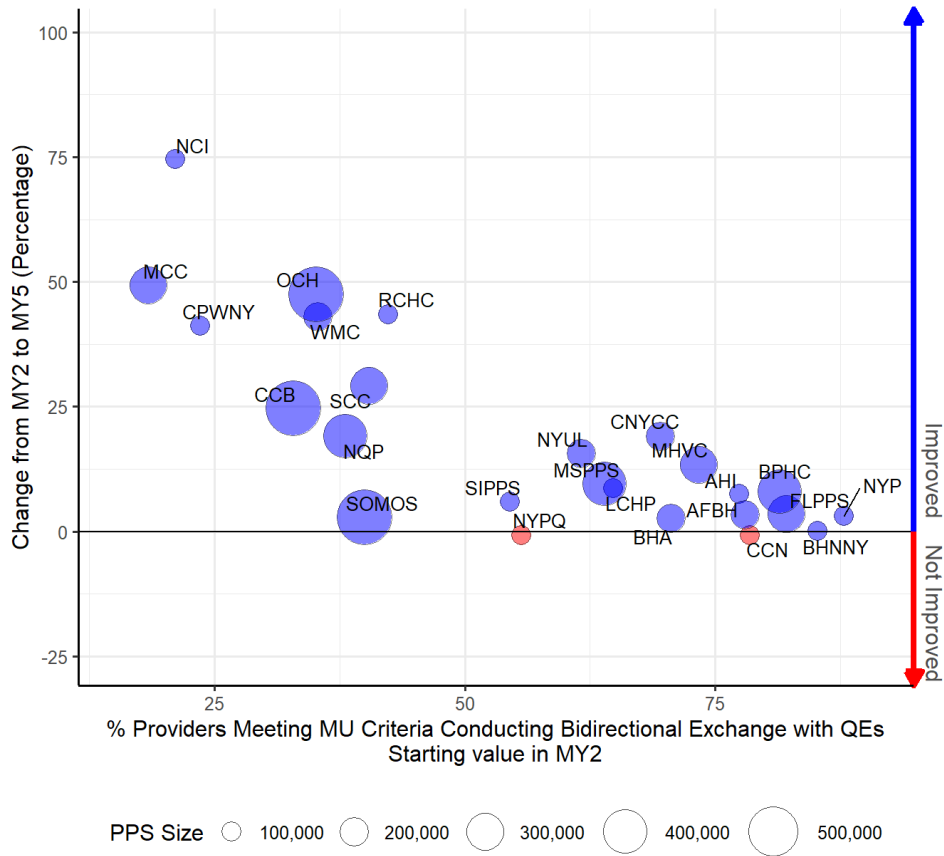
Exhibit 4.4.2.1.iii. Bubble chart of PPS-level changes in the percent of providers meeting Meaningful Use criteria with participating agreements with Qualified Entities, from MY2 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Note: MY1 data were available but omitted because they were collected using a different methodology and thus not suitable for inclusion in the time trend.

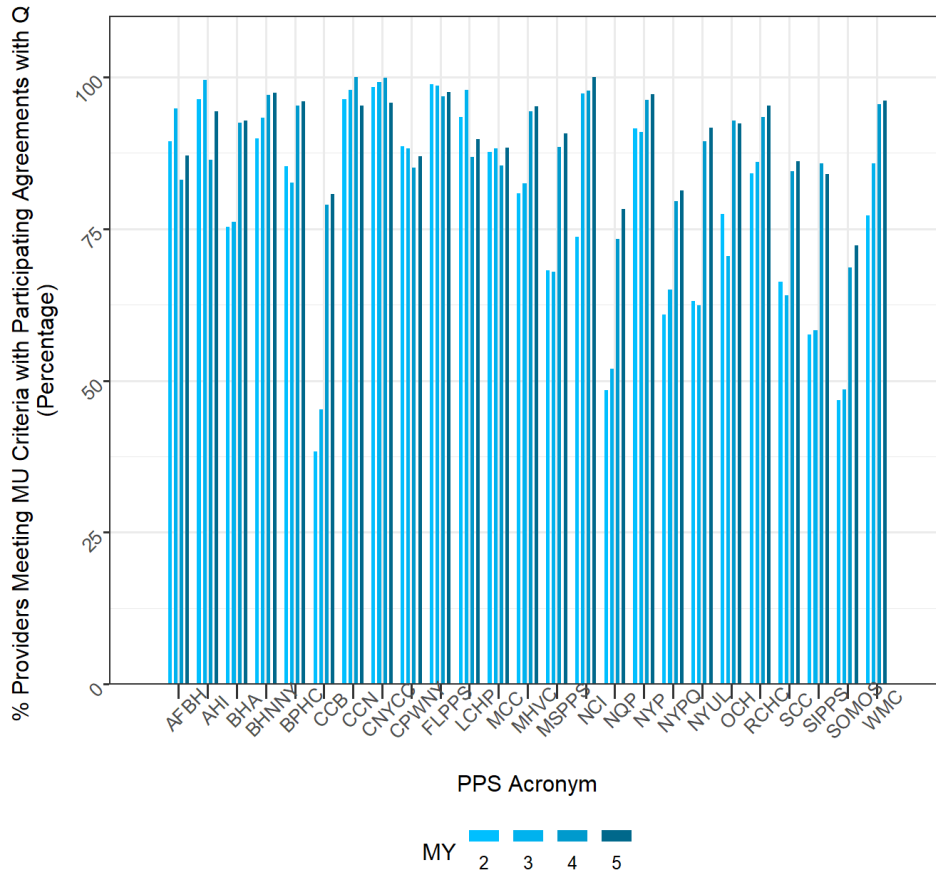
Exhibit 4.4.2.1.iv. Bubble chart of PPS-level changes in the percent of providers meeting Meaningful Use criteria conducting bidirectional exchange with Qualified Entities, from MY2 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Note: MY1 data were available but omitted because they were collected using a different methodology and thus not suitable for inclusion in the time trend.

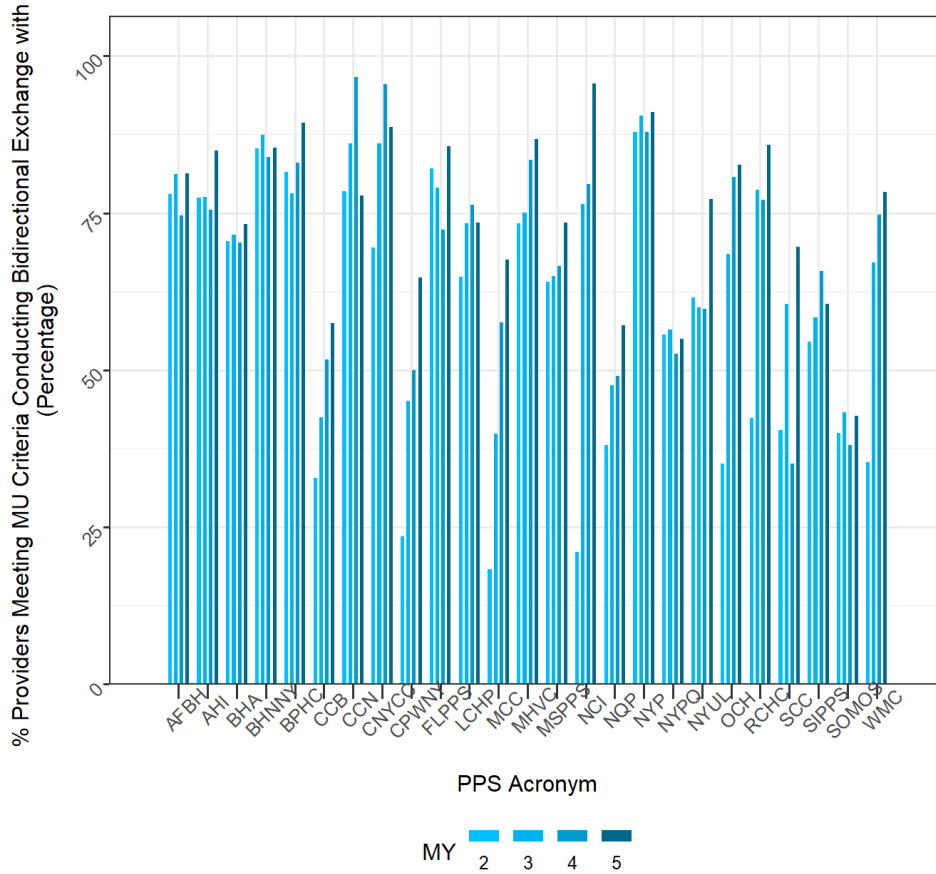
Exhibit 4.4.2.1.v. PPS-level bar chart of PPS-level changes in the percent of providers meeting Meaningful Use criteria with participating agreements with Qualified Entities, from MY2 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Note: MY1 data were available but omitted because they were collected using a different methodology and thus not suitable for inclusion in the time trend.

Exhibit 4.4.2.1.vi. PPS-level bar chart of PPS-level changes in the percent of providers meeting Meaningful Use criteria conducting bidirectional exchange with Qualified Entities, from MY2 to MY5



Source: Authors’ analysis of the DSRIP Dataset.

Note: MY1 data were available but omitted because they were collected using a different methodology and thus not suitable for inclusion in the time trend.

Exhibit 4.4.2.1.vii. Variability in health information technology measures across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
% providers with participating agreements	MY2	80.8	38.3	98.7
	MY3	85.8	45.3	99.5
	MY4	89.4	68.6	100.0
	MY5	92.3	72.2	100.0

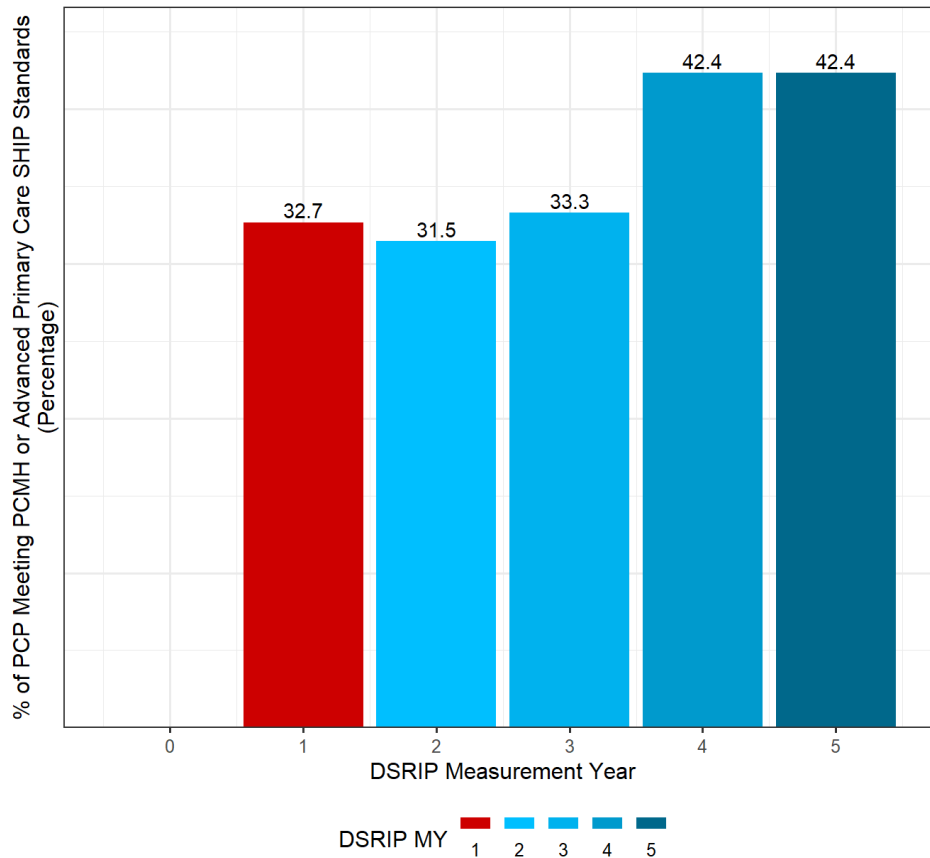
Measure	Measurement Year	Median	Minimum	Maximum
% providers conducting bidirectional exchange	MY2	61.6	18.3	87.9
	MY3	71.6	39.8	90.5
	MY4	74.6	35.1	96.7
	MY5	77.8	42.7	95.6

Source: Authors' analysis of the DSRIP Dataset.

Note: MY1 data were available but omitted because they were collected using a different methodology and thus not suitable for inclusion in the time trend.

Exhibit 4.4.2.1.viii shows statewide trends in the percent of primary care providers who achieved PCMH/APC standards for integrated care. Similar to the health information technology measures, this measure also increased during the time period, from 32.7% in MY1 to 42.4% in MY5. The lower percentage of providers meeting PCMH/APC standards, compared to the percentage who achieved the health information technology metrics, may reflect the additional work required to meet the additional requirements beyond health information technology, and that only one-fifth of PPSs selected Project 2.a.ii (Primary Care Certification (PCMH/APC Models)). Section 4.7.4.1 discusses PPSs' experiences with PCMH certification.

Exhibit 4.4.2.1.viii. Statewide annual changes in meeting Patient Centered Medical Home or Advanced Primary Care standards, from MY1 to MY5



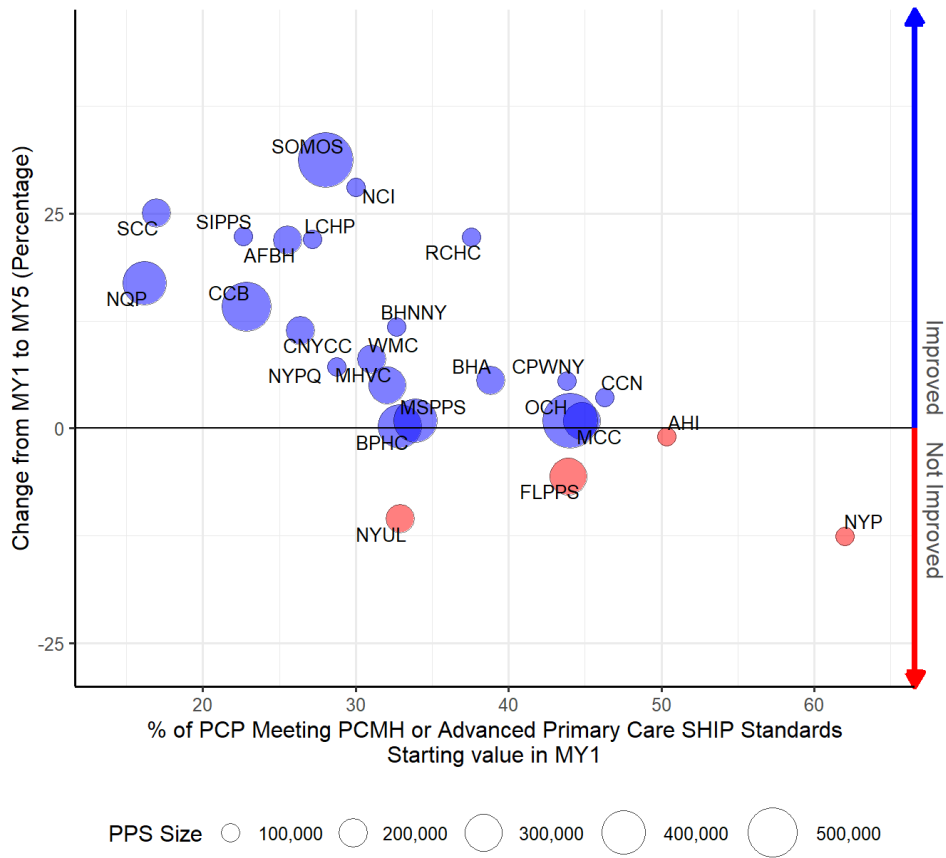
Source: Authors’ analysis of the DSRIP Dataset.

Notes: “PCMH/APC standards” is the percent of primary care providers meeting Patient Centered Medical Home (PCMH) standards from the National Committee for Quality Assurance, or else New York’s Advanced Primary Care (APC) standards.

Exhibits 4.4.2.1.ix and 4.4.2.1.x display the bubble chart and clustered bar chart for PPS-level changes in the adoption of PCMH/APC standards. Exhibit 4.4.2.1.xi displays variability in the values across PPSs and time. For each measure, the median, minimum, and maximum values are reported by MY.

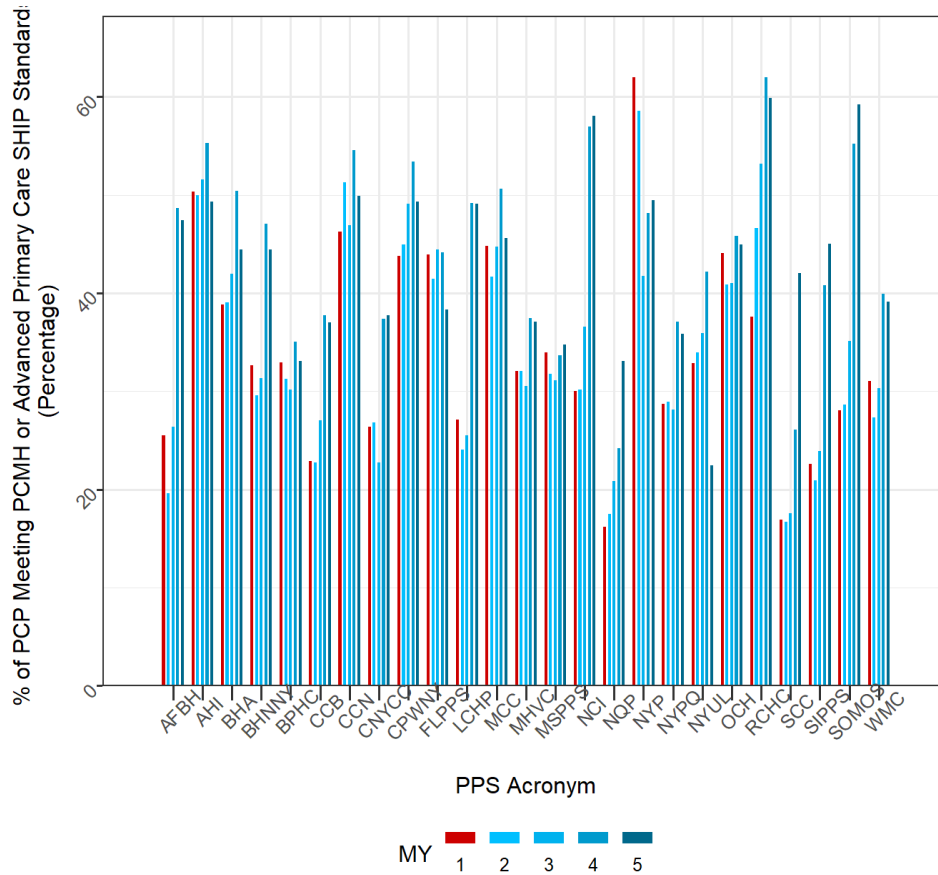
Most PPSs improved on this measure between MY1 and MY5. Similar to the health information technology measures, the bubble charts indicated that PPSs that started with the lowest values had the largest improvements. NYU Langone Brooklyn (NYUL) was unusual with its steady improvement from MY1 through and MY4 and large MY4 to MY5 decline; this may be due to a change in the provider network. In the clustered bar chart, a similar pattern emerged with decreased variability over time across PPSs (range in values across PPSs, MY1: from 16.2% to 62.0%, MY5: from 22.4% to 59.9%).

Exhibit 4.4.2.1.ix. Bubble chart of changes in meeting Patient Centered Medical Home or Advanced Primary Care standards, from MY0 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.4.2.1.x. PPS-level bar chart of changes in meeting Patient Centered Medical Home or Advanced Primary Care standards, from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.4.2.1.xi. Variability in changes in meeting Patient Centered Medical Home or Advanced Primary Care standards across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
% PCPs meeting PCMH or Advanced Primary Care standards	MY1	32.7	16.2	62.0
	MY2	31.4	16.7	58.6
	MY3	32.3	17.6	53.2
	MY4	45.0	24.2	62.0
	MY5	44.5	22.4	59.9

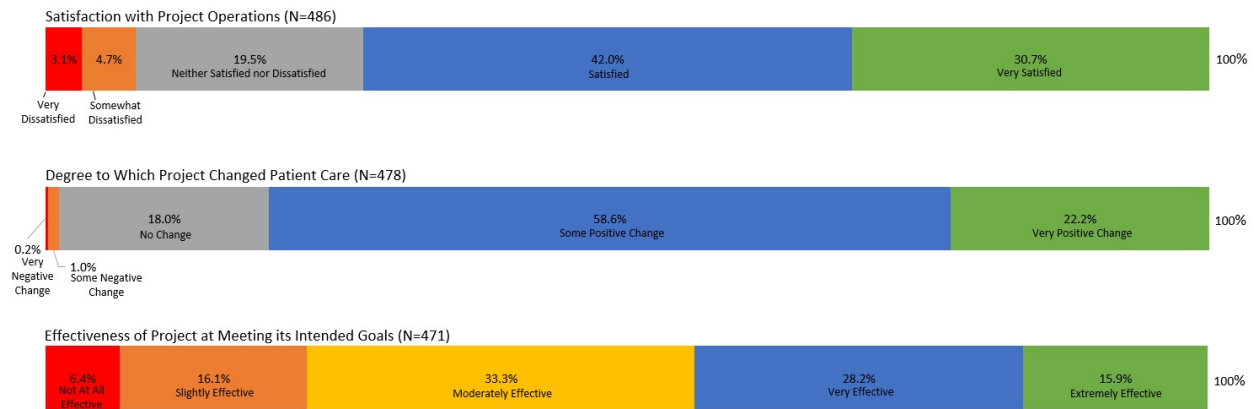
Source: Authors' analysis of the DSRIP Dataset.

Abbreviations: Primary Care Medical Home (PCMH), Primary Care Providers (PCP)

4.4.2.2. Partner Survey Findings on Perceptions of Health Care Service Delivery Integration Projects

In the 2019 partner survey, 72.7% of respondents were satisfied with the operations of Domain 2a projects (Create Integrated Delivery Systems). A total of 80.8% believed the projects made a positive change in patient care, and 77.4% perceived the projects as at least moderately effective in meeting their intended goals. (see Exhibit 4.4.2.2.i)

Exhibit 4.4.2.2.i. Partner perceptions of Domain 2a projects (Create Integrated Delivery Systems; 2.a.i, 2.a.ii, 2.a.iii, 2.a.iv, 2.a.v)



Source: Authors' analysis of the 2019 statewide partner survey.

4.4.3. Health Care Coordination Projects and Metrics

4.4.3.1. Performance Measures for Health Care Coordination Projects

Exhibits 4.4.3.1.i and 4.4.3.1.ii display annual measures for two health care coordination measures derived from the Consumer Assessment of Health Care Providers and Systems (CAHPS) family of patient experience surveys: (1) care transition and (2) up-to-date coordination. The CAHPS surveys are pre-validated, standardized instruments used across health care settings. They focus on patient reports and ratings of experiences rather than satisfaction, which could be confounded by attitudes towards caregivers. Patient experiences align with patient-centered care, and positive patient experiences can help achieve trust and

strengthened provider-patient relationships, improved continuity of care and adherence to treatment plans, and improved health care outcomes.¹³⁵

A vendor (DataStat) surveyed Medicaid members within each PPS for the Clinician & Group CAHPS (CG-CAHPS).¹³⁶ The Adult Hospital CAHPS (HCAHPS) are submitted by hospitals, and the values in the DSRIP Dataset are based on information accessed from the CMS website. The PPS results are case-mix adjusted, which limits the ability to trend PPS performance across years.

The up-to-date coordination measure is a composite of questions 13, 17, and 20 from the CG-CAHPS, reproduced below. The response set for each question is a four-point Likert scale, from “never” to “always.” The DSRIP measure is on a 0 to 100 percentage-point scale, and takes an average of the percentage of surveys within each PPS with “usually” and “always” responses. The composite score is an average of the three measures.

- “In the last 6 months, how often did this provider seem to know the important information about your medical history?”
- “In the last 6 months, when this provider ordered a blood test, x-ray, or other test for you, how often did someone from this provider’s office follow up to give you those results?”
- “In the last 6 months, how often did you and someone from this provider’s office talk about all the prescription medicines you were taking?”

The care transition measure is a composite of questions 23, 24, and 25 from the Hospital CAHPS (HCAHPS), reproduced below. The response set for each question is a four-point Likert scale, from “strongly disagree” to “strongly agree.” The DSRIP measure is on a 0 to 100 percentage-point scale, and takes an average of the percentage of surveys from hospitals within each PPS with “strongly agree” and “agree” responses. The composite score is an average of the three measures.

- “During this hospital stay, staff took my preferences and those of my family/caregiver into account in deciding what my health care needs would be when I left.”
- “When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.”
- “When I left the hospital, I clearly understood the purpose of taking each of my medications.”

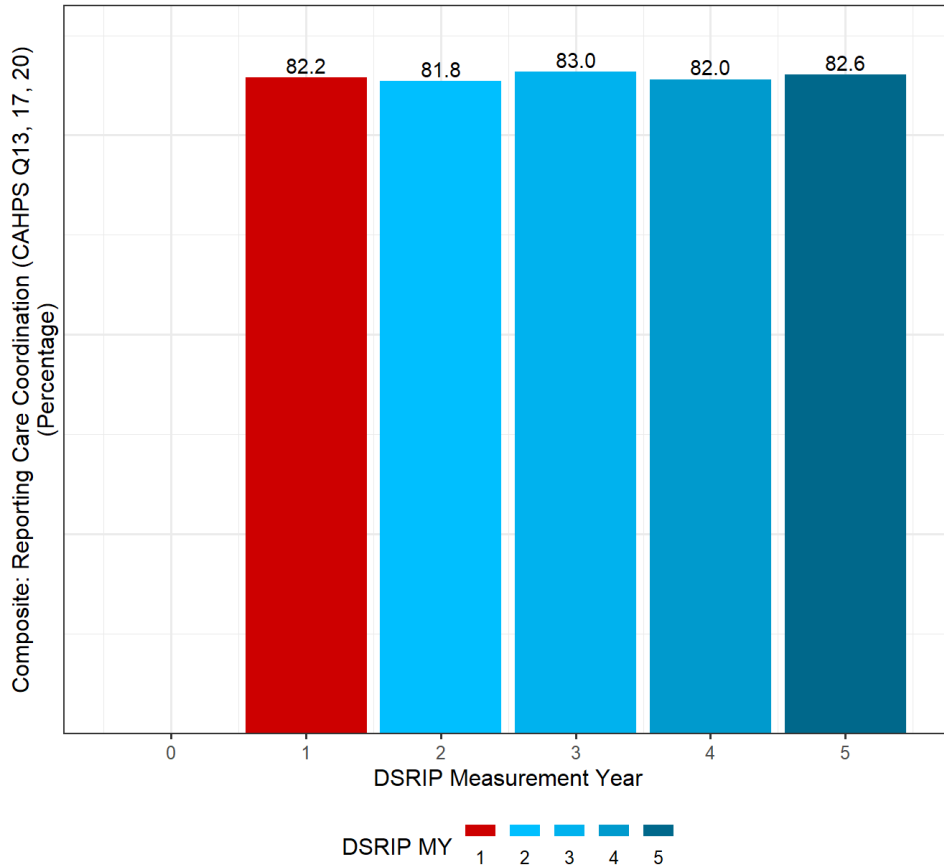
Statewide, patients’ reported experiences about whether their providers had up-to-date coordination was consistent across the five years, from 82.2% in MY1 to 82.6% in MY5. Most patients agreed they had a good understanding of their hospital discharge plans and that their

¹³⁵ Cleary, P.D. & Elliott, M.N. (2015, October 5). Sorting fact from fiction: the value of patient experience measurement. Retrieved from <https://www.ahrq.gov/cahps/news-and-events/events/ahrq-conference-2015/sorting-fact-fiction-slides.html>

¹³⁶ The PPSs that were eligible for and selected the eleventh project also fielded their own CG-CAHPS for the uninsured non-Medicaid population. These are not reported here because they are neither centrally administered by a vendor nor case-mix adjusted.

preferences were taken into account; this level of agreement was consistent across the five years, from 93.0% in MY1 to 92.7% in MY5.¹³⁷

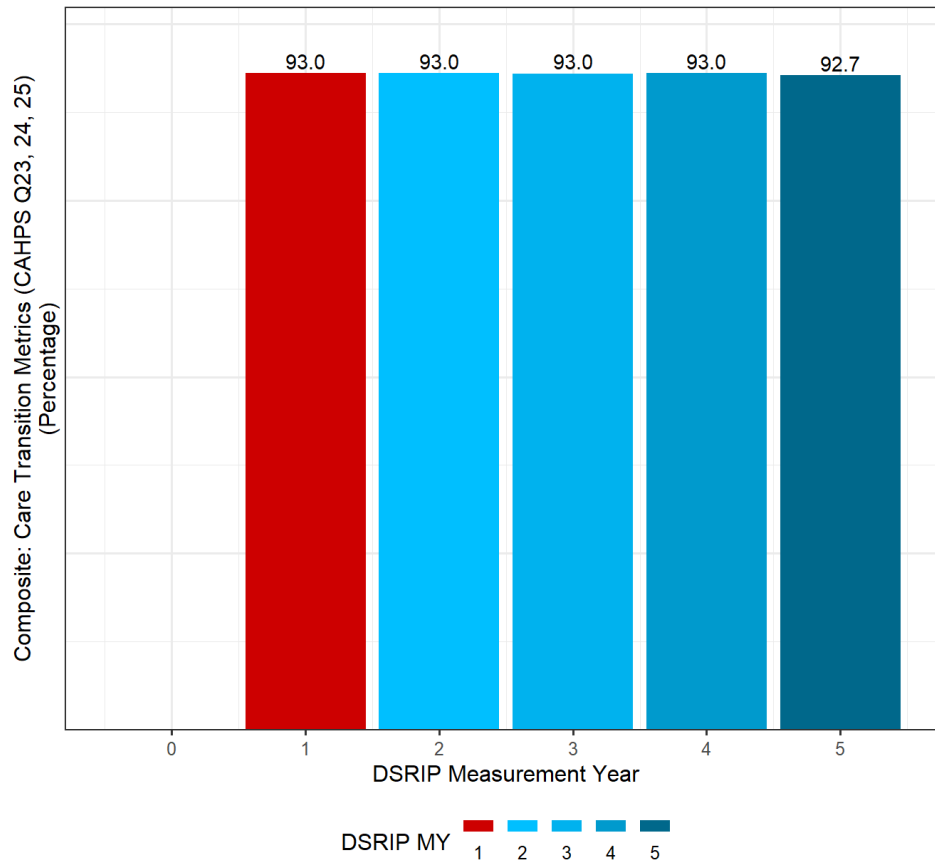
Exhibit 4.4.3.1.i. Statewide annual changes in care coordination metrics, from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

¹³⁷ The statewide values reported here may differ slightly from those in the DataStat reports because the statewide values were calculated by the Independent Evaluator as the weighted average (by PPS population size) of the PPS-level outcomes to be consistent with the calculation of statewide values for all other DSRIP program performance measures in the *final* Summative Report. In addition, the attribution logic changed in MY3, and the DSRIP Dataset values reflect the updated logic.

Exhibit 4.4.3.1.ii. Statewide annual changes in care transition metrics, from MY1 to MY5

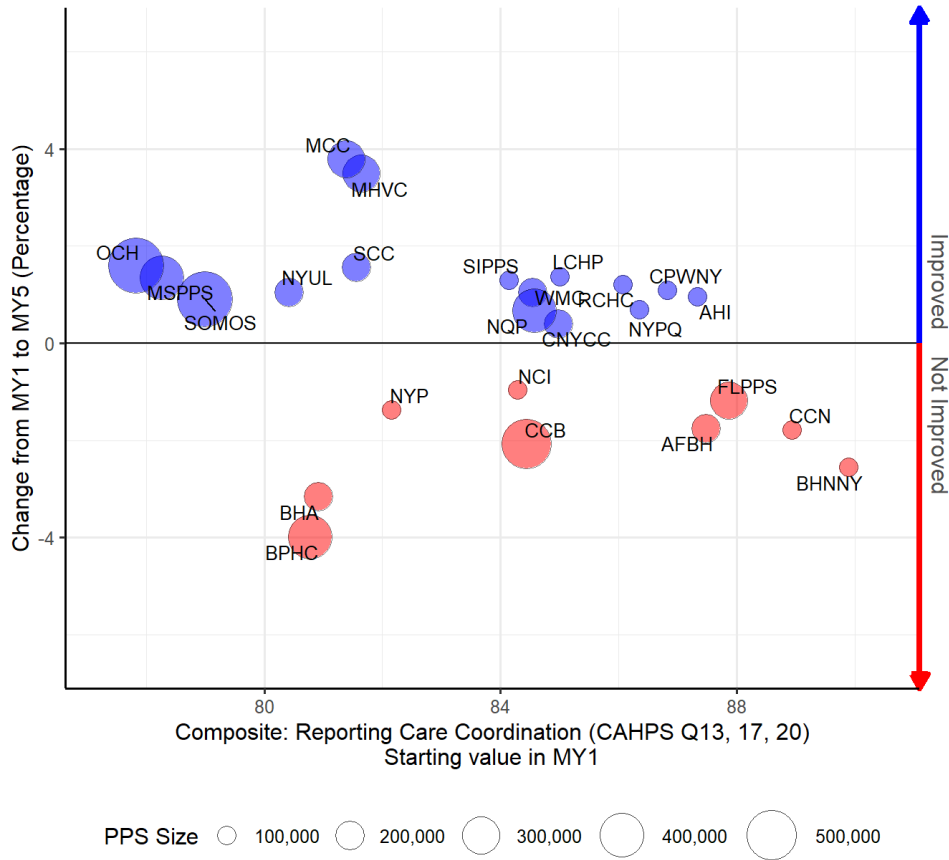


Source: Authors' analysis of the DSRIP Dataset.

Exhibits 4.4.3.1.iii through 4.4.3.1.vi display the bubble charts and clustered bar charts for the PPS-level changes in the care coordination and care transition metrics. From MY1 to MY5, 16 PPSs improved on the care coordination measure (see Exhibits 4.4.3.1.iii and 4.4.3.1.v) and 10 PPSs improved on the care transition metrics (see Exhibits 4.4.3.1.iv and 4.4.3.1.vi). Exhibit 4.4.3.1.vii displays variability in the values across PPSs and time. For each measure, the median, minimum, and maximum values are reported by MY.

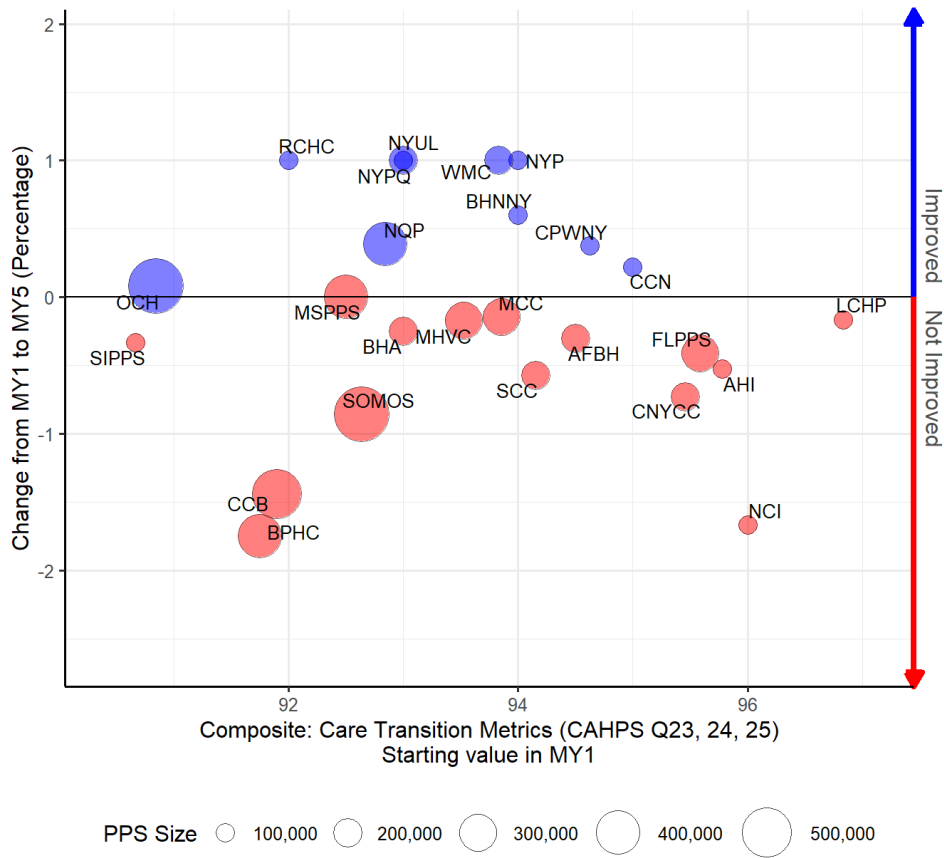
There was less variability between PPSs and also within PPSs over time on the care transition metrics, compared to the care coordination measure. This is likely because PPSs started out at such a high rate.

Exhibit 4.4.3.1.iii. Bubble chart of PPS-level changes in care coordination metrics, from MY1 to MY5



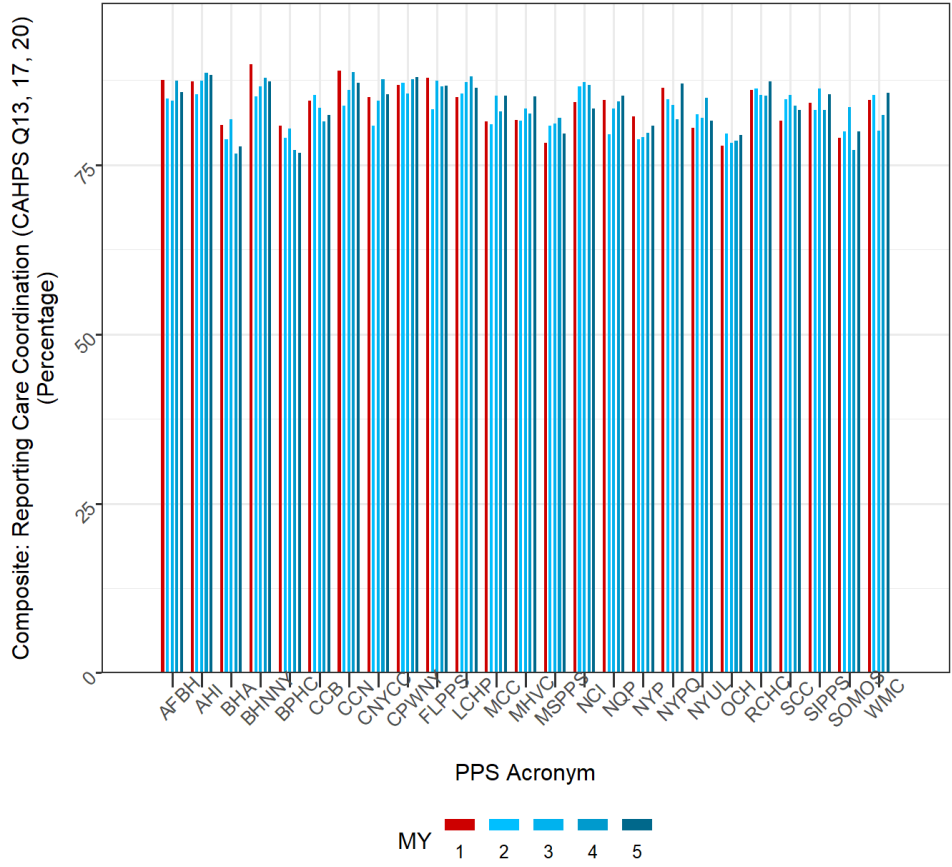
Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.4.3.1.iv. Bubble chart of PPS-level changes in care transition metrics, from MY1 to MY5



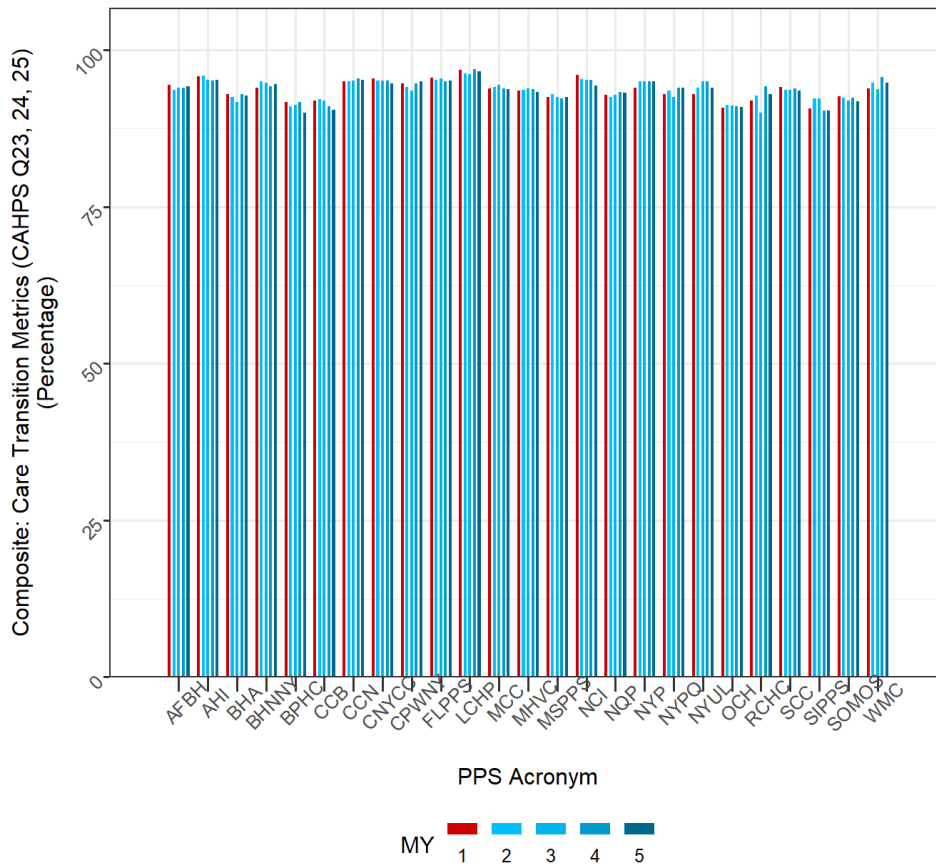
Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.4.3.1.v. PPS-level bar chart of changes in care coordination metrics, from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.4.3.1.vi. PPS-level bar chart of changes in care transition metrics, from MY1 to MY5



Source: Authors' analysis of the DSRIP Dataset.

Exhibit 4.4.3.1.vii. Variability in reporting care coordination and care transition metrics across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
Composite: reporting care coordination (CAHPS Q13, 17, 20)	MY1	84.4	77.8	89.9
	MY2	83.2	78.8	87.1
	MY3	84.4	78.2	87.4
	MY4	83.8	76.6	88.7
	MY5	85.2	76.8	88.3

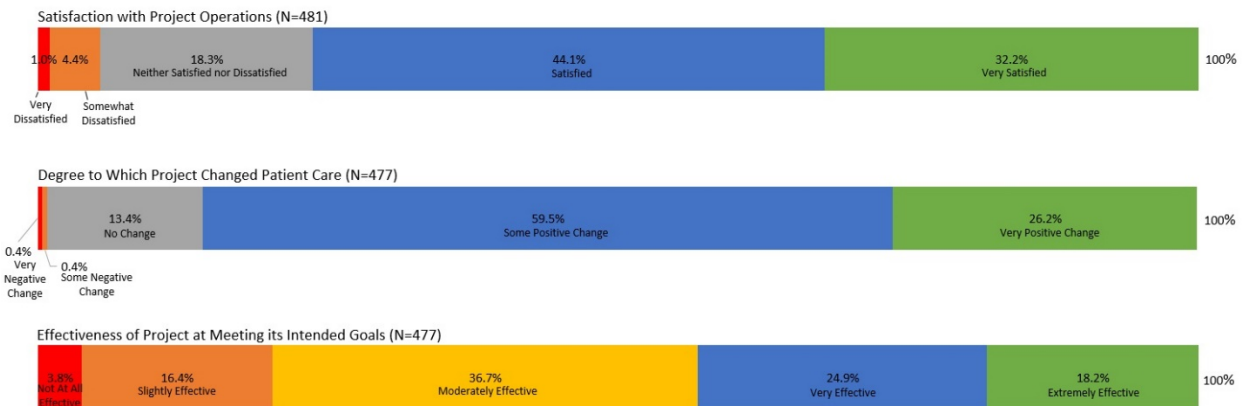
Measure	Measurement Year	Median	Minimum	Maximum
Composite: care transition metrics (CAHPS Q23, 24, 25)	MY1	93.8	90.7	96.8
	MY2	93.7	91.0	96.3
	MY3	93.8	90.0	96.1
	MY4	94.0	90.3	97.0
	MY5	94.0	90.0	96.7

Source: Authors' analysis of the DSRIP Dataset.

4.4.3.2. Partner Survey Findings on Perceptions of System Transformation Projects

In the 2019 partner survey, 76.3% of respondents were satisfied with the operations of Domain 2b projects (Implementation of Care Coordination and Transitional Care Programs). A total of 85.7% believed the projects made a positive change in patient care, and 79.8% perceived the projects as at least moderately effective in meeting their intended goals. (see Exhibit 4.4.3.2.i.)

Exhibit 4.4.3.2.i. Partner perceptions of Domain 2b projects (Implementation of Care Coordination and Transitional Care Programs; 2.b.i, 2.b.ii, 2.b.iii, 2.b.iv, 2.b.v, 2.b.vi, 2.b.vii, 2.b.viii, 2.b.ix)

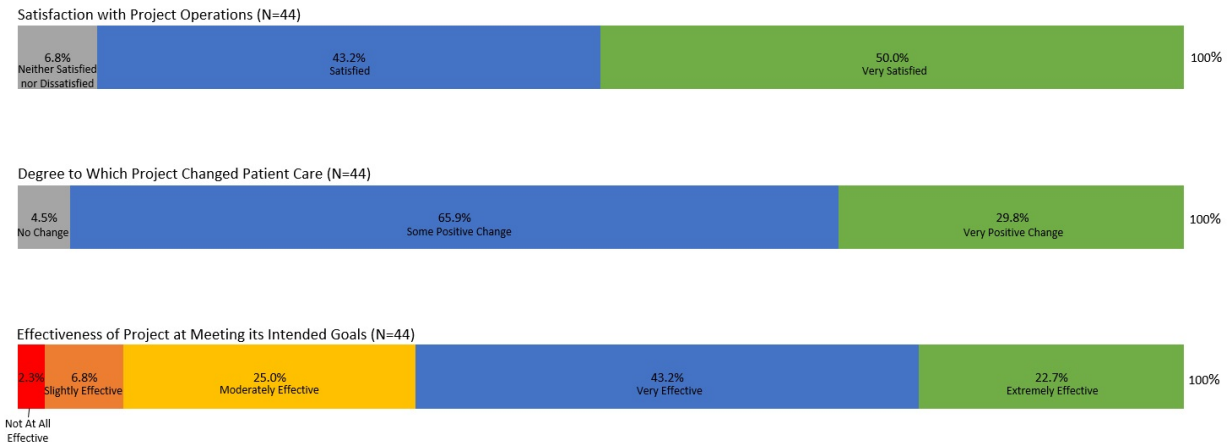


Source: Authors' analysis of the 2019 statewide partner survey.

In the 2019 partner survey, 93.2% of respondents were satisfied with the operations of Domain 2c projects (Connecting Settings). A total of 95.7% believed the projects made a positive change

in patient care, and 90.9% perceived the projects as at least moderately effective in meeting their intended goals (see Exhibit 4.4.3.2.ii).

Exhibit 4.4.3.2.ii. Partner perceptions of Domain 2c projects (Connecting Settings; 2.c.i, 2.c.ii)



Source: Authors’ analysis of the 2019 statewide partner survey.

4.4.4. Health Care Utilization among the Uninsured, Non-Utilizing, and Low-Utilizing Populations Projects and Metrics

4.4.4.1. Performance Measures for Health Care Utilization among the Uninsured, Non-Utilizing, and Low-Utilizing Populations

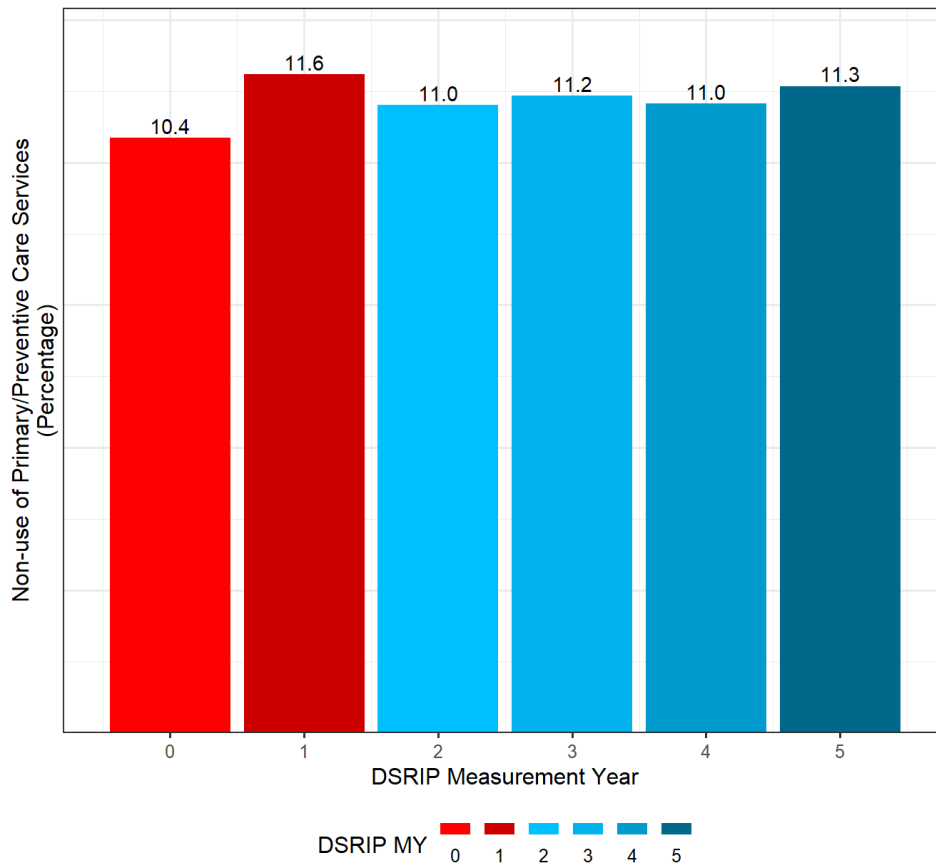
Two measures for utilization among the uninsured, non-utilizing, and low-utilizing populations were examined. These findings are limited to the 14 PPSs that selected the “eleventh” patient activation project (Project 2.d.i). The first measure is the percent of attributed members who did not have at least one claim with a preventative services code during the year. If the DSRIP program shifted costs upstream and increased the use of preventive services, this measure of “non-use” would have declined. The second measure is the percentage of all emergency department (ED) visits to hospitals in the PPS network during the year that had a payer typology of “self-pay.” A value of zero would indicate that all individuals presenting to care at the ED had public or private insurance. Positive values would reflect a high volume of ED use among the uninsured compared to the insured population, a high percentage of the population that is uninsured, or a combination of these factors.

Exhibits 4.4.4.1.i and 4.4.4.1.ii display result at the statewide level, where “statewide” refers to the population-weighted average across the 14 PPSs. Throughout the period, the percentage of

attributed members with non-use of preventive services rose slightly from 10.4% in MY0 to 11.3% in MY5 (see Exhibit 4.4.4.1.i). The increase (worsening) occurred during the pre-DSRIP period, between MY0 (10.4%) to MY1 (11.6%), and thereafter it remained at a constant level ranging from 11.0% to 11.3% during MY2 through MY5.

During the DSRIP program period, there was a notable 5.2 percentage-point drop in the percentage of self-pay ED visits from MY0 to MY5 (15.2% and 10.0%, respectively), which represents an improvement of 34.2% (see Exhibit 4.4.4.1.ii). One possible explanation for the sharp decrease in self-pay ED visits between MY0 and MY1 (from 15.2% to 12.4%) is the coincidence with the implementation of the Medicaid expansion under the Affordable Care Act and the launch of NY State of Health, New York’s health insurance exchange. A decline in the number of uninsured individuals would result in a smaller percentage of self-pay ED visits, even if the ratio of the volume of visits between the uninsured and insured populations remained the same.

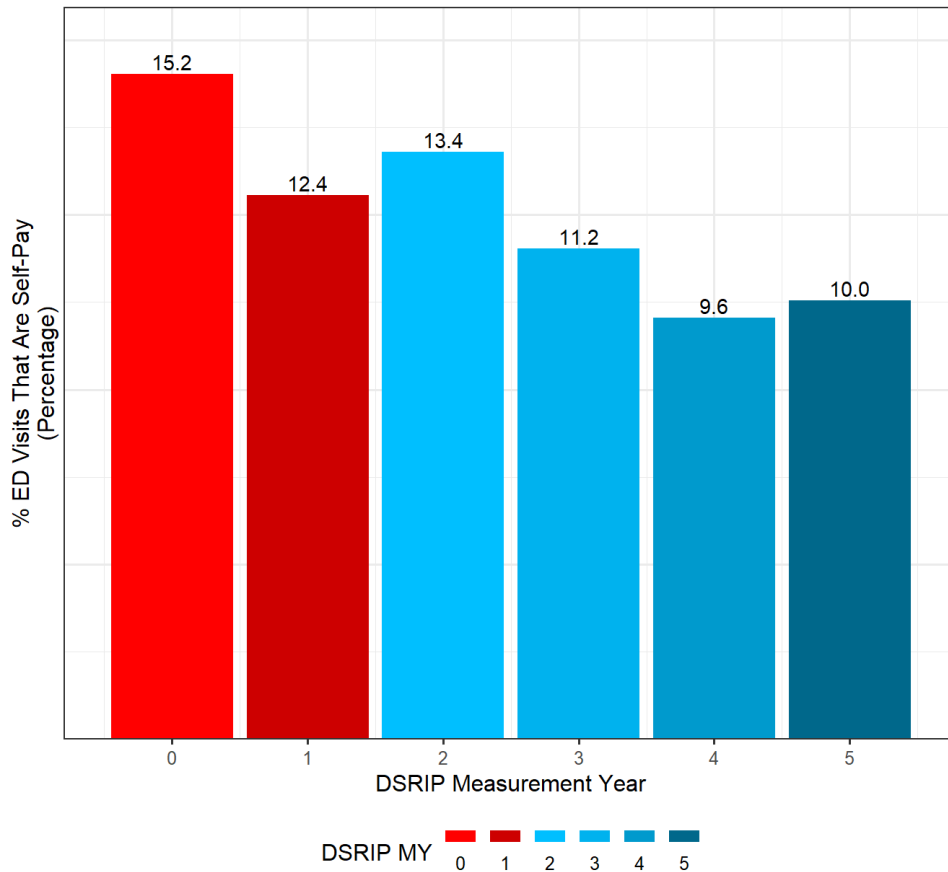
Exhibit 4.4.4.1.i . Statewide annual changes in non-use of preventive services among PPSs that selected project 2.d.i.



Source: Authors’ analysis of the DSRIP Dataset.

Notes: “No Preventive Services” is the percent of attributed Medicaid members who did not have at least one claim with a preventative services code during the year. Data are restricted to the 14 PPSs that selected Project 2.d.i.

Exhibit 4.4.4.1.ii. Statewide annual changes in self-pay emergency department visits among PPSs that selected project 2.d.i.



Source: Authors’ analysis of the DSRIP Dataset.

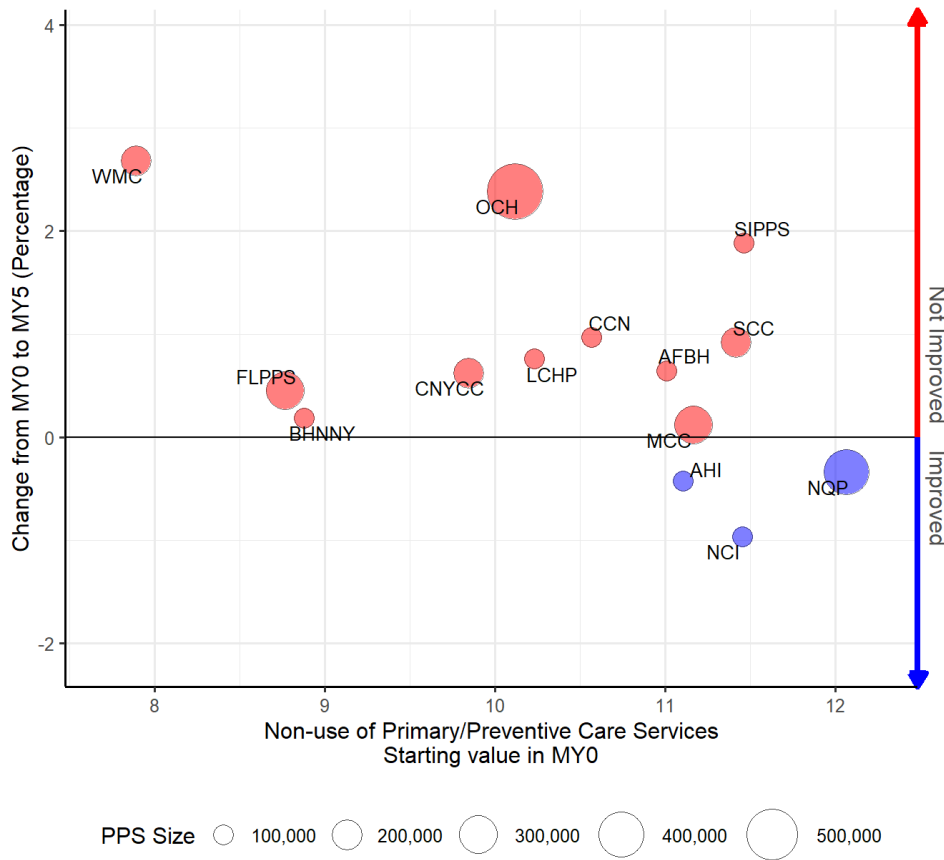
Notes: “Self-Pay ED Visits” is the percent of all emergency department visits to hospitals in the PPS network during the year that had a payer typology of self-pay. Data are restricted to the 14 PPSs that selected Project 2.d.i.

Exhibits 4.4.4.1.iii through 4.4.4.1.vi display bubble charts and clustered bar charts to illustrate changes over time for the 14 PPSs for non-use of preventive services (see Exhibits 4.4.4.1.iii and 4.4.4.1.v) and self-pay emergency department visits (see Exhibits 4.4.4.1.iv and 4.4.4.1.vi). The bubble charts show changes from the beginning and end of the data periods, and the clustered bar charts illustrate year to year changes. Exhibit 4.4.4.1.vii displays variability in the values across PPSs and time. For each measure, the median, minimum, and maximum values are reported by MY.

For the non-use of preventive services measure, 11 of the 14 PPSs are shown in the bubble chart as “worsening,” as their values increased. However, most changes were modest in magnitude. The bubble chart revealed that changes in the statewide average was largely driven by OneCity Health (OCH), which is the largest PPS to select the eleventh project. Although its starting value in MY0 was in line with the other PPSs, it had one of the largest increases throughout the period which affected the statewide progress during the DSRIP program period.

For the self-pay emergency department visits measure, all 14 PPSs experienced an improvement from MY0 to MY5. The bubble chart and clustered bar chart reveal that similar to the non-use of preventive services measure, the statewide average was largely driven by OneCity Health (OCH). OneCity Health’s large MY0 starting value (29.6%) pulled up the MY0 statewide average considerably overall, and for the 1.0 percentage-point statewide increase between MY1 and MY2. Although its value remained substantially higher than other PPSs by MY5 (21.4%), it had the largest improvement among the 14 PPSs and a promising continued trend for future improvement.

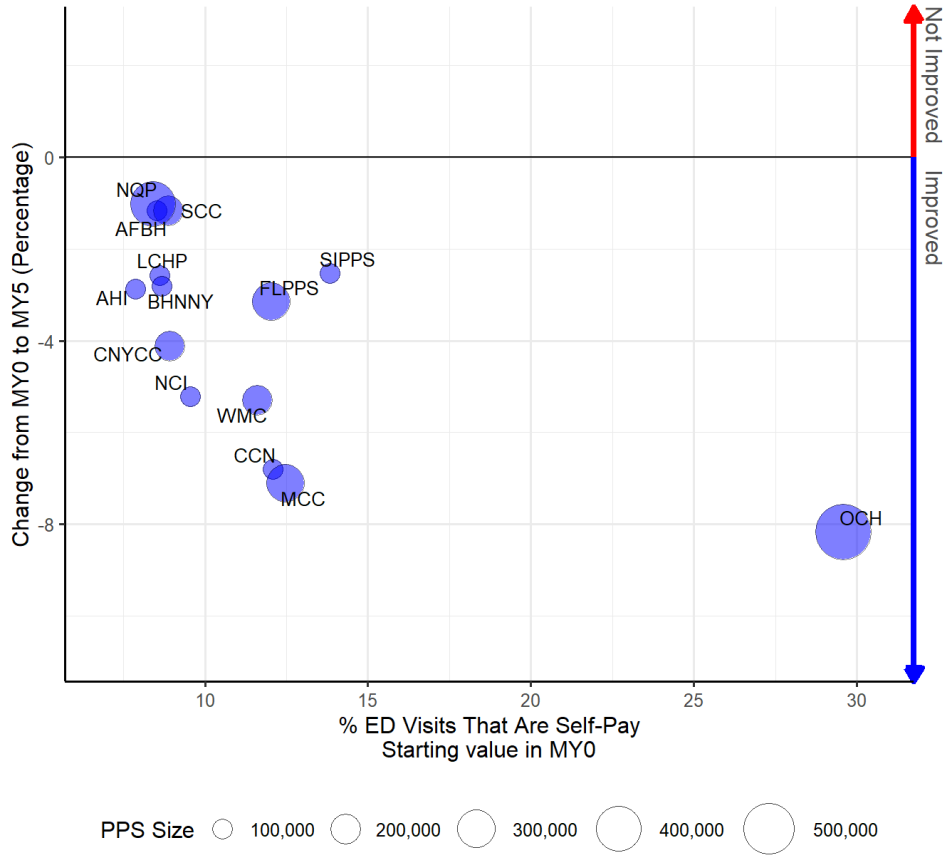
Exhibit 4.4.4.1.iii. Bubble chart of PPS-level changes in non-use of preventive services among PPSs that selected project 2.d.i



Source: Authors' analysis of the DSRIP Dataset.

Notes: "No Preventive Services" is the percent of attributed Medicaid members who did not have at least one claim with a preventative services code during the year. Data are restricted to the 14 PPSs that selected Project 2.d.i.

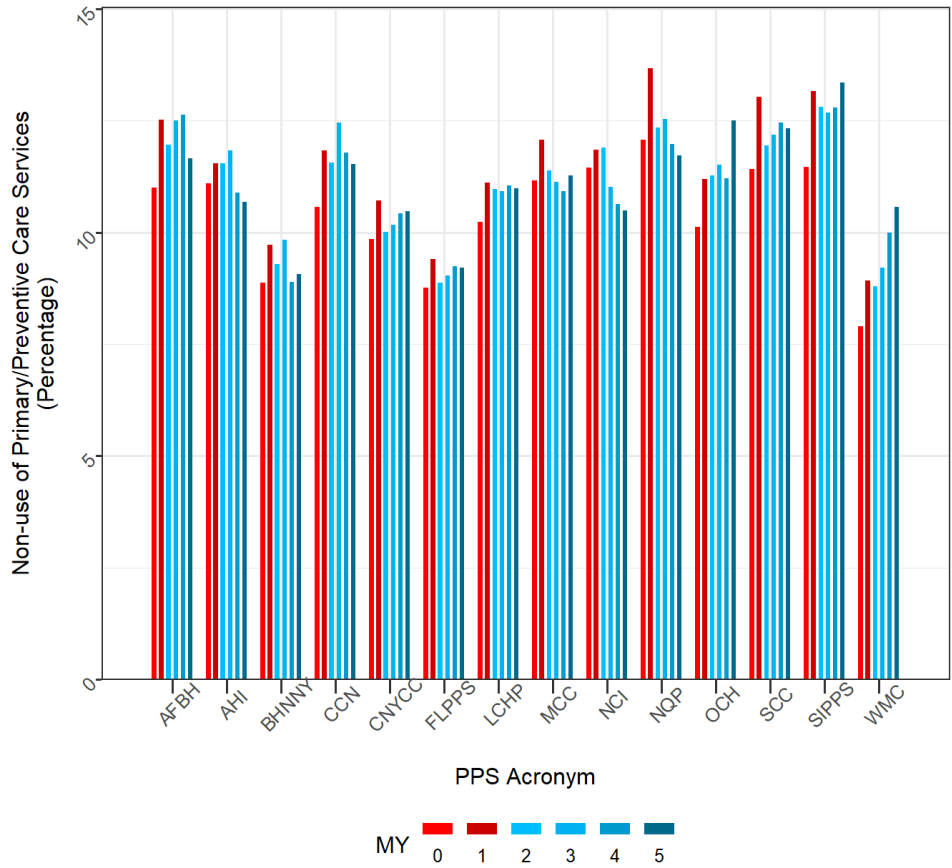
Exhibit 4.4.4.1.iv. Bubble chart of PPS-level changes in self-pay emergency department visits among PPSs that selected project 2.d.i



Source: Authors' analysis of the DSRIP Dataset.

Notes: "Self-Pay ED Visits" is the percent of all emergency department visits to hospitals in the PPS network during the year that had a payer typology of self-pay. Data are restricted to the 14 PPSs that selected Project 2.d.i.

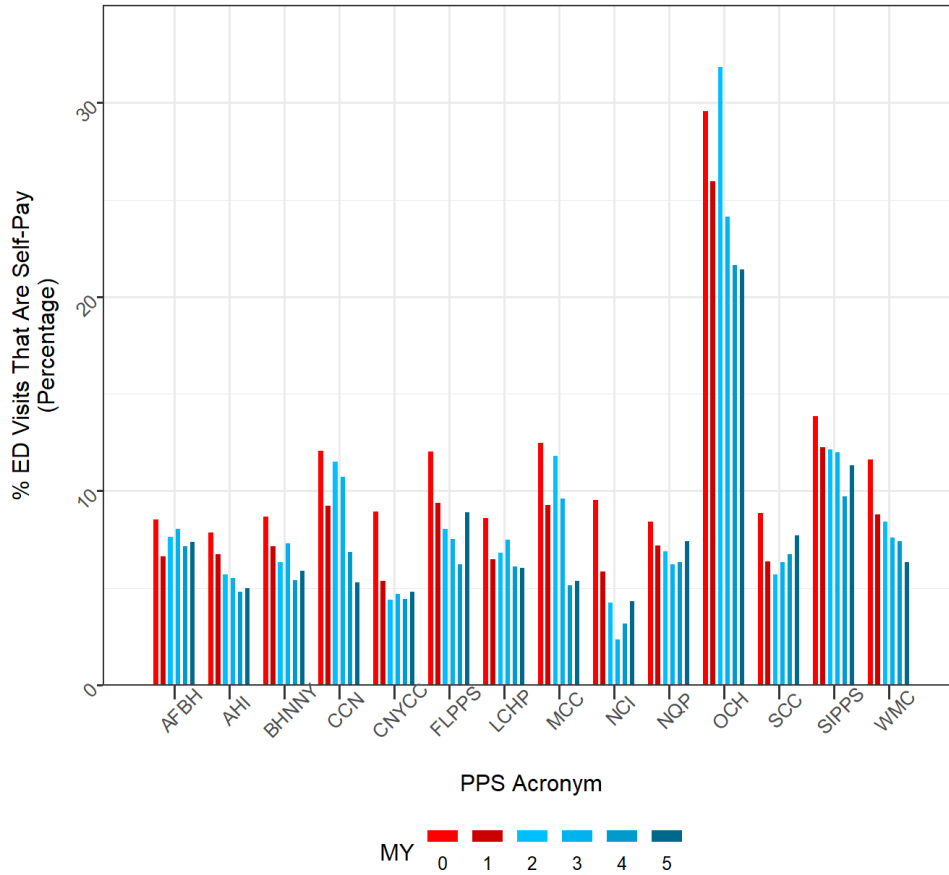
Exhibit 4.4.4.1.v. PPS-level bar chart of changes in non-use of preventive services among PPSs that selected project 2.d.i.



Source: Authors' analysis of the DSRIP Dataset.

Notes: "No Preventive Services" is the percent of attributed Medicaid members who did not have at least one claim with a preventative services code during the year. Data are restricted to the 14 PPSs that selected Project 2.d.i.

Exhibit 4.4.4.1.vi. PPS-level bar chart of changes in self-pay emergency department visits among PPSs that selected project 2.d.i.



Source: Authors’ analysis of the DSRIP Dataset.

Notes: “Self-Pay ED Visits” is the percent of all emergency department visits to hospitals in the PPS network during the year that had a payer typology of self-pay. Data are restricted to the 14 PPSs that selected Project 2.d.i.

Exhibit 4.4.4.1.vii. Variability in non-use of preventive services and self-pay emergency department visits across PPSs and time

Measure	Measurement Year	Median	Minimum	Maximum
% non-use of primary/preventive care services	MY0	10.8	7.9	12.1
	MY1	11.7	8.9	13.7
	MY2	11.5	8.8	12.8
	MY3	11.3	9.0	12.7

Measure	Measurement Year	Median	Minimum	Maximum
	MY4	11.0	8.9	12.8
	MY5	11.1	9.1	13.3
% ED visits that are self-pay	MY0	9.2	7.9	29.6
	MY1	7.2	5.3	26.0
	MY2	7.3	4.2	31.8
	MY3	7.5	2.3	24.1
	MY4	6.3	3.2	21.6
	MY5	6.2	4.3	21.4

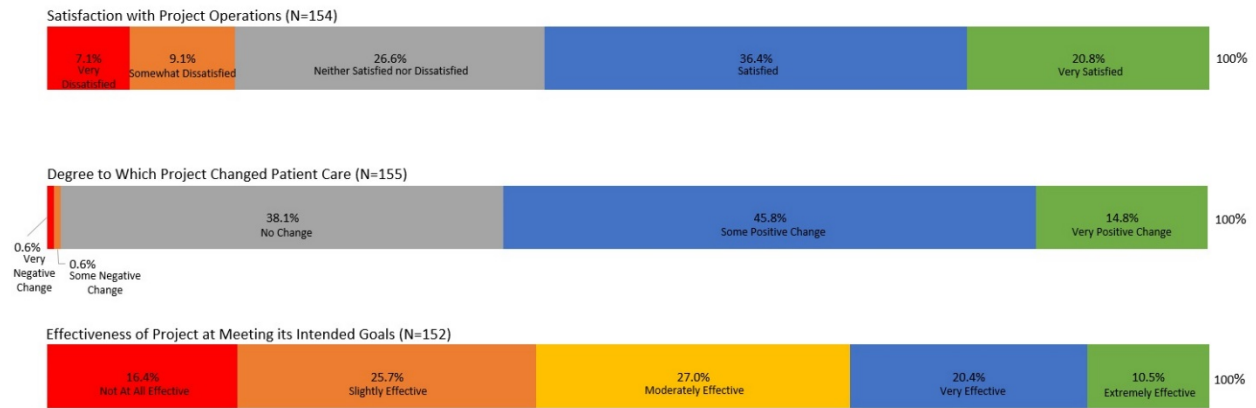
Source: Authors' analysis of the DSRIP Dataset.

Notes: Data are restricted to the 14 PPSs that selected Project 2.d.i.

4.4.4.2. Partner Survey Findings on Perceptions of Patient Activation Project

In the 2019 partner survey, 57.2% of respondents were satisfied with the operations of Project 2.d.i (Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care). A total of 60.6% believed the projects made a positive change in patient care, and 57.9% perceived the projects as at least moderately effective in meeting their intended goals. (see Exhibit 4.4.4.2.i)

Exhibit 4.4.4.2.i. Partner perceptions of Project 2.d.i (Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care)



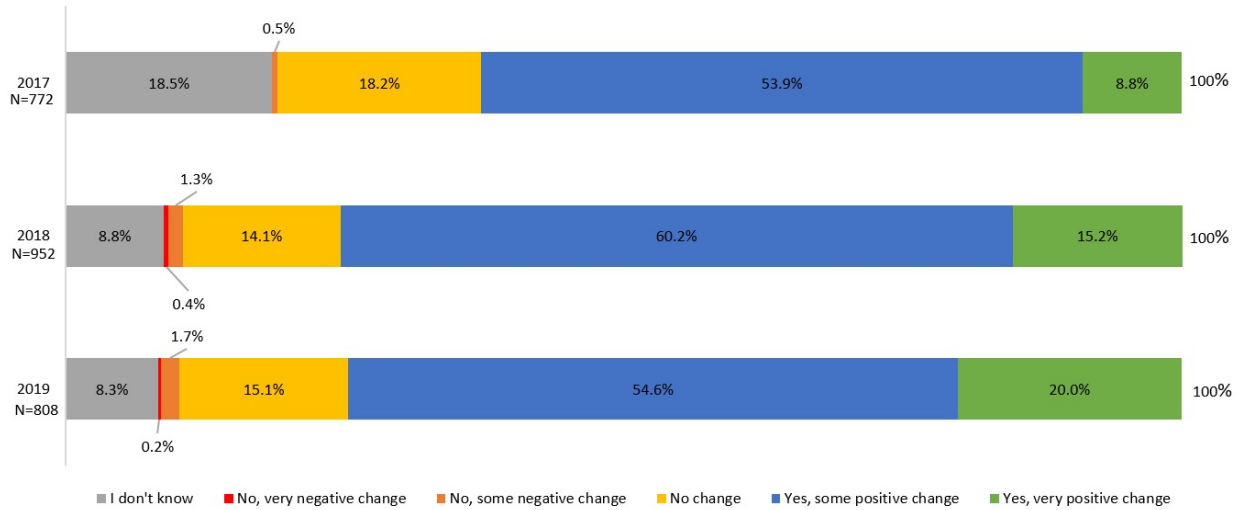
Source: Authors' analysis of the 2019 statewide partner survey.

4.4.5. Partners' and Key Informants' Perceptions of the DSRIP Program's Impact on Patient Care

4.4.5.1. Partner Survey Findings on Patient Care Experiences

Most partner survey respondents reported that patient care had changed for the better since the launch of the DSRIP program. Nearly two-thirds of survey respondents in 2017 and about three-quarters in 2018 and 2019 said that patients were experiencing some positive change or very positive change in care (see Exhibit 4.4.5.1.i).

Exhibit 4.4.5.1.i. In your view, are patients experiencing better care since the launch of the DSRIP program?

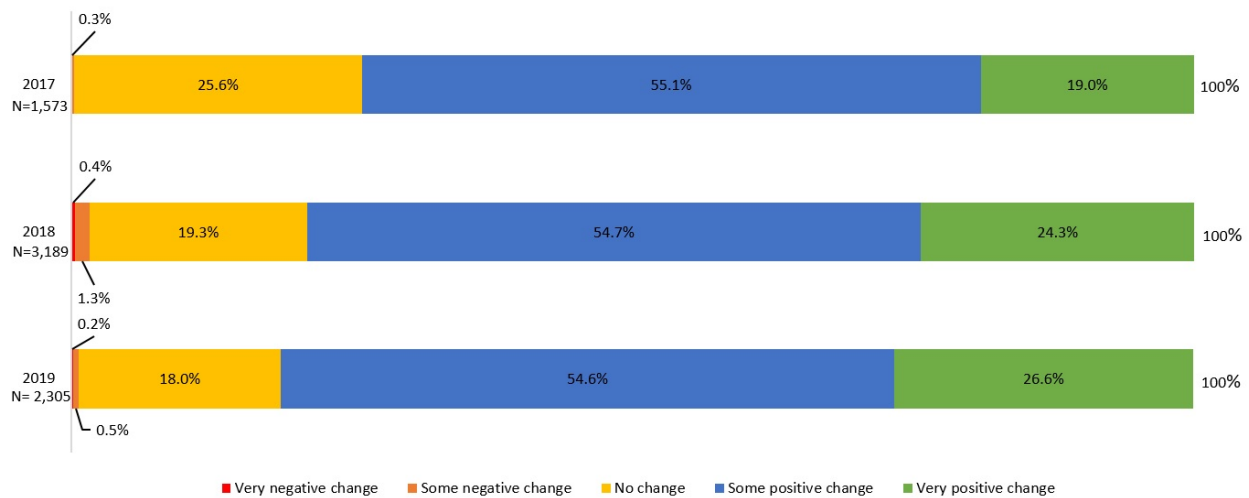


Source: Authors’ analysis of the 2017, 2018, and 2019 statewide partner survey.

Note: Responses do not total 100% due to rounding.

Partners were also asked to rate the degree to which they perceived each of their projects were changing patient care. (Survey respondents were able to answer separately for each project in which they participated.) About three-quarters of responses indicated that projects were leading to some positive change or very positive change; 74.1% in 2017, 79.0% in 2018, and 81.2% in 2019 (see Exhibit 4.4.5.1.ii).

Exhibit 4.4.5.1.ii. Please indicate the degree to which you perceive the project is changing patient care



Source: Authors’ analysis of the 2017, 2018, and 2019 statewide partner survey.

Note: Responses do not total 100% due to rounding.

In 2019, survey participants were asked which patients seemed to be benefitting most from the DSRIP program. About one-quarter (26.9%) identified patients with behavioral health needs. A total of 16.4% mentioned patients with chronic health disorders. High needs clients, including those with complex medical needs, were listed by 11.4% of respondents. Other responses included patients benefitting from care coordination or care management; patients affected by social determinants of health; emergency department over-utilizers; and patients who developed better connections to primary care.

4.4.5.2. Partner Focus Groups and PPS Key Informant Findings on Patient Care Experiences

Supporting the survey results, a significant majority of the partners and administrators who participated in the focus groups and key informant interviews emphasized improvements in patient care coordination as a result of the DSRIP program. Respondents shared that patients were connected to health homes, received more appropriate referrals to both specialists and community-based organizations, received more integrated behavioral health services, and experienced more support after hospital discharge.

A lot of patients when they are discharged are not compliant and don’t go to their follow-up visits. So we follow the patients. We make sure that they have a follow-up visit, and if they’re not consistent or they don’t go, we send a [provider] home to them

for a one-time transitional visit so they don't lose their insurance, they don't lose their primary physician. – 2018 hospital focus group participant

At the patient level, our patients don't know about DSRIP per se, but have they felt it locally? I would say yes, absolutely. The fact that they can go to the emergency room... and engage with a navigator, have a community health worker support them in the community, have a care manager who is helping them coordinate logistics of appointments in their home and insurance. All of these are things that the local system was very challenged with pre-DSRIP and just completely under-resourced. So at the patient level, they have absolutely felt it. – 2018 PPS key informant

It has helped us uncover new ways to go to business and take care of the patient. And it has helped us focus more on a holistic approach to a patient than just a hospital or primary care approach. – 2017 mental health and substance use focus group participant

The providers are now looking to treat patients in terms of making referrals. If they are screening a patient, they understand this patient may have social, behavioral health, or substance abuse issues. Providers are using resources available through DSRIP to make appropriate referrals. Patients are being tracked now and have better engagement because of DSRIP initiatives and tools. – 2018 PPS key informant

The financial incentives of the DSRIP program raised awareness of the social determinants of health and led to increased efforts to address them. A more holistic view of patients allowed better connections to social services such as housing assistance.

Hospitals, from a traditional perspective for our vulnerable patients...these patients were handed discharge papers and shuffled out the door. They were told to follow up with somebody and social factors were never really something that was brought to the forefront...We now have teams that are helping people get connections to places that can help them address these factors in a long-lasting sustainable way. Helping them get connections to [disability] benefits, to food pantries, to health homes, to legal services, to primary care practices and health coaches. They are not just handing them a paper referral, they are actually making sure they get there; they're getting them connections to recovery peers. I think we've seen through the data and through these interventions that this is having an impact. I think their quality of life is improving and we're seeing a drop in utilization for these people. – 2018 PPS key informant

I do think it is helping, to some degree, with some of the "silo-ing" that had happened and realizing that we maybe touching the same lives, just in different ways. – 2017 primary care focus group participant

Patient engagement efforts were a significant part of this improvement in coordination. Educational outreach taught patients proper medication administration, provided instruction about when it was appropriate to go to the emergency department rather than making an appointment with their primary care provider, and empowered patients to take better care of themselves in their own homes. Care navigators were utilized to provide the appropriate level of care in the way patients wanted to receive it; meeting people where they were through integration services, home visits, and assistance with system navigation.

We've been able to educate patients on a deeper level in their home than we otherwise would have ever, so I think that has been the biggest benefit of DSRIP for us. – 2018 hospital focus group participant

We were passionate about [DSRIP] because Medicaid and uninsured patients matter, and they have a voice too. And I think that's the other pivotal change. They feel empowered. When you can tell somebody what their PAM [Patient Activation Measure] score was and say, "Oh my gosh. Look at how much your knowledge and your skill and your competence has improved in this snapshot in time," and we can tell them real numbers; they're like, "Wow!" And it makes them want to keep doing that. – 2019 community-based organization focus group participant

Being able to go in and improve quality of life, empowering the families to know how to administer their medication, just making them a little more aware of what they need to be doing; I feel like that has been a wonderful aspect of this. – 2018 hospital focus group participant

Prior to this, patients had to come into clinical offices to receive care. Seeing care can be delivered anywhere and everywhere- virtual care, patient portals, and seeing a large focus on in-home care; sending health workers and social workers out into the community and into patients' homes and communities- turned the whole system of delivery on its head. – 2019 PPS key informant

For other folks, a lot of it is, how do you tap into outreach services? Part of what we do under the health home is outreach, which is actually going out and trying to find people based on lists or your own connections in the community. I think that that is important. Community events are important. – 2018 primary care focus group participant

The DSRIP program provided the ability for participating organizations and providers to pay for items beyond direct medical services, such as community health offerings (e.g., yoga classes) and home-use products (e.g., air purifiers for asthma patients). Providing transportation to health care providers and pharmacies was said to increase compliance with specialist and

mental health care services. Partners also reported that the DSRIP program supported in-home paraprofessional services (e.g., food delivery, shoveled walkways), which were seen as reducing the need for emergency services.

A minority of study participants did not perceive positive changes in patient care. Some felt that bureaucratic requirements had increased for patients; for example, they had more forms to read and sign. Others saw money being spent in ways that improved their performance measures, but they felt it was not the best use of funds overall for patient-centered care. Although the majority of participants reported patient engagement successes even though patients were unaware of the DSRIP program, a few believed that if the DSRIP program failed to educate the consumers of services about the transformation efforts and include their perspectives, then no real systemic change could occur.

A lot of the stuff that we've implemented or that we've done has been more on the provider and institution side and not considering the voice of the patient, what they need and what's not working for them. If you ask me if it's changed, I'd probably say no, it hasn't. Until we change that perspective and allow the patient to actually have a voice in what is happening in the health care system, I think in some aspects, it's going to remain the same. - 2018 PPS key informant

The patient is becoming overwhelmed and overburdened by knocks on the door, calls...and we need to streamline that a little bit and, as a system, identify the appropriate handoffs and really try to engage the patient in more orderly fashion. I see we're losing patients because "Everyone is calling; I'm not going to talk to anybody" and that's not what we want. -2019 PPS key informant

There was really no point in time that we engaged the patients in terms of at least telling them what was going on as a trend or as a new initiative. I think that that has worked to our disadvantage because as much as we are trying to educate the providers, we are trying to instill a sense of accountability and self-management, and the populations that we are dealing with really had no opportunity to understand what was coming down the road; why people were talking to them about changes or new pathways. I think going forward, the State needs to spend some time and energy on educating the populations as to why there are changes. -2019 PPS key informant

4.5. Assessment of Changes in Population Health

Section Overview

This section addresses RQ-E:

Did population health improve as a result of implementation of New York’s DSRIP initiative? (Sub-question: Were racial and ethnic disparities on specific population measures reduced following the DSRIP program?) (CMS RQ3)

Its associated hypotheses are below:

- **H8a:** Population health measures will improve in the following areas: (a) mental health and substance abuse, (b) prevention of chronic diseases, (c) prevention of HIV and STDs, and (d) health of women, infants, and children.
- **H8b:** Racial and ethnic disparities in premature deaths, newly diagnosed cases of HIV, preterm births, adolescent pregnancy rates, percentage of unintended pregnancy among live births, and infants exclusively breastfed in the hospital will decrease.

Summary-At-A-Glance

The *final* Summative Report evaluated changes in population health measures in five areas: (1) mental health and substance abuse; (2) chronic disease prevention; (3) HIV and sexually transmitted diseases (STDs); (4) women, infants, and children (WIC); and (5) racial and ethnic disparities in selected population health indicators. The DSRIP program’s Domain 4 and PPS projects were closely aligned with the New York State Prevention Agenda 2013-2018, and the projects were expected to be an accelerant to other statewide population health initiatives.

Summary of Performance Measures

Several population health measures improved during the DSRIP program period (i.e., reduced if an unwanted event, or increased if a desired event):

- **Chronic disease prevention:** prevalence of current cigarette smoking, percent of premature deaths
- **HIV and STDs:** newly diagnosed HIV cases
- **Women, infants, and children:** adolescent pregnancy rates, percentage of unintended pregnancies, percentage of infants exclusively breastfed in the hospital, maternal mortality
- **Racial and ethnic disparities:** racial/ethnic disparities in premature deaths, adolescent pregnancy rates, and the percentage of infants exclusively breastfed in the hospital.

Among these measures that improved, the newly diagnosed HIV cases, adolescent pregnancy rate, percentage of unintended pregnancies, maternal mortality rate, Black-to-White and Hispanic-to-White disparities in the adolescent pregnancy rate, and Black-to-White disparities in the percentage of infants breastfed exclusively in the hospital also exceeded the Prevention Agenda targets. In addition, the prevalence of binge drinking among adults exceeded the statewide Prevention Agenda target although it remained steady and did not improve during the period examined.

Other population health measures had room for improvement:

- The prevalence of poor mental health, suicide death rate, percentage of adults with up-to-date colorectal cancer screenings, and percentage of preterm births remained steady comparing the start and end of the study period and did not yet meet the Prevention Agenda targets.
- Although the prevalence of cigarette smoking, percentage of premature deaths, percentage of infants breastfed exclusively in the hospital, Black-to-White and Hispanic-to-White disparities in premature deaths, and Hispanic-to-White disparities in the percentage of infants breastfed exclusively in the hospital improved, these measures had not yet met the Prevention Agenda goals by the end of MY5.
- The percentage of adults with obesity, percentage of live births within 24 months of prior pregnancy, and Black-to-White and Hispanic-to-White disparities in the percentage of unintended pregnancies worsened and had not yet met the Prevention Agenda goals by the end of MY5.

PPS Partner Survey and Key Informant Feedback on Population Health

Partners had positive perceptions about the effect of the DSRIP program on population health:

- By 2019, 74.4% of partners believed that the DSRIP program positively affected population health in their service area.
- Key informants from PPSs reported a shift towards thinking more about population health.

Limitations and Caveats

There are several caveats for interpreting these findings:

- The population health measures were collected through existing public health surveillance data systems, and their years did not align precisely with MY.
- The population health measures included populations beyond members eligible for the DSRIP program and in some areas only a few PPSs selected relevant Domain 4 projects, making it difficult to quantify the effect of the DSRIP program.
- It can take many years to influence population health measures because they are influenced by so many factors including social determinants of health.

- The Prevention Agenda launched in 2011 and was a large focus for New York, NYC, and local health departments. Concurrently, New York initiated in 2014 the nation's first Ending the Epidemic initiative to achieve a first-ever decline in HIV prevalence, including a focus on reducing health disparities. The DSRIP program was aligned with these important population health initiatives and served as an accelerant for their activities. However, these considerations on data, population coverage, project selection, and other ongoing population health initiatives limited the contribution that was solely attributable to the DSRIP program.

4.5.1. Domain 4 Context and PPS Population Health Activities

As described in Section 2.2.4, the DSRIP program's Domain 4 measures aligned closely with the New York State Prevention Agenda 2013-2018 and projects in this domain were an accelerant to other statewide population health initiatives. These were reported publicly at the statewide and county levels, to allow communities to assess their performance and improvements over time. If the DSRIP program were successful in achieving system transformation and shifting towards increased use of preventive services, then population health outcomes would have improved.

It was anticipated that there would be a larger lag time between the implementation of the DSRIP program and changes in population health measures. Furthermore, population health measures included populations beyond Medicaid members eligible for the DSRIP program and in some areas, only a few PPSs selected relevant Domain 4 projects, making it difficult to measure the effect of the DSRIP program on these outcomes. Consequently, the *final* Summative Report focused on providing a snapshot of New York's recent trends and performance compared to the state's Prevention Agenda and national indicators. This was supplemented with qualitative findings on the perceptions of DSRIP program administrators and providers regarding effects of the DSRIP program on population health.

Exhibit 4.5.1.i summarizes the baseline values and goals for the Prevention Agenda indicators that were most relevant to the DSRIP program, categorized by focus area. These are referenced in the following sections to contextualize the findings from the DSRIP program's statewide performance measures. The Domain 4 measures were drawn from multiple existing public health data surveillance systems based on calendar years rather than DSRIP program measurement years (MY). For the purposes of DSRIP program reporting and evaluation, NYS DOH staff converted them to MY.¹³⁸ For consistency with the other report findings, the population health measures are presented in MY and were derived from the DSRIP Dataset. The measures come from diverse sources, listed in Exhibit 4.5.1.i. Some measures do not have MY0 data due to their underlying data collection cycles.

¹³⁸ For example, the calendar years for MY1 are 2014 or else 2012-2014 three-year averages, and the calendar years for MY2 are 2015 or 2013-2015 three-year averages.

Exhibit 4.5.1.i. Baseline values and goals for New York State Prevention Agenda indicators

Focus Area	Indicators and Data Sources	New York State Prevention Agenda Statewide Objectives
Mental health and substance abuse population health outcomes (Section 4.5.2.1)	Age-adjusted percentage of adult binge drinking during the past month (Data source: Behavioral Risk Factor Surveillance System (BRFSS) and Expanded BRFSS)	Reduce binge drinking by 10%, to $\leq 18.4\%$. (Baseline: 20.4% in 2011)
	Age-adjusted percentage of adults with poor mental health for 14 or more days in the past month (Data source: Behavioral Risk Factor Surveillance System (BRFSS) and Expanded BRFSS)	Reduce the reported poor mental health (14 or more days in the last month) by 10%, to $\leq 10.1\%$. (Baseline: 11.2% in 2011)
	Age-adjusted suicide death rate per 100,000 (Data source: NYS Vital Records)	Reduce the age-adjusted suicide rate by 10%, to ≤ 5.9 per 100,000. (Baseline: 6.6 per 100,000 in years 2007-2009.)
Chronic disease prevention population health outcomes (Section 4.5.2.2)	Percentage of adults aged 50-75 years who received a colorectal cancer screening based on the most recent guidelines (Data source: NYS BRFSS)	Increase the percentage of adults who receive up-to-date colorectal cancer screening by 5%, to $\geq 71.4\%$. In November 2015, a revised target of 80% was set for 2018. (Baseline: 68.0% in 2010)
	Percent of cigarette smoking among adults aged 18 and above (Data source: NYS BRFSS)	Decrease the prevalence of cigarette smoking by adults by 17%, to $\leq 15.0\%$. In November 2015, a revised target of 12.3% was set for 2018. (Baseline: 18.1% in 2011)
	Percentage of adults aged 18 and above who are obese (Data source: NYS BRFSS)	Decrease the prevalence of obese adults by 5%, to 23.2%. (Baseline: 24.5% in 2011)
	Percentage of premature deaths, defined as deaths before age 65 (Data source: NYS Vital Records)	Reduce the percentage of premature deaths (before age 65 years) by 10%, to $\leq 21.8\%$. (Baseline: 24.2% in 2010)
HIV and STD population health outcomes (Section 4.5.2.3)	Newly diagnosed HIV case rate per 100,000 (Data source: HIV Surveillance System)	Reduce the newly diagnosed HIV case rate by 25%, to ≤ 14.7 new diagnoses per 100,000. In July 2015, indicator baseline and trend data were updated and a revised target of ≤ 16.1 new diagnoses per 100,000 population was set for 2018. (Baseline: 19.6 per

Focus Area	Indicators and Data Sources	New York State Prevention Agenda Statewide Objectives
		100,000 in 2010; updated baseline: 21.5 per 100,000 in 2010)
	Age-adjusted chlamydia case rate per 100,000 females ages 15-44 (Data source: NYS STD Surveillance System)	Reduce the chlamydia case rate by 10%, to ≤1,458 cases per 100,000 females aged 15-44. (Baseline: 1,620 cases per 100,000 in 2010)
	Age-adjusted gonorrhea case rate per 100,000 males ages 15-44 (Data source: NYS STD Surveillance System)	Reduce the gonorrhea case rate by 10%, to ≤199.5 cases per 100,000 males aged 15-44. (Baseline: 222 cases per 100,000 in 2010)
	Age-adjusted gonorrhea case rate per 100,000 females ages 15-44 (Data source: NYS STD Surveillance System)	Reduce the gonorrhea case rate by 10%, to ≤183.1 cases per 100,000 females aged 15-44. (Baseline: 203 cases per 100,000 in 2010)
	Age-adjusted primary and secondary syphilis case rate per 100,000 males (Data source: NYS STD Surveillance System)	Reduce the syphilis case rate by 10%, to ≤10.1 cases per 100,000 males. (Baseline: 11.2 cases per 100,000 in 2010)
	Age-adjusted primary and secondary syphilis case rate per 100,000 females (Data source: NYS STD Surveillance System)	Reduce the syphilis case rate by 10%, to ≤0.4 cases per 100,000 females. (Baseline: 0.5 cases per 100,000 in 2010)
Women, infants, and children health outcomes (Section 4.5.2.4)	Adolescent female pregnancy rate per 1,000 females ages 15-17 (Data source: NYS Vital Records)	Reduce the adolescent pregnancy rate by 10% to 25.6 per 1,000 females (15-17 years). (Baseline: 28.5 per 1,000 in 2010)
	Percentage of unintended pregnancy among live births (Data source: NYS Vital Records)	Reduce the percentage of live births resulting from a pregnancy that was unintentional by 10% to 23.8%. (Baseline: 26.4% in 2011)
	Percentage of live births occurring within 24 months of prior pregnancy (Data source: NYS Vital Records)	Reduce the percentage of all live births that occur within 24 months of a previous pregnancy by 10% to 17.0%. (Baseline: 18.9% in 2010)
	Percentage of infants exclusively breastfed in the hospital (Data source: NYS Vital Records)	Increase the percentage of all infants exclusively breastfed in the hospital by 10% to 48.1%. (Baseline: 43.7% in 2018)
	Percentage of preterm births (Data source: NYS Vital Records)	Reduce the percentage of births that are premature (<37 weeks gestation)

Focus Area	Indicators and Data Sources	New York State Prevention Agenda Statewide Objectives
		by 12% to 10.2%. (Baseline: 11.6% in 2010)
	Maternal mortality rate per 100,000 live births (Data source: NYS Vital Records)	Reduce the number of maternal deaths by $\geq 10\%$ to 21.0 per 100,000. (Baseline: 23.3 per 100,000 live births from 2008-2010 (3-year average))
Population health disparities (Section 4.5.2.5)	Percentage of premature death, ratio of Black non-Hispanic to White non-Hispanic (Data source: NYS Vital Records)	Reduce disparities by 10%, to a ratio ≤ 1.87 . (Baseline: 2.08 in 2010)
	Percentage of premature death, ratio of Hispanic to White non-Hispanic (Data source: NYS Vital Records)	Reduce disparities by 10%, to a ratio ≤ 1.86 . (Baseline: 2.07 in 2010)
	Adolescent pregnancy rate, ratio of Black non-Hispanic to White non-Hispanic (Data source: NYS Vital Records)	Reduce disparities to a ratio ≤ 4.90 . (Baseline: 5.47 in 2010)
	Adolescent pregnancy rate, ratio of Hispanic to White non-Hispanic (Data source: NYS Vital Records)	Reduce disparities to a ratio ≤ 4.10 . (Baseline: 4.58 in 2010)
	Percentage of unintended pregnancy among live births, ratio of Black non-Hispanic to White non-Hispanic (Data source: NYS Vital Records)	Reduce disparities by 10%, to a ratio ≤ 1.90 . (Baseline: 2.11 in 2011)
	Percentage of unintended pregnancy among live births, ratio of Hispanic to White non-Hispanic (Data source: NYS Vital Records)	Reduce disparities by 10%, to a ratio ≤ 1.43 . (Baseline: 1.59 in 2011)
	Percentage of infants exclusively breastfed in the hospital, ratio of Black non-Hispanic to White non-Hispanic (Data source: NYS Vital Records)	Reduce disparities by 10%, to a ratio ≥ 0.57 . (Baseline: 0.52 in 2010)
	Percentage of infants exclusively breastfed in the hospital, ratio of Hispanic to White non-Hispanic (Data source: NYS Vital Records)	Reduce disparities by 10%, to a ratio ≥ 0.64 . (Baseline: 0.58 in 2010)

Source: New York State Department of Health Prevention Agenda website.¹³⁹

Notes: Values reflect the New York State Health Improvement Plan associated with the Prevention Agenda 2013-2018. For the chronic disease focus area, hospitalization measures based on the AHRQ PDI and PQI indicators are excluded due to trending issues with the ICD-9 to ICD-10 transition (see Appendix 4). The initial objective for the adult obesity indicator was to decrease the prevalence of obese adults by 5%, to 23.0%; with a baseline of 24.2% in 2011. This indicator was revised in July 2013 to a goal of 23.2%, from a baseline of 24.5%.

Exhibit 4.5.1.ii lists each Domain 4 project (left column), along with the PPSs selecting each project and associated outcome measures. The most commonly selected projects were 4.a.iii (Strengthen Mental Health and Substance Abuse Infrastructure Across Systems; N=13 PPSs), 4.b.i (Promote Tobacco Use Cessation; N=11 PPSs), 4.b.ii (Increase Access to High Quality Chronic Disease Preventive Care and Management; N=11 PPSs), and 4.c.ii (Increase Early Access to and Retention in HIV Care; N=7 PPSs). One or two PPSs selected projects 4.a.i (Promote Mental, Emotional, and Behavioral Well-being in Communities), 4.a.ii (Prevent Substance Abuse and Other Mental Emotional Behavior Disorders), 4.c.i (Decrease HIV Morbidity), and 4.d.i (Reduce Premature Births). No PPSs selected projects 4.c.iii (Decrease STD Morbidity) or 4.c.iv. (Decrease HIV and STD Disparities).

Exhibit 4.5.1.ii. Summary table of Domain 4 projects and their selection by PPSs and associated outcome measures

Project	PPSs Selecting Project	Relevant Measures
4.a.i. Promote Mental, Emotional and Behavioral Well-being in Communities	<ul style="list-style-type: none"> • CPWNY • MCC 	<ul style="list-style-type: none"> • <i>Age-adjusted % of Adults Reporting Binge Drinking (Past Month, Ages 18+)</i> • <i>Age-adjusted % of Adults with 14+ Days Poor Mental Health (Past Month)</i> • <i>Age-adjusted Preventable Hospitalization Rate (Ages 18+)*</i> • <i>Age-adjusted Preventable Hospitalization Rate (Ratio, Black NH: White NH)*</i> • <i>Age-adjusted Preventable Hospitalization Rate (Ratio, Hispanic: White NH)*</i> • <i>Age-adjusted Suicide Death Rate</i> • <i>% of Premature Deaths (Before Age 65 Years)</i> • <i>% of Premature Deaths (Before Age 65 Years) (Ratio, Black NH: White NH)</i> • <i>% of Premature Deaths (Before Age 65 Years)(Ratio, Hispanic: White NH)</i>

¹³⁹ New York State Department of Health. (2015, March 16). New York State Prevention Agenda 2013-2018: priorities, focus areas, goal and objectives, 1/25/2013 (revised March 16, 2015). Retrieved from https://www.health.ny.gov/prevention/prevention_agenda/2013-2017/tracking_indicators.htm

Project	PPSs Selecting Project	Relevant Measures
		<ul style="list-style-type: none"> • <i>Age-adjusted % of Adults with Regular Health Care Provider (Ages 18+)</i> • <i>% of Adults with Health Insurance (Ages 18-64)</i>
4.a.ii. Prevent Substance Abuse and Other Mental Emotional Behavioral Disorders	<ul style="list-style-type: none"> • SCC 	See measures for project 4.a.i.
4.a.iii. Strengthen Mental Health and Substance Abuse Infrastructure across Systems	<ul style="list-style-type: none"> • AFBH • AHI • BHA • BPHC • CCB • CCN • CNYCC • FLPPS • HHC • LCHP • NCI • NQP • SIPPS 	See measures for project 4.a.i.
4.b.i. Promote Tobacco Use Cessation	<ul style="list-style-type: none"> • AFBH • BHNNY • CPWNY • LCHP • MVHC • NQP • NYP • NYUL • RCHC • SOMOS • WMC 	<ul style="list-style-type: none"> • <i>Age-adjusted Heart Attack Hospitalization Rate*</i> • <i>Age-adjusted preventable hospitalizations rate per 10,000 – Aged 18*</i> • <i>Age-adjusted Preventable Hospitalization Rate (Ratio, Black NH: White NH)*</i> • <i>Age-adjusted Preventable Hospitalization Rate (Ratio, Hispanic: White NH)*</i> • <i>Asthma Emergency Department Visit Rate*</i> • <i>Pediatric Asthma Emergency Department Visit Rate (Ages 0-4)*</i> • <i>% of Adults Who Are Obese (Ages 18+)</i> • <i>% of Adults with Colorectal Cancer Screening per Guidelines (Ages 50-75)</i> • <i>% of Children/Adolescents Who Are Obese</i> • <i>% of Adults Reporting Cigarette Smoking (Ages 18+)</i>

Project	PPSs Selecting Project	Relevant Measures
		<ul style="list-style-type: none"> • <i>% of Premature Deaths (Before Age 65 Years)</i> • <i>% of Premature Deaths (Before Age 65 Years) (Ratio, Black NH: White NH)</i> • <i>% of Premature Deaths (Before Age 65 Years) (Ratio, Hispanic: White NH)</i> • <i>Hospitalization Rate for Diabetes Short-term Complications (Ages 18+)*</i> • <i>Hospitalization Rate for Diabetes Short-term Complications (Ages 6-17)*</i> • <i>% of Premature Deaths (Before Age 65 Years) (Ratio, Black NH: White NH)</i> • <i>% of Premature Deaths (Before Age 65 Years) (Ratio, Hispanic: White NH)</i> • <i>Age-adjusted % of Adults with Regular Health Care Provider (Ages 18+)</i> • <i>% of Adults with Health Insurance (Ages 18-64)</i>
4.b.ii. Increase Access to Chronic Disease Preventive Care and Management	<ul style="list-style-type: none"> • AHI • BHNNY • CCN • FLPPS • MSPPS • MVHC • NCI • SCC • SIPPS • SOMOS • WMC 	See measures for project 4.b.i.
4.c.i. Decrease HIV Morbidity	<ul style="list-style-type: none"> • NYP 	<ul style="list-style-type: none"> • <i>Age-adjusted preventable hospitalizations rate per 10,000 – Aged 18*</i> • <i>Age-adjusted Preventable Hospitalization Rate (Ratio, Black NH: White NH)*</i> • <i>Age-adjusted Preventable Hospitalization Rate (Ratio, Hispanic: White NH)*</i> • <i>Newly Diagnosed HIV Case Rate</i> • <i>Newly Diagnosed HIV Case Rate (Ratio, Black: White)</i> • <i>Newly Diagnosed HIV Case Rate (Hispanic: White)</i>

Project	PPSs Selecting Project	Relevant Measures
		<ul style="list-style-type: none"> • <i>% of Premature Deaths (Before Age 65 Years)</i> • <i>% of Premature Deaths (Before Age 65 Years) (Ratio, Black NH: White NH)</i> • <i>% of Premature Deaths (Before Age 65 Years) (Ratio, Hispanic: White NH)</i> • <i>Age-adjusted % of Adults with Regular Health Care Provider (Ages 18+)</i> • <i>% of Adults with Health Insurance (Ages 18-64)</i>
4.c.ii. Increase Early Access to and Retention in HIV Care	<ul style="list-style-type: none"> • BHA • BPHC • CCB • HHC • MSPPS • NYPQ • NYUL 	See measures for project 4.c.i.
4.c.iii. Decrease STD Morbidity	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • <i>Age-adjusted Chlamydia Case Rate (Women, Ages 15-44)</i> • <i>Age-adjusted Gonorrhea Case Rate (Men, Ages 15-44)</i> • <i>Age-adjusted Gonorrhea Case Rate (Women, Ages 15-44)</i> • <i>Age-adjusted Primary/Secondary Syphilis Case Rate (Females)</i> • <i>Age-adjusted Primary/Secondary Syphilis Case Rate (Males)</i> • <i>Age-adjusted % of Adults with Regular Health Care Provider (Ages 18+)</i> • <i>% of Adults with Health Insurance (Ages 18-64)</i> • <i>Age-adjusted Preventable Hospitalization Rate (Ages 18+)*</i> • <i>Age-adjusted Preventable Hospitalization Rate (Ratio, Black NH: White NH)*</i> • <i>Age-adjusted Preventable Hospitalization Rate (Ratio, Hispanic: White NH)*</i> • <i>% of Premature Deaths (Before Age 65 Years)</i> • <i>% of Premature Deaths (Before Age 65 Years) (Ratio, Black NH: White NH)</i>

Project	PPSs Selecting Project	Relevant Measures
		<ul style="list-style-type: none"> • <i>% of Premature Deaths (Before Age 65 Years) (Ratio, Hispanic: White NH)</i>
4.c.iv. Decrease HIV and STD Disparities	<ul style="list-style-type: none"> • None 	See measures for project 4.c.iii.
4.d.i. Reduce Premature Births	<ul style="list-style-type: none"> • CNYCC • MCC 	<ul style="list-style-type: none"> • <i>Adolescent Pregnancy Rate (Females, Ages 15-17)</i> • <i>Adolescent Pregnancy Rate (Ratio, Black NH: White NH)</i> • <i>Adolescent Pregnancy Rate (Ratio, Hispanic: White NH)</i> • <i>Maternal Mortality Rate</i> • <i>% of Infants Exclusively Breastfed in Hospital</i> • <i>% of Infants Exclusively Breastfed in Hospital (Ratio, Black NH: White NH)</i> • <i>% of Infants Exclusively Breastfed in Hospital (Ratio, Hispanic: White NH)</i> • <i>% of Infants Exclusively Breastfed in Hospital (Ratio, Medicaid: Non-Medicaid)</i> • <i>% of Live Births Occurring Within 24 Months of Prior Pregnancy</i> • <i>% of Preterm Births</i> • <i>% of Preterm Births (Ratio, Black NH: White NH)</i> • <i>% of Preterm Births (Ratio, Hispanic: White NH)</i> • <i>% of Preterm Births (Ratio, Medicaid: Non-Medicaid)</i> • <i>% Unintended Pregnancy Among Live Births</i> • <i>% Unintended Pregnancy Among Live Births (Ratio, Black NH: White NH)</i> • <i>% Unintended Pregnancy Among Live Births (Ratio, Hispanic: White NH)</i> • <i>% Unintended Pregnancy Among Live Births (Ratio, Medicaid: Non-Medicaid)</i> • <i>Age-adjusted % of Adults with Regular Health Care Provider (Ages 18+)</i> • <i>Age-adjusted Preventable Hospitalization Rate (Ages 18+)*</i> • <i>Age-adjusted Preventable Hospitalization Rate (Ratio, Black NH: White NH)*</i>

Project	PPSs Selecting Project	Relevant Measures
		<ul style="list-style-type: none"> • <i>Age-adjusted Preventable Hospitalization Rate (Ratio, Hispanic: White NH)*</i> • <i>% of Adults with Health Insurance (Ages 18-64)</i> • <i>% of Children with Health Insurance (Ages <19)</i> • <i>% of Women with Health Insurance (Ages 18-64)</i> • <i>% of Premature Deaths (Before Age 65 Years)</i> • <i>% of Premature Deaths (Before Age 65 Years) (Ratio, Black NH: White NH)</i> • <i>% of Premature Deaths (Before Age 65 Years) (Ratio, Hispanic: White NH)</i>

Source: Authors' synthesis of DSRIP program documents (project selections and measure specification manuals). These measures reflect associated projects from the measure specification manuals in MY2 and beyond. Notes: Hospitalization measures with an asterisk (*) are based on the AHRQPDI and PQI indicators and are excluded from the *final* Summative Report due to trending issues with the ICD-10 transition. See the New York DSRIP Program Terminology Guide at the front of this report for PPS names and acronyms.

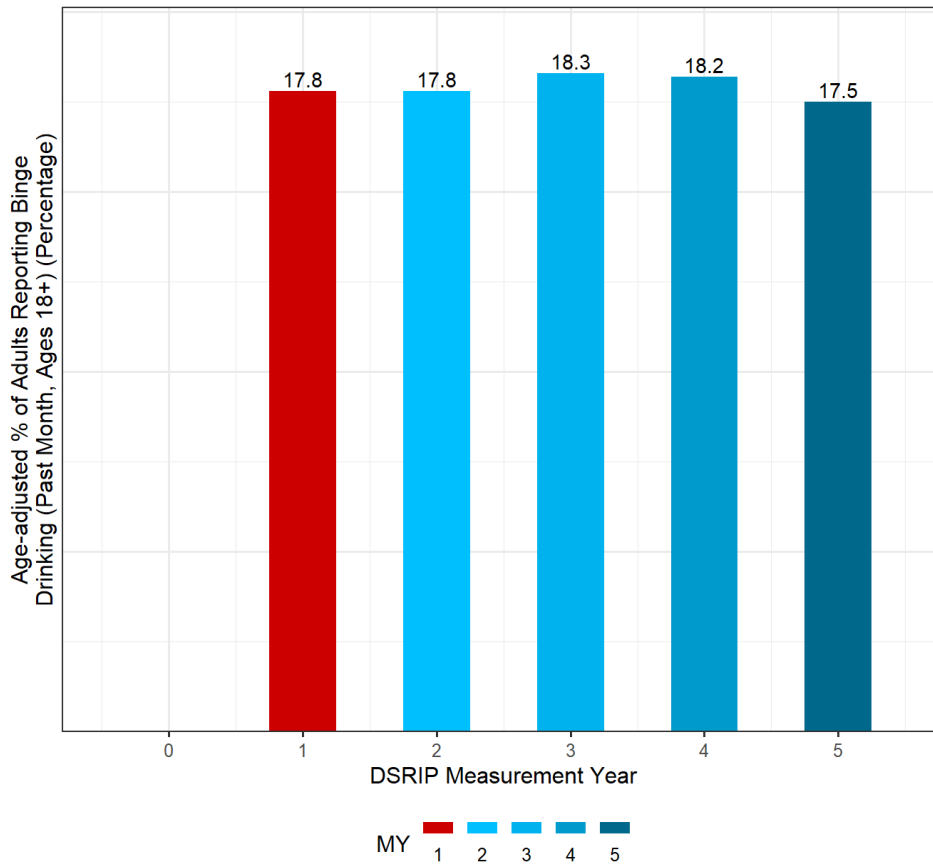
4.5.2. Statewide Trends in Population Health Outcomes

4.5.2.1. Statewide Trends in Mental Health and Substance Abuse Population Health Outcomes

Exhibit 4.5.2.1.i displays annual values for the age-adjusted percentage of adults reporting binge drinking in the past month. From MY1 through MY5, the population health outcomes of binge drinking among adults remained at a steady level. Across the five MY, between 17.5% and 18.3% of adults reported binge drinking, which was slightly higher than the national reported average of 16.3% (in 2015) but met the statewide Prevention Agenda target of 18.4%.¹⁴⁰

¹⁴⁰ Centers for Disease Control and Prevention. (n.d.). BRFSS prevalence & trends data. Retrieved from <https://www.cdc.gov/brfss/brfssprevalence/index.html>

Exhibit 4.5.2.1.i. Statewide annual trends in the age-adjusted percent of adults reporting binge drinking, from MY1 to MY5

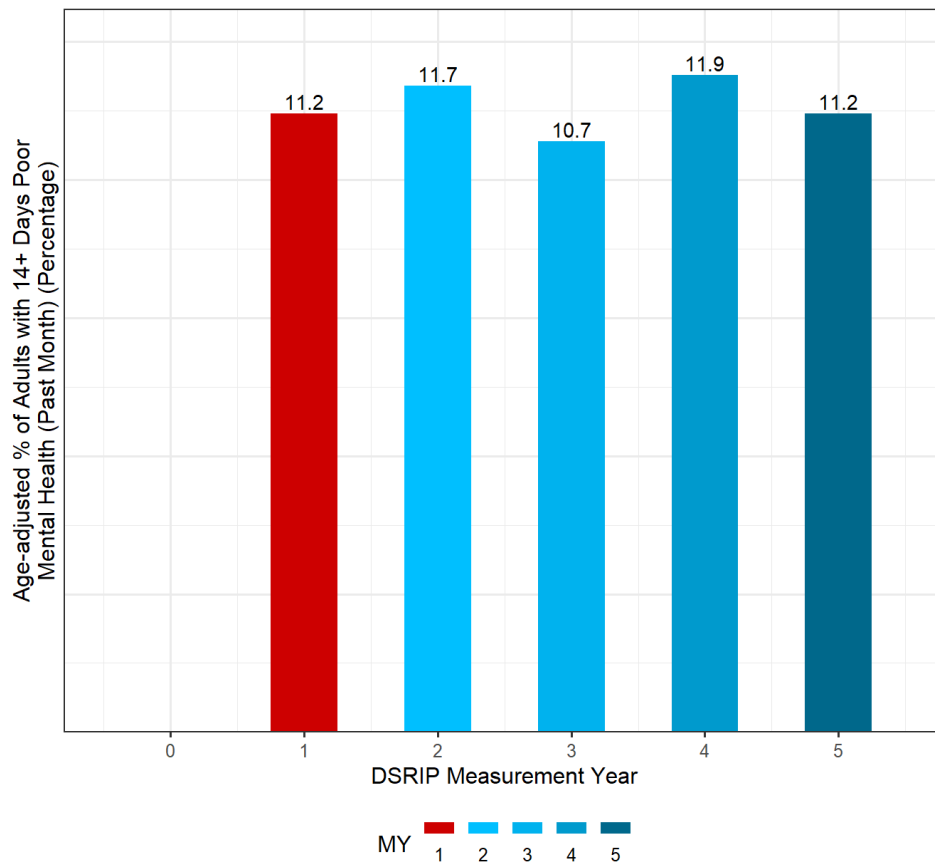


Source: Authors’ analysis of the population health data available in the DSRIP Dataset.
 Notes: The coverage was the NYS general population and not limited to Medicaid members.

Exhibit 4.5.2.1.ii displays annual values for the age-adjusted percentage of adults reporting poor mental health for 14 or more days in the last month. In the study period, the percentage of adults reporting poor mental health increased slightly from 11.2% in MY1 to 11.7% in MY2. Thereafter, it declined by one percentage-point between MY2 and MY3, to 10.7% in MY3 before rising slightly to 11.2% by MY5. Overall, there was no change from MY1 to MY5. The final MY5 value was slightly lower than the national reported average of 12.5% (in 2012) but did not yet meet the Prevention Agenda target of 10.1%.¹⁴¹

¹⁴¹ Dwyer-Lindgren, L., Mackenbach, J.P., Van Lenthe, F.J., & Mokdad, A.H. (2017). Self-reported general health, physical distress, mental distress, and activity limitation by US county, 1995-2012. *Population Health Metrics*, 15, 16.

Exhibit 4.5.2.1.ii. Statewide annual trends in the age-adjusted percent of adults with 14 or more days of poor mental health in the past month, from MY1 to MY5

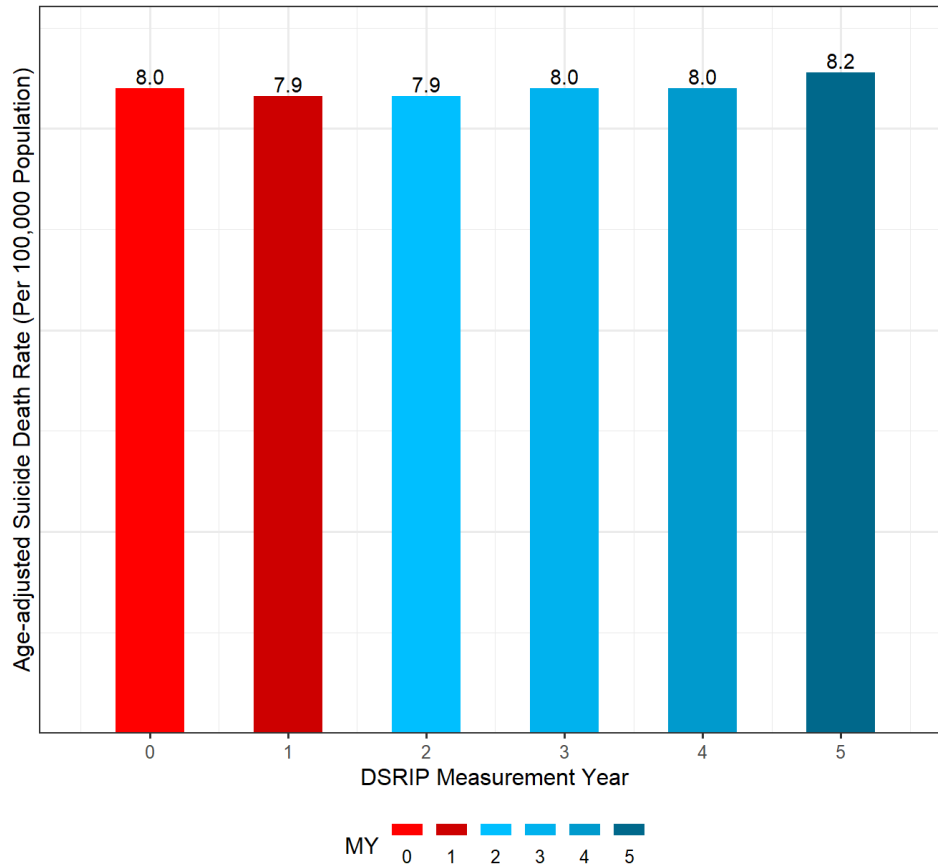


Source: Authors’ analysis of the population health data available in the DSRIP Dataset.
Notes: The coverage was the NYS general population and not limited to Medicaid members.

Exhibit 4.5.2.1.iii displays annual values for the age-adjusted suicide death rate per 100,000. The suicide death rate from MY0 to MY5 was relatively steady with values from 7.9 per 100,000 to 8.2 per 100,000 across the measurement years. That was lower than the national average of 13.3 per 100,000 (in 2015) but did not yet meet the Prevention Agenda target of 5.9 per 100,000.¹⁴²

¹⁴² National Institutes of Mental Health. (n.d.). Suicide. Retrieved from <https://www.nimh.nih.gov/health/statistics/suicide.shtml>

Exhibit 4.5.2.1.iii. Statewide annual trends in age-adjusted suicide death rate, from MY0 to MY5



Source: Authors' analysis of the population health data available in the DSRIP Dataset.
Notes: The coverage was the NYS general population and not limited to Medicaid members.

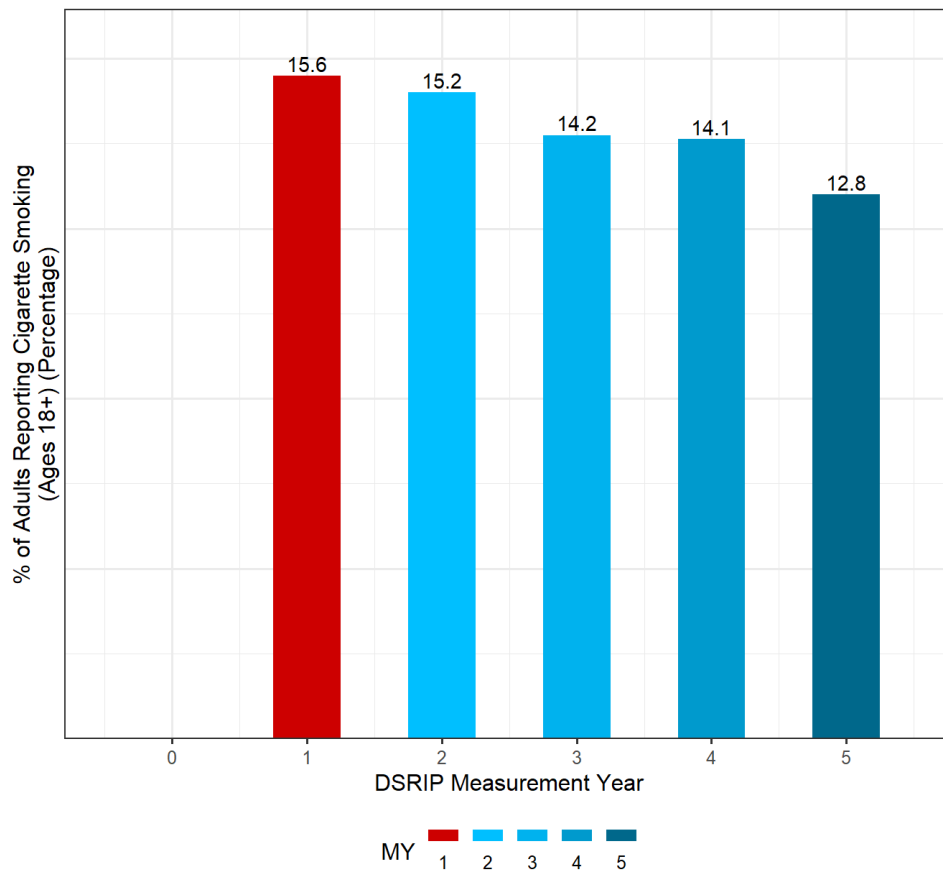
4.5.2.2. Statewide Trends in Chronic Disease Prevention Population Health Outcomes

Exhibit 4.5.2.2.i displays annual values for the percentage of adults aged 18 and older who report currently smoking cigarettes. The smoking outcome improved over the period: the prevalence of smoking among adults declined steadily each year, from 15.6% in MY1 to 12.8% in MY5. This outcome did not yet meet the statewide Prevention Agenda target of 12.3%,¹⁴³ but it was lower than the national average of 15.5% in 2016.¹⁴⁴

¹⁴³ The 2013-2018 Prevention Agenda target was updated following a change in the indicator baseline and trend; the value here reflects the updated target.

¹⁴⁴ Jamal A, Phillips E, Gentzke AS, et al. Current cigarette smoking among adults – United States, 2016. MMWR Morbidity and Mortality Weekly Report 2018; 67: 53-59. DOI: <http://dx.doi.org/10.15585/mmwr.mm6702a1>

Exhibit 4.5.2.2.i. Statewide annual trends in the percentage of adults reporting cigarette smoking, from MY1 to MY5

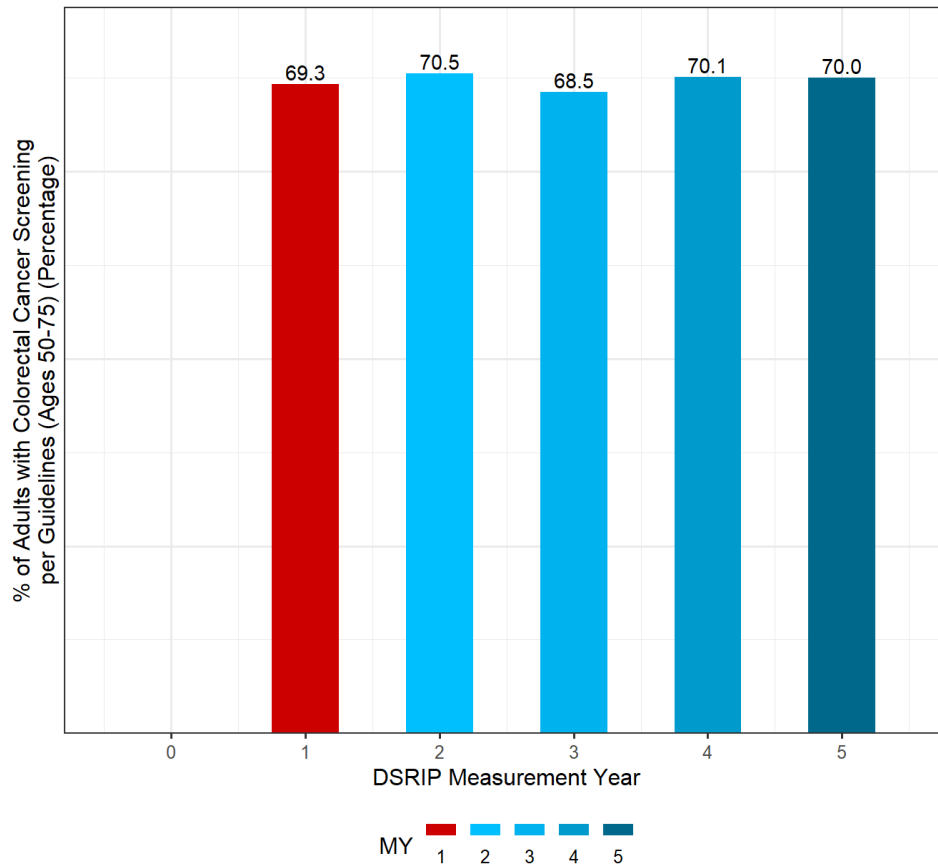


Source: Authors’ analysis of the population health data available in the DSRIP Dataset.
Notes: The coverage was the NYS general population and not limited to Medicaid members.

Exhibit 4.5.2.2.ii displays annual values for the percentage of adults aged 50-75 years who received a colorectal cancer screening based on the most recent screening guidelines. This outcome fluctuated slightly year to year, but remained at a fairly steady level. The percentage of adults aged 50-75 who received up-to-date colorectal cancer screening ranged from 68.5% to 70.5% during the period, ending at 70.0% in MY5. That was about 2 to 3 percentage points higher (better) than the national average (66.2% and 67.3% in 2014 and 2016, respectively),¹⁴⁵ although it did not yet meet the Prevention Agenda target of 71.4%.

¹⁴⁵ Centers for Disease Control and Prevention. (n.d.). Quick facts. Colorectal cancer screening in U.S. Behavioral Risk Factor Surveillance System – 2016. Retrieved from <https://www.cdc.gov/cancer/colorectal/pdf/QuickFacts-BRFSS-2016-CRC-Screening-508.pdf>

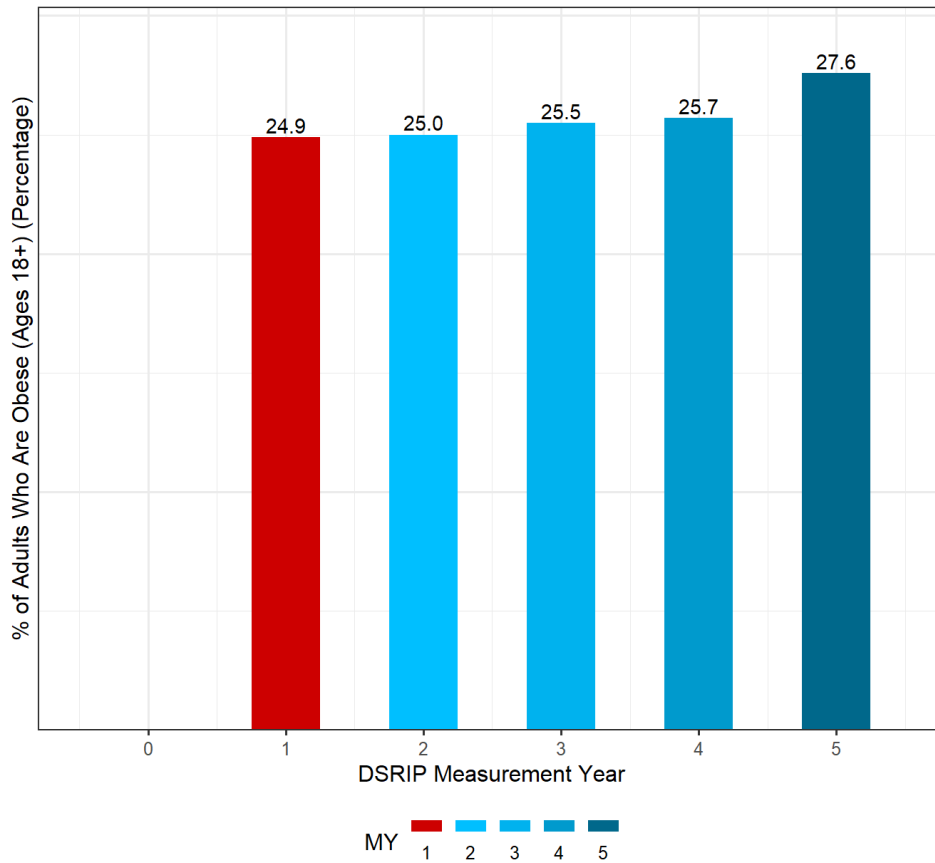
Exhibit 4.5.2.2.ii. Statewide annual trends in the percent of adults aged 50 to 75 with colorectal cancer screening per guidelines, from MY1 to MY5



Source: Authors' analysis of the population health data available in the DSRIP Dataset.
Notes: The coverage was the NYS general population and not limited to Medicaid members.

Exhibit 4.5.2.2.iii displays annual values for the percentage of adults aged 18 and over who are obese. The percentage of adults who are obese increased throughout the period, from 24.9% in MY1 to 27.6% in MY5. This trend was in the opposing direction from the Prevention Agenda target of lowering the obesity prevalence to 23.2% by 2018.

Exhibit 4.5.2.2.iii. Statewide annual trends in the percent of adults who are obese, from MY1 to MY5

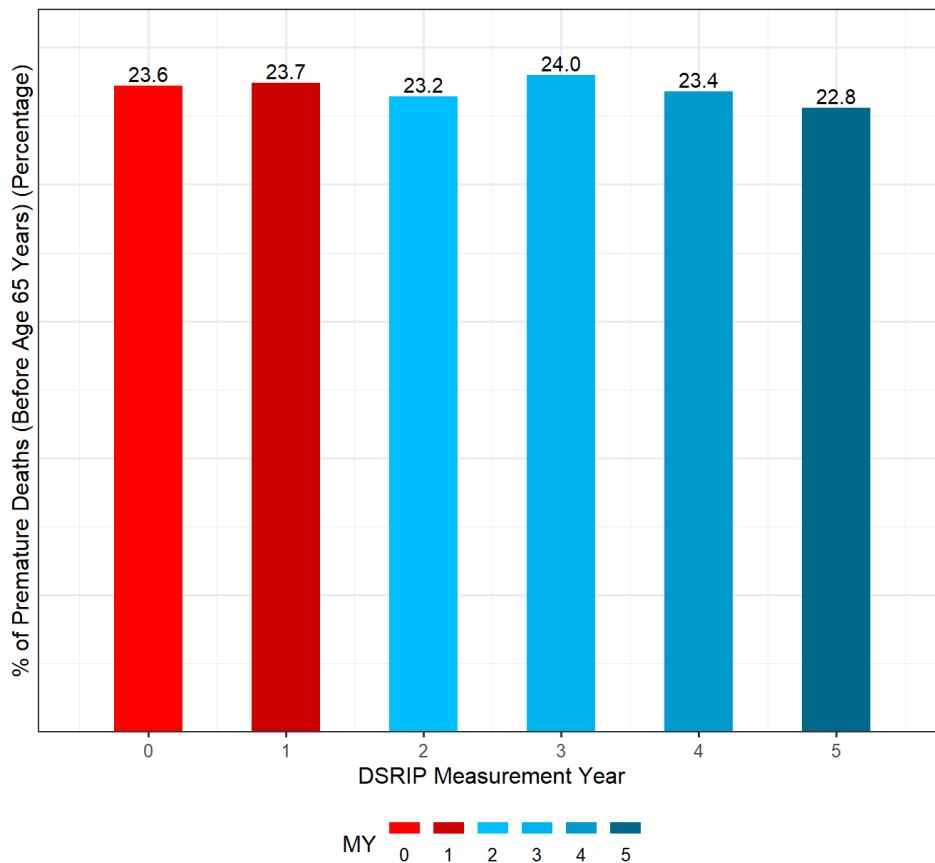


Source: Authors’ analysis of the population health data available in the DSRIP Dataset.
 Notes: The coverage was the NYS general population and not limited to Medicaid members.

Exhibit 4.5.2.2.iv displays annual values for the percentage of premature deaths, defined as deaths among individuals aged 64 and younger. The percentage of deaths that were premature decreased slightly from 23.6% in MY0 to 22.8% in MY5, with some year-to-year fluctuations during the period. It did not yet meet the statewide Prevention Agenda target of 21.8% but was lower than the national average of 27.0% in 2016.¹⁴⁶

¹⁴⁶ This was calculated by the NYS DOH Public Health Information Group using CDC Wonder queries for the total count of deaths among individuals aged 0-64 (<https://wonder.cdc.gov/controller/saved/D76/D49F996>) and the total counts of deaths among all age groups (<https://wonder.cdc.gov/controller/saved/D76/D49F997>).

Exhibit 4.5.2.2.iv. Statewide annual trends in the percent of premature deaths, from MY0 to MY5



Source: Authors' analysis of the population health data available in the DSRIP Dataset.
Notes: The coverage was the NYS general population and not limited to Medicaid members.

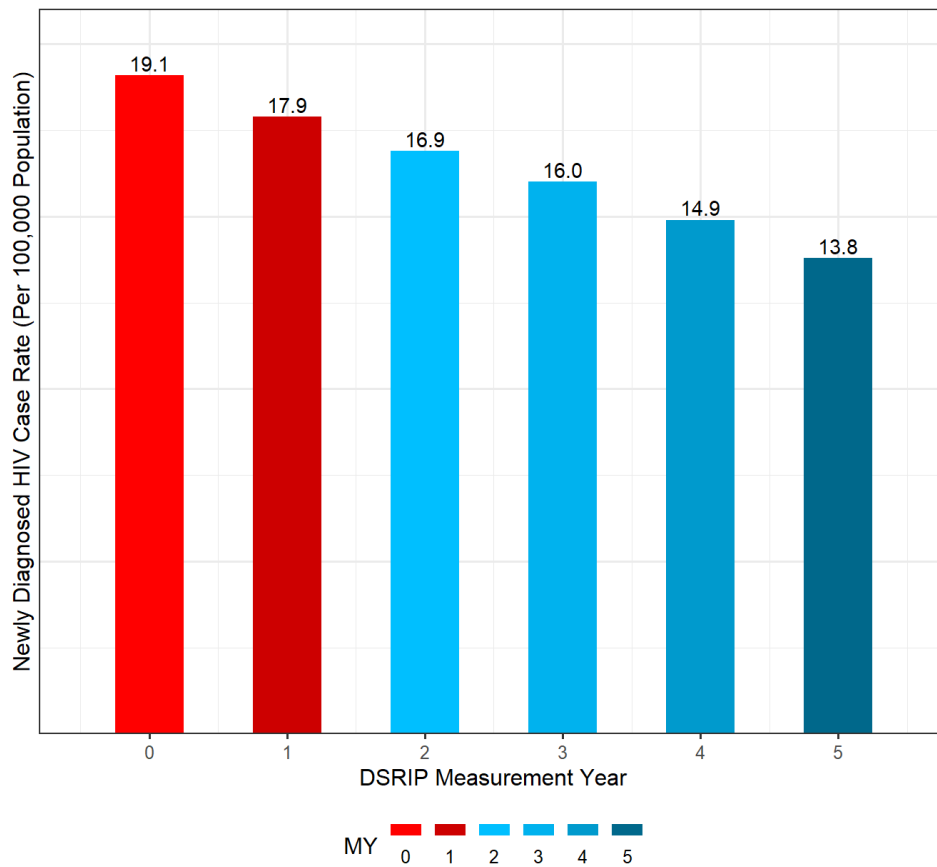
4.5.2.3. Statewide Trends in HIV Population Health Outcomes

Exhibit 4.5.2.3.i displays annual trends in the rate of newly diagnosed HIV cases per 100,000. (While other STD measures were available for analysis, no PPSs selected projects 4.c.iii or 4.c.iv. Consequently, the chlamydia, gonorrhea, and syphilis population outcomes were not reported here.) The diagnosis rate declined steadily throughout the period, from 19.1 per 100,000 in MY0 to 13.8 per 100,000 in MY5. This met the statewide Prevention Agenda target of 16.1 new diagnoses per 100,000.¹⁴⁷ Despite New York's improvements in diagnosis rates, its rate was still above the national average.¹⁴⁸ Some caution is warranted in comparing rates across states; as an infectious disease, rates were higher in large urban areas such as New York City compared to rural regions and New York was an early epicenter.

¹⁴⁷ The Prevention Agenda target was updated as a result of a change in the indicator baseline and trend; the value here reflects the updated target.

¹⁴⁸ Centers for Disease Control and Prevention. (2017). HIV surveillance report, 2017; vol. 29, Table 26. Retrieved from <https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-2017-vol-29.pdf>

Exhibit 4.5.2.3.i. Statewide annual trends in newly diagnosed HIV case rate from MY0 to MY5



Source: Authors' analysis of the population health data available in the DSRIP Dataset.

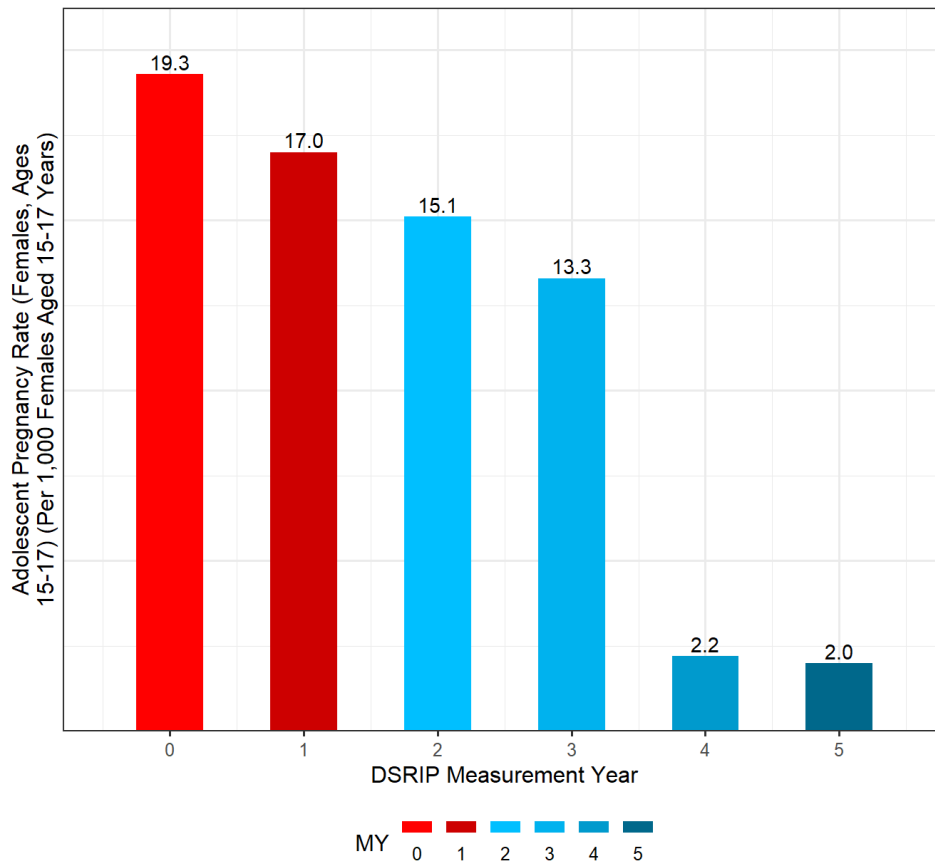
Notes: The coverage was the NYS general population and not limited to Medicaid members.

4.5.2.4. Statewide Trends in Women, Infants, and Children Population Health Outcomes

Exhibit 4.5.2.4.i displays annual values for the adolescent pregnancy rate. The adolescent pregnancy rate had notable steady improvements, from 19.3 births per 1,000 females aged 15-17 in MY0 to 13.3 births per 1,000 in MY3. This surpassed the Prevention Agenda target of 25.6 per 1,000 adolescent females. This decline was consistent with national trends of declining adolescent pregnancy rates.¹⁴⁹ Note that the values in MY4 and MY5 were calculated using a different methodology. Their values are shown in the chart for completeness, but strong caution is needed when interpreting them as part of the MY0 to MY5 time trend.

¹⁴⁹ Centers for Disease Control and Prevention. (2019, March 1). Reproductive health: teen pregnancy. Retrieved from <https://www.cdc.gov/teenpregnancy/about/index.htm>.

Exhibit 4.5.2.4.i. Statewide annual trends in the adolescent pregnancy rate, from MY0 to MY5



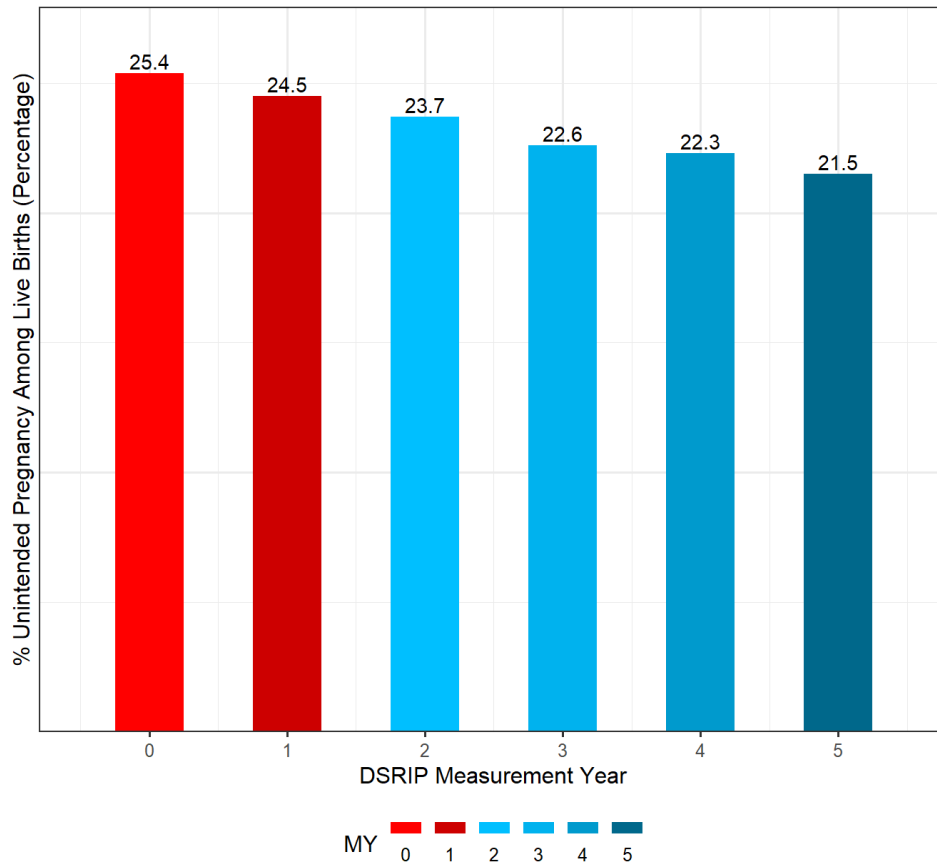
Source: Authors' analysis of the population health data available in the DSRIP Dataset.

Notes: The coverage was the NYS general population and not limited to Medicaid members. Data from MY4 and MY5 were calculated with a different methodology and caution is warranted in interpreting them as part of the MY0 to MY5 trend.

Exhibit 4.5.2.4.ii displays annual values for the percentage of unintended pregnancy among live births, which improved. The percentage of unintended pregnancy declined steadily, from 25.4% in MY0 to 21.5% in MY5. This surpassed the Prevention Agenda target of 23.8%, and the decline was consistent with national trends.¹⁵⁰

¹⁵⁰ Centers for Disease Control and Prevention. (201, September 12). Unintended pregnancy. Retrieved from <https://www.cdc.gov/reproductivehealth/contraception/unintendedpregnancy/index.htm>.

Exhibit 4.5.2.4.ii. Statewide annual trends in the percent of unintended pregnancy among live births, from MY0 to MY5

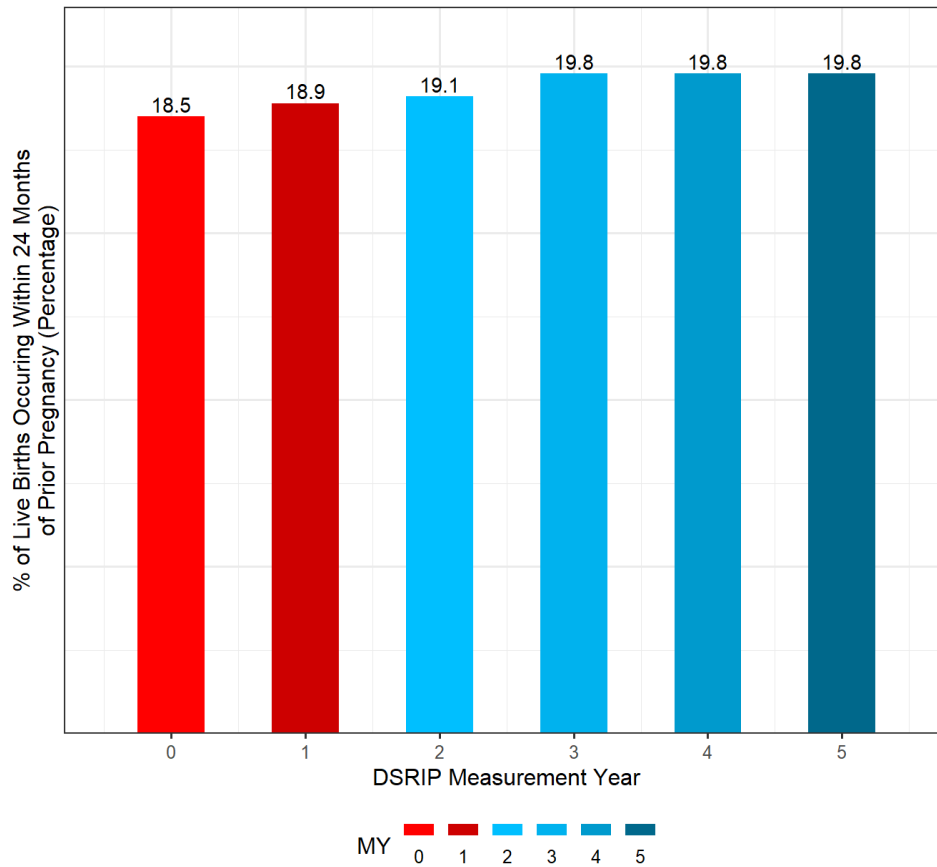


Source: Authors’ analysis of the population health data available in the DSRIP Dataset.
 Notes: The coverage was the NYS general population and not limited to Medicaid members.

Exhibit 4.5.2.4.iii displays annual values for the percentage of live births occurring within 24 months of prior pregnancy. This measure did not improve. There was a slight worsening of the percentage of live births occurring within 24 months of prior pregnancy, from 18.5% in MY0 to 19.8% in MY3, MY4, and MY5. This remained higher than the Prevention Agenda target of 17.0%. However, it was lower (better) than the national average of 24.2% of live births occurring within 23 months of pregnancy.¹⁵¹

¹⁵¹ Centers for Disease Control and Prevention. Births: final data for 2018, supplemental tables. National Vital Statistics Reports, Vol. 68, NO. 13, November 27, 2019. Retrieved from https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_13_tables-508.pdf. See Table I-10; birth intervals for 0-3 months, 4-11 months, 12-17 months, and 18-23 months were summed to generate the percentage of births occurring within 23 months of pregnancy.

Exhibit 4.5.2.4.iii. Statewide annual trends in the percent of live births occurring within 24 months of prior pregnancy, from MY0 to MY5

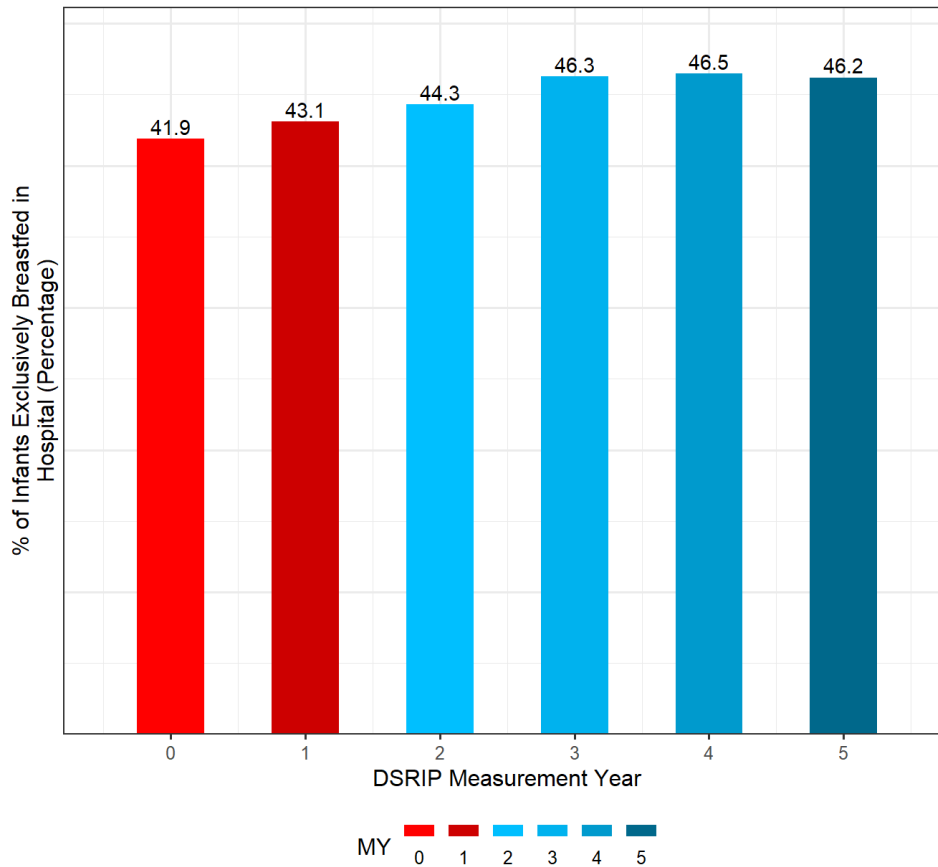


Source: Authors' analysis of the population health data available in the DSRIP Dataset.
Notes: The coverage was the NYS general population and not limited to Medicaid members.

Exhibit 4.5.2.4.iv displays annual values for the percentage of infants exclusively breastfed in the hospital, which improved. The percentage of infants exclusively breastfed in the hospital increased steadily, from 41.9% in MY0 to 46.2% in MY5. While this was a notable improvement and the improving trend is consistent with national increases in breastfeeding,¹⁵² it had not yet achieved the Prevention Agenda target of 48.1%.

¹⁵² Centers for Disease Control and Prevention. (2019, December 31). Breastfeeding report card. Available at <https://www.cdc.gov/breastfeeding/data/reportcard.htm>

Exhibit 4.5.2.4.iv. Statewide annual trends in the percent of infants exclusively breastfed in the hospital, from MY0 to MY5

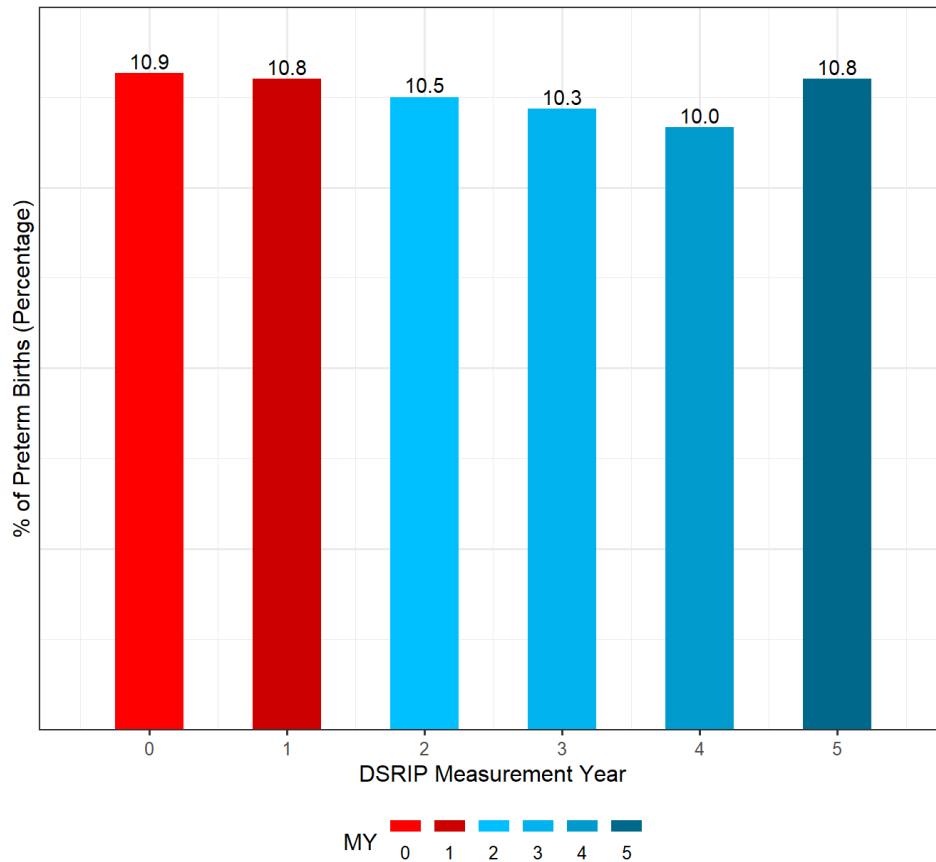


Source: Authors’ analysis of the population health data available in the DSRIP Dataset.
 Notes: The coverage was the NYS general population and not limited to Medicaid members.

Exhibit 4.5.2.4.v displays annual values for the percentage of preterm births, which had similar levels in MY0 and MY5. The percentage of preterm births declined slightly, from 10.9% in MY0 to 10.0% in MY4, before rising back to 10.8% in MY5. The level was close, but did not exceed, the Prevention Agenda target of 10.2% and remained higher than the national average of 9.5% of live births in 2014.¹⁵³

¹⁵³ Farre C, Callaghan W, Olson, C, Sharma A, Barfield W. Effects of maternal age and age-specific preterm birth rates on overall preterm birth rates—United States, 2017 and 2014. *MMWR Morbidity and Mortality Weekly Report* 2016, 65: 1181-1184. <http://dx.doi.org/10.15585/mmwr.mm6543a1>

Exhibit 4.5.2.4.v. Statewide annual trends in the percent of preterm births, from MY0 to MY5



Source: Authors' analysis of the population health data available in the DSRIP Dataset.

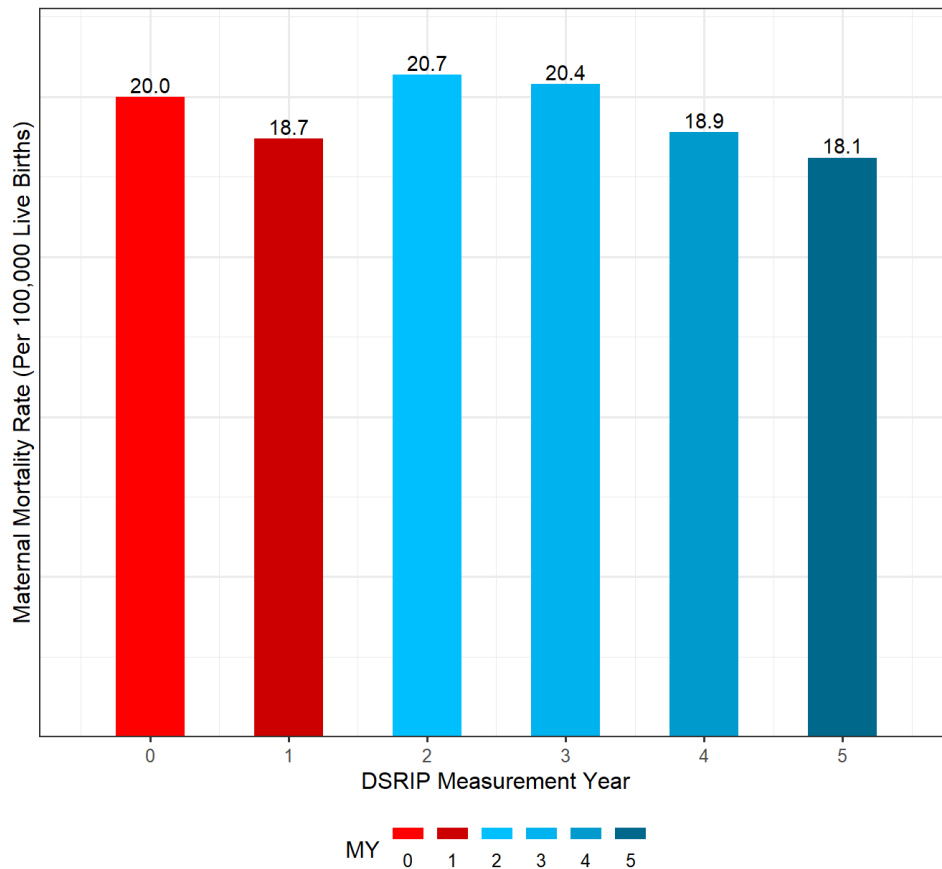
Notes: The coverage was the NYS general population and not limited to Medicaid members.

Exhibit 4.5.2.4.vi displays annual values for the maternal mortality rate. Although the maternal mortality rate fluctuated year-to-year during the period, it declined overall, ending at 18.1 deaths per 100,000 live births in MY5. This measure surpassed the Prevention Agenda target of 21.0 deaths per 100,000 live births.¹⁵⁴ However, this was higher than the current mortality rate of 17.4 per 100,000 live births nationally in 2018.¹⁵⁵

¹⁵⁴ The Prevention Agenda covered the years 2013 through 2018, and due to data lags the baseline year for these measures is 2010. The DSRIP program started in 2014. While this population measure did not improve during the DSRIP program period, it exceeded the Prevention Agenda target because the improvement happened prior to the start of the DSRIP program.

¹⁵⁵ Centers for Disease Control and Prevention. (2019, November 20). Maternal mortality. Available at <https://www.cdc.gov/nchs/maternal-mortality/index.htm>

Exhibit 4.5.2.4.vi. Statewide annual trends in the maternal mortality rate, from MY0 to MY5



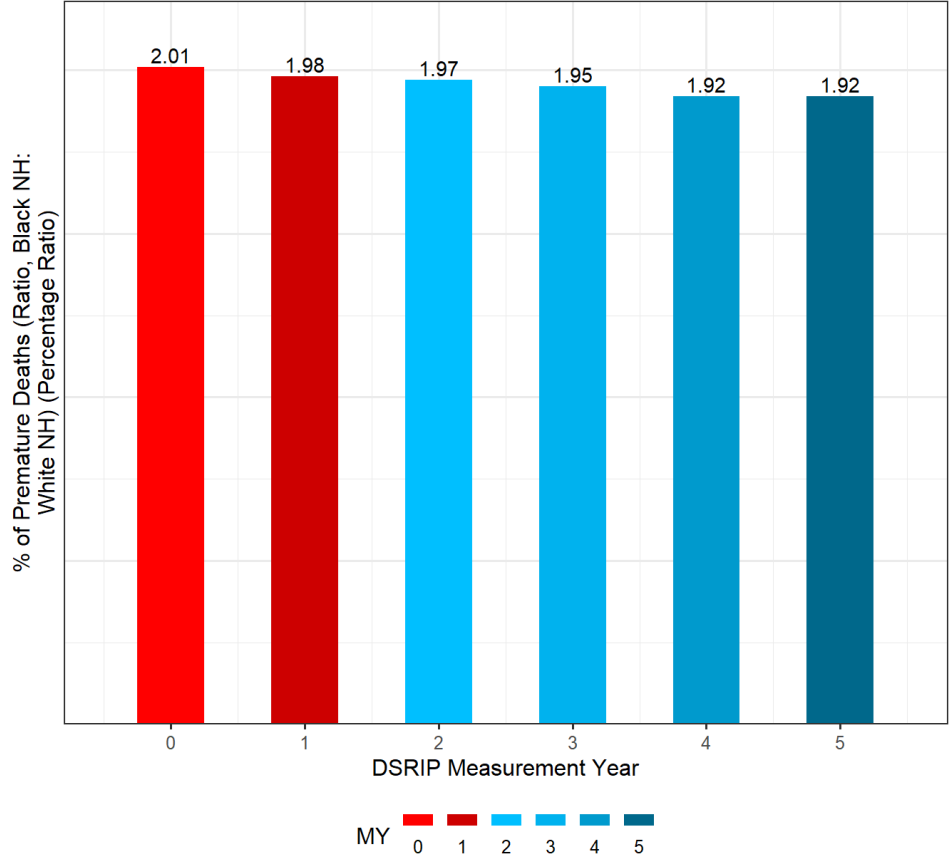
Source: Authors' analysis of the population health data available in the DSRIP Dataset.
Notes: The coverage was the NYS general population and not limited to Medicaid members.

4.5.2.5. Statewide Trends in Population Health Disparities

Racial/ethnic disparities were examined in several areas: premature deaths, the adolescent pregnancy rate, percentage of unintended pregnancy among live births, and percentage of infants breastfed exclusively in the hospital. There are two measures per population health outcome: a ratio comparing Black non-Hispanic to White non-Hispanic values, and a ratio comparing Hispanic to White non-Hispanic values. A ratio of one would indicate no disparities, with a lower value signaling an improvement. The exception is for the ratio in the percentage of infants breastfed exclusively in the hospital, where a higher value of the ratio is desirable.

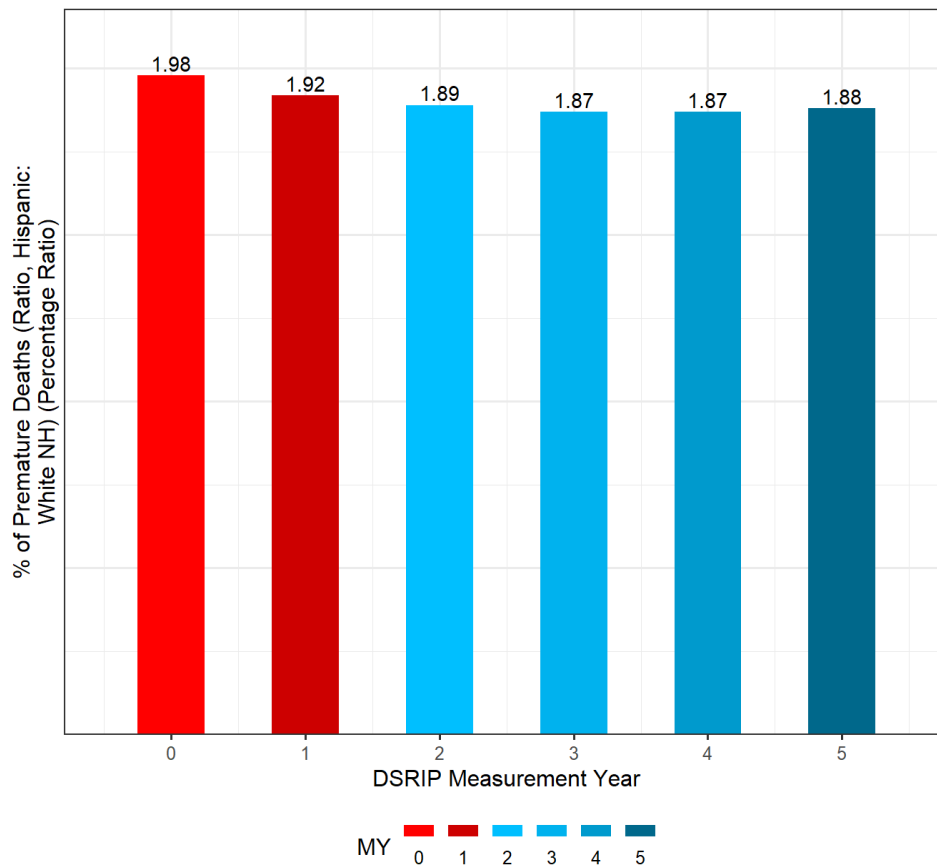
Exhibits 4.5.2.5.i and 4.5.2.5.ii display the annual values for the disparities in premature deaths. Both disparities declined (improved) during the period, although the decline was more notable for Hispanics. The ratio comparing Black non-Hispanics to White non-Hispanics declined from 2.01 in MY0 to 1.92 in MY5, which did not yet meet the Prevention Agenda target of ≤ 1.87 . The corresponding ratio for Hispanics declined from 1.98 in MY0 to 1.88 in MY5, which approached but did not yet exceed the Prevention Agenda target of ≤ 1.86 .

Exhibit 4.5.2.5.i. Statewide annual trends in disparities in premature deaths, comparing Black non-Hispanic to White non-Hispanic, from MY0 to MY5



Source: Authors' analysis of the population health data available in the DSRIP Dataset.
Notes: A ratio of 1 indicates no disparities. The coverage was the NYS general population and not limited to Medicaid members.

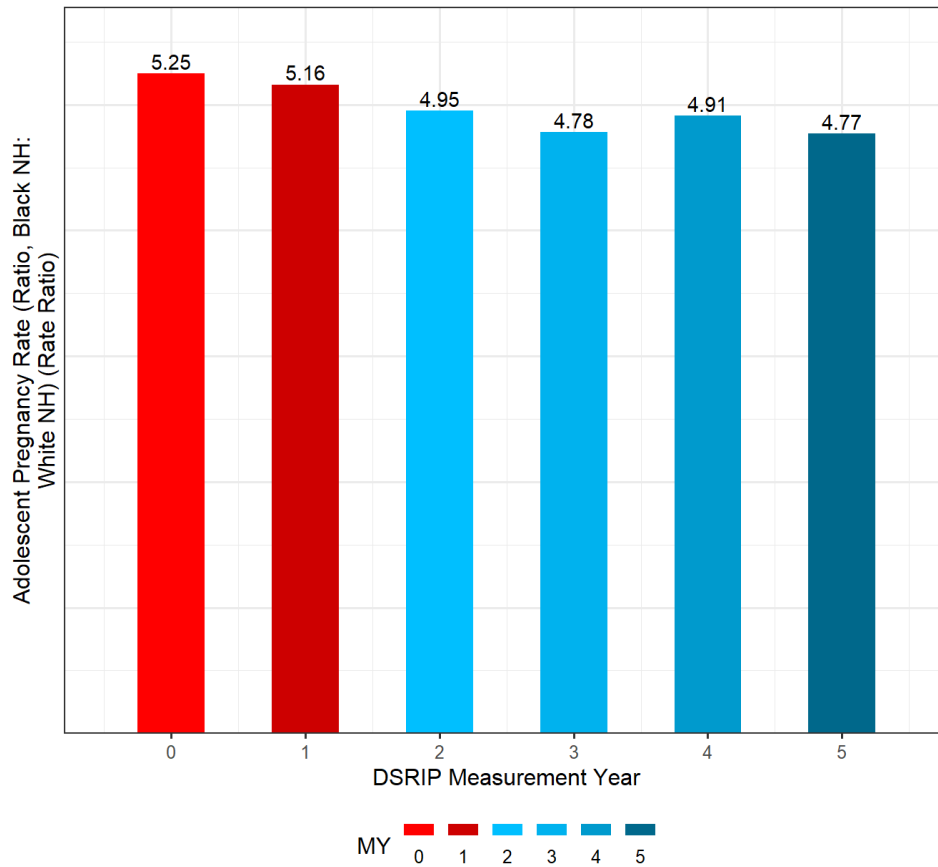
Exhibit 4.5.2.5.ii. Statewide annual trends in disparities in premature deaths, comparing Hispanic to White non-Hispanic, from MY0 to MY5



Source: Authors’ analysis of the population health data available in the DSRIP Dataset.
 Notes: A ratio of 1 indicates no disparities. The coverage was the NYS general population and not limited to Medicaid members.

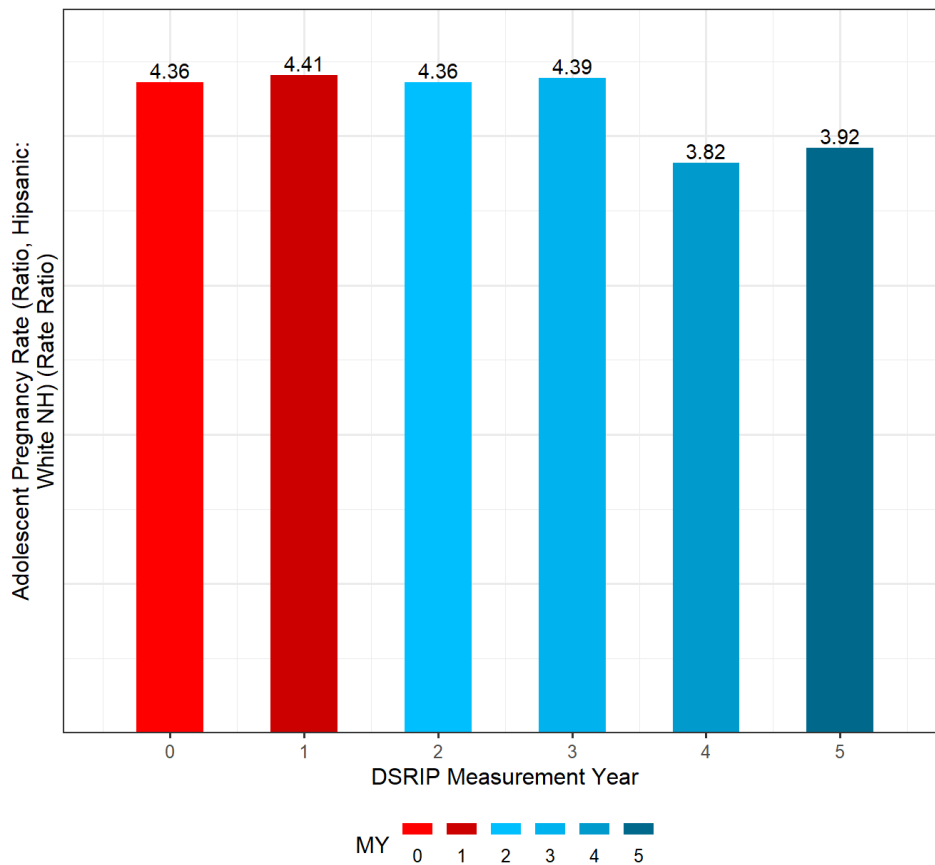
Exhibits 4.5.2.5.iii and 4.5.2.5.iv display the annual values for the disparities in the adolescent pregnancy rate. For this outcome, the disparity between Black and White non-Hispanic adolescents declined, from a ratio of 5.25 in MY0 to 4.77 in MY5. This surpassed the Prevention Agenda target of ≤ 4.90 . The corresponding ratio comparing Hispanic to non-Hispanic White adolescents started at 4.36 and stayed at that level through MY3, and thereafter dropped and ended at 3.92 in MY5. This ratio also surpassed the Prevention Agenda target of ≤ 4.10 . Note that the values in MY4 and MY5 for Exhibits 4.5.2.5.iii and 4.5.2.5.iv were calculated using a different methodology. Their values are shown in the charts for completeness, but strong caution is needed when interpreting them as part of the MY0 to MY5 time trend.

Exhibit 4.5.2.5.iii. Statewide annual trends in disparities in the adolescent pregnancy rate, comparing Black non-Hispanic to White non-Hispanic, from MY0 to MY5



Source: Authors' analysis of the population health data available in the DSRIP Dataset.
Notes: A ratio of 1 indicates no disparities. The coverage was the NYS general population and not limited to Medicaid members. Data from MY4 and MY5 were calculated with a different methodology and caution is warranted in interpreting them as part of the MY0 to MY5 trend.

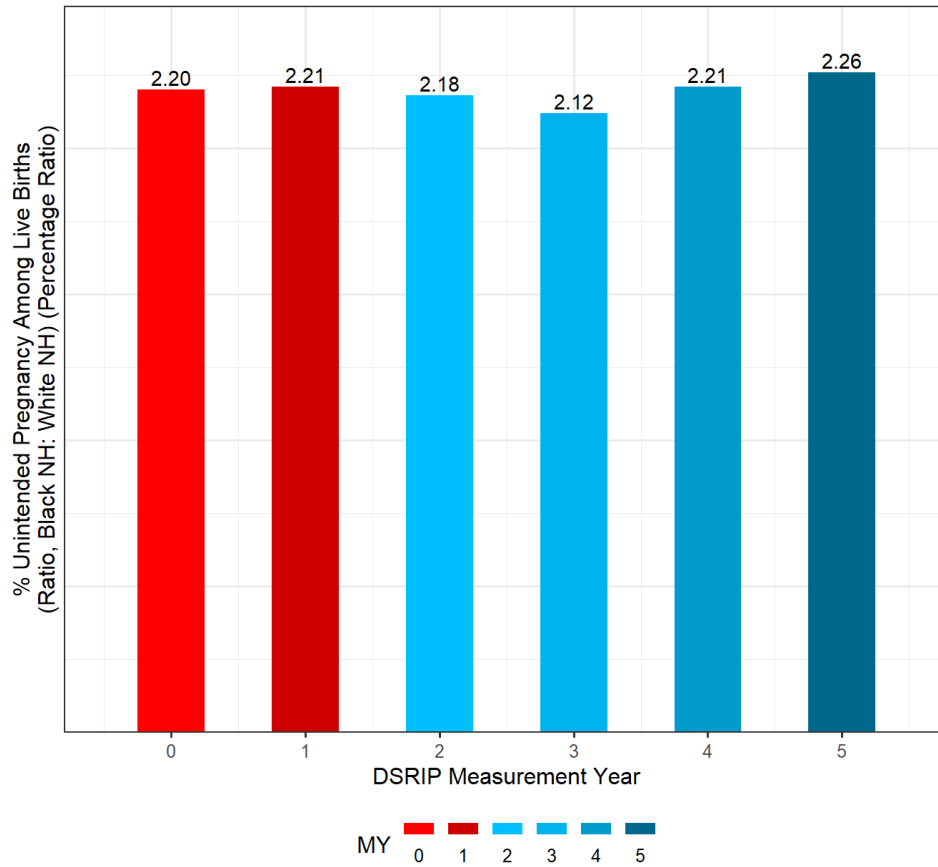
Exhibit 4.5.2.5.iv. Statewide annual trends in disparities in the adolescent pregnancy rate, comparing Hispanic to White non-Hispanic, from MY0 to MY5



Source: Authors’ analysis of the population health data available in the DSRIP Dataset.
 Notes: A ratio of 1 indicates no disparities. The coverage was the NYS general population and not limited to Medicaid members. Data from MY4 and MY5 were calculated with a different methodology and caution is warranted in interpreting them as part of the MY0 to MY5 trend.

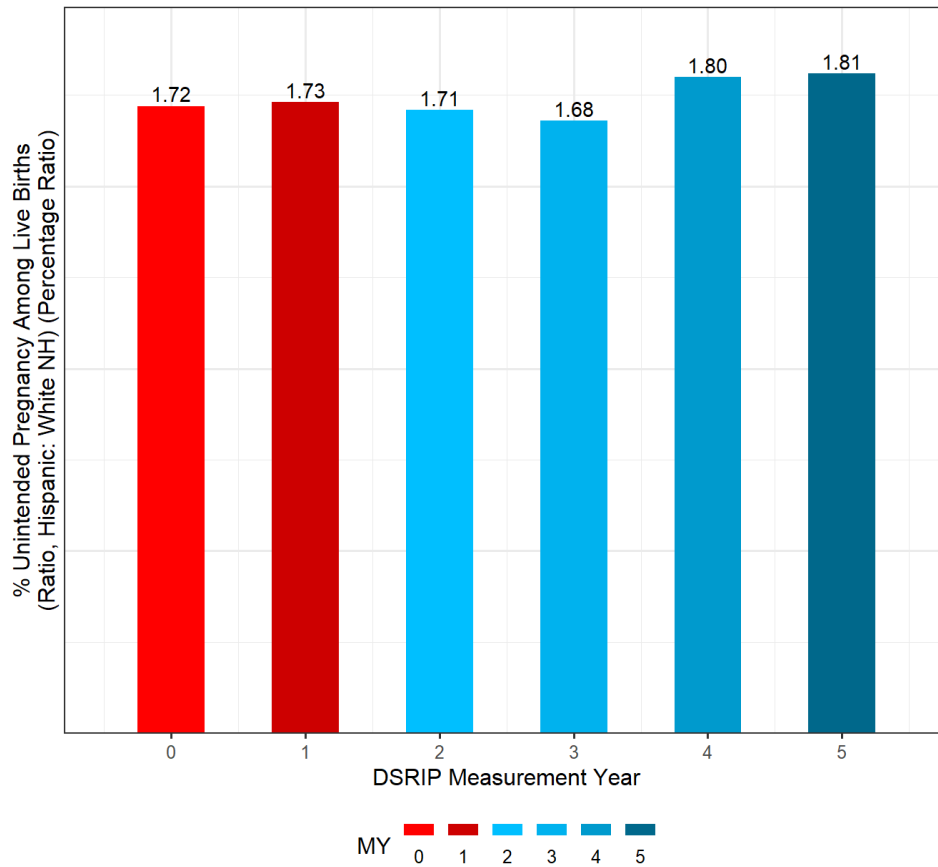
Exhibits 4.5.2.5.v and 4.5.2.5.vi display the annual values for the disparities in the percentage of unintended pregnancies. There were slight increases (worsening) in both disparities during the period. These outcomes had not yet met Prevention Agenda goals (Black non-Hispanic versus White non-Hispanic ratio, MY5=2.26, Prevention Agenda target ≤ 1.90 ; Hispanic versus White non-Hispanic ratio, MY5=1.81, Prevention Agenda target ≤ 1.43).

Exhibit 4.5.2.5.v. Statewide annual trends in disparities in the percentage of unintended pregnancies among live births, comparing Black non-Hispanic to White non-Hispanic, from MY0 to MY5



Source: Authors' analysis of the population health data available in the DSRIP Dataset.
Notes: A ratio of 1 indicates no disparities. The coverage was the NYS general population and not limited to Medicaid members.

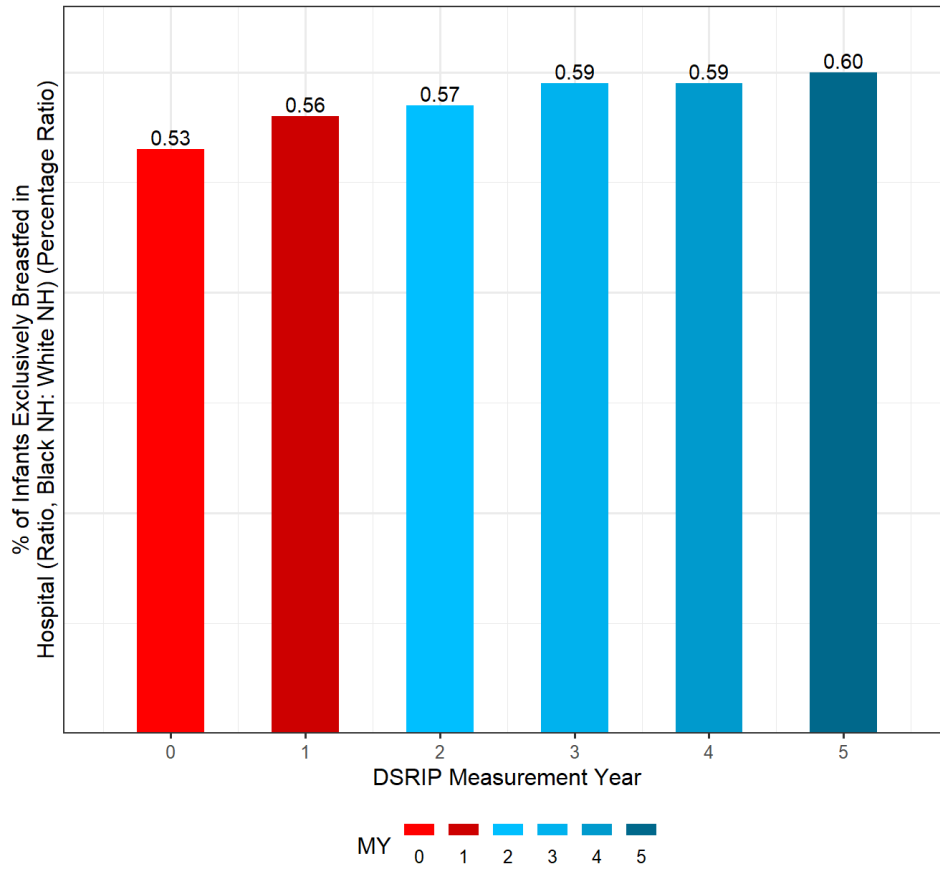
Exhibit 4.5.2.5.vi. Statewide annual trends in disparities in the percentage of unintended pregnancies among live births, comparing Hispanic to White non-Hispanic, from MY0 to MY5



Source: Authors’ analysis of the population health data available in the DSRIP Dataset.
 Notes: A ratio of 1 indicates no disparities. The coverage was the NYS general population and not limited to Medicaid members.

Exhibits 4.5.2.5.vii and 4.5.2.5.viii display the annual values for the disparities in the percentage of infants exclusively breastfed in the hospital. There were improvements in both disparities. The ratio comparing Black non-Hispanic to White non-Hispanic populations increased from 0.53 in MY0 to 0.60 in MY5, which exceeded the Prevention Agenda target of a ratio ≥ 0.57 . The corresponding ratio comparing Hispanic to White non-Hispanic populations increased from 0.54 in MY0 to 0.61 in MY4, which did not yet meet the Prevention Agenda target of a ratio ≥ 0.64 .

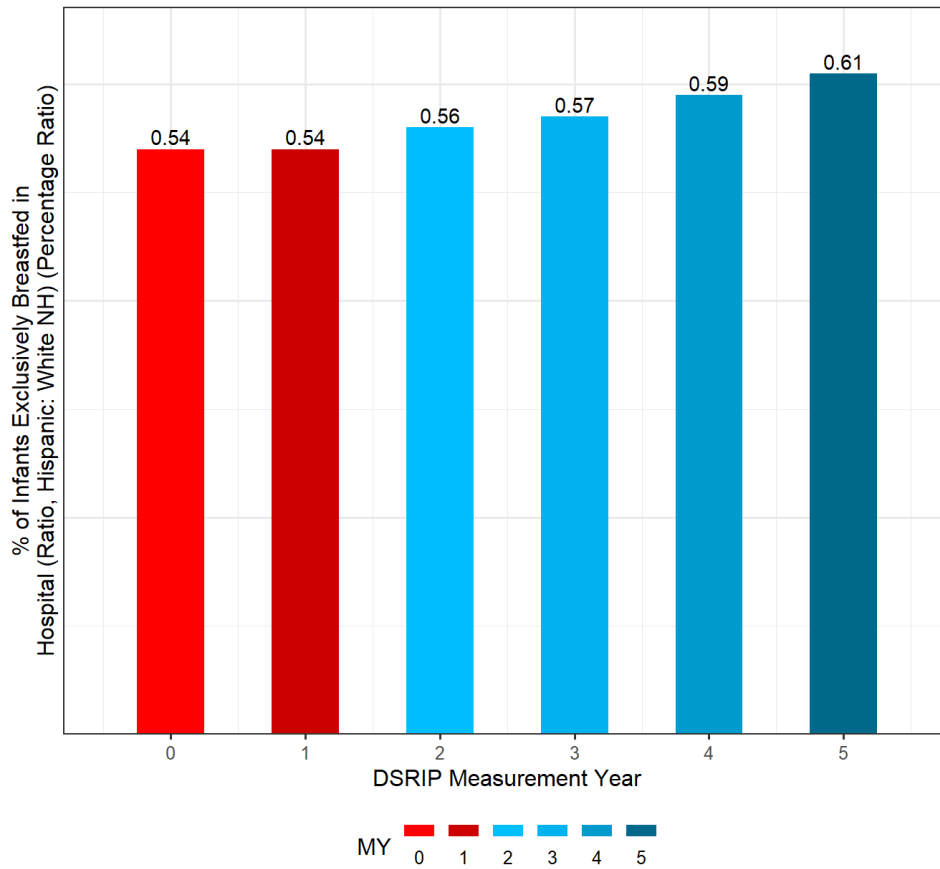
Exhibit 4.5.2.5.vii. Statewide annual trends in disparities in the percent of infants exclusively breastfed in the hospital, comparing Black non-Hispanic to White non-Hispanic, from MY0 to MY5



Source: Authors' analysis of the population health data available in the DSRIP Dataset.

Notes: A ratio of 1 indicates no disparities. The coverage was the NYS general population and not limited to Medicaid members.

Exhibit 4.5.2.5.viii. Statewide annual trends in disparities in the percent of infants exclusively breastfed in the hospital, comparing Hispanic to White non-Hispanic, from MY0 to MY5



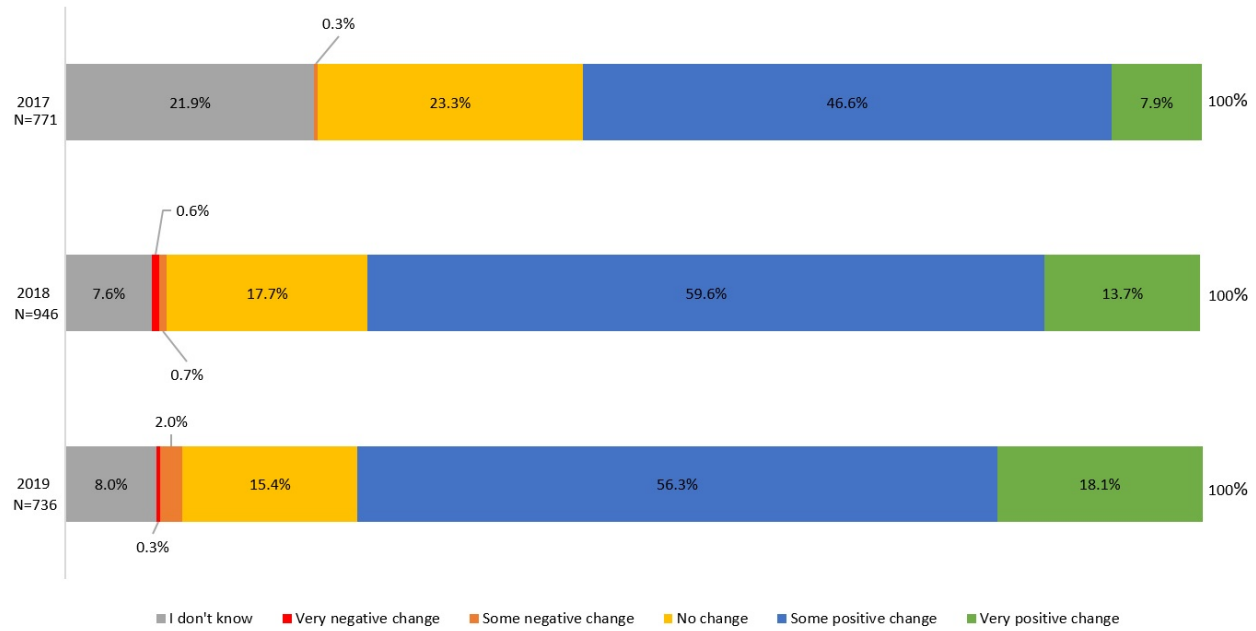
Source: Authors’ analysis of the population health data available in the DSRIP Dataset.
 Notes: A ratio of 1 indicates no disparities. The coverage was the NYS general population and not limited to Medicaid members.

4.5.3. Qualitative Findings on Perceptions of the Impact of the DSRIP Program on Population Health

4.5.3.1. Overall Perceptions of Domain 4 Projects

Partners who responded to the survey believed that the DSRIP program positively affected population health in their service area (54.5% in 2017; 73.3% in 2018; 74.4% in 2019; see Exhibit 4.5.3.1.i).

Exhibit 4.5.3.1.i. Do you believe the DSRIP program has changed any aspect of population health within your service area?



Source: Authors' analysis of the statewide partner survey.
 Note: Responses do not total 100% due to rounding.

Perceptions of the DSRIP program varied somewhat by organization type (see Exhibit 4.5.3.1.ii). Respondents working at hospitals were most likely to report that the DSRIP program changed population health for the better.

Exhibit 4.5.3.1.ii. Perception of positive change in population health by organization type

Organization type	2018	2019
Hospital	84.3	84.8
Behavioral health or substance use treatment organization	79.5	77.5
Primary care provider, non-primary care provider, or clinic	75.5	75.0
Community-based organization	73.1	74.3
Skilled nursing facility/nursing home	60.9	57.9
All other organization types	68.1	72.5

Source: Authors' analysis of the statewide partner survey.
 Note: 2017 survey data not included because it defined organization types differently.

Key informants from PPSs saw a shift towards thinking more about population health.

Just in terms of moving everybody from thinking about individuals to thinking about populations. It has forced in a positive way this mind shift towards working with CBOs to a degree. – 2017 PPS key informant

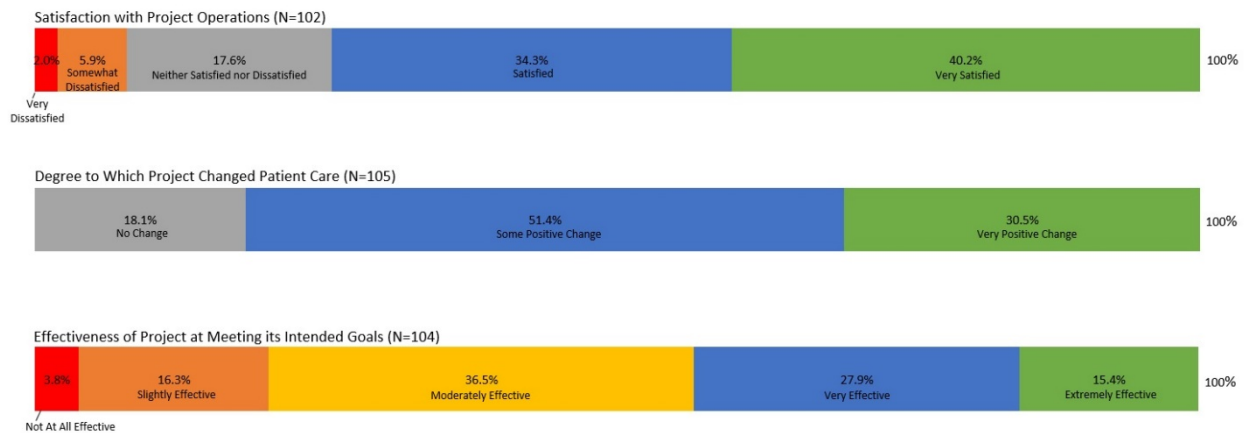
Some were concerned, however, about how population health activities would be sustained without dedicated funding.

From the population health perspective, the flip side of that for the Domain 4 projects is that's where we've seen the biggest issue with sustainability because a lot of the work that was being done has no clear revenue stream. – 2019 PPS key informant

4.5.3.2. Perceptions of Specific Domain 4 Projects

In the 2019 partner survey, 74.5% of respondents were satisfied with the operations of Project 4.a.iii (Strengthen Behavioral Health Infrastructure across Systems). A total of 81.9% believed the project made a positive change in patient care, and 79.8% perceived the project as at least moderately effective in meeting its intended goals (see Exhibit 4.5.3.2.i).

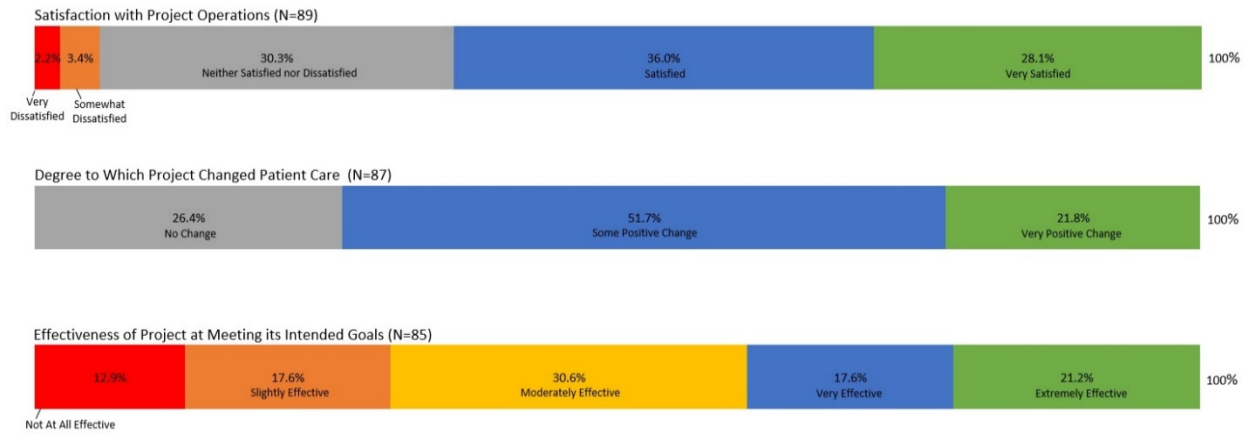
Exhibit 4.5.3.2.i. 2019 Partner perceptions of project 4.a.iii, “Strengthen Mental Health and Substance Abuse Infrastructure Across Systems”



Source: Authors’ analysis of the 2019 statewide partner survey.

In the 2019 partner survey, 64.1% of respondents were satisfied with the operations of Project 4.b.i (Promote Tobacco Use Cessation). A total of 73.5% believed the project made a positive change in patient care, and 69.4% perceived the project as at least moderately effective in meeting its intended goals. (see Exhibit 4.5.3.2.ii)

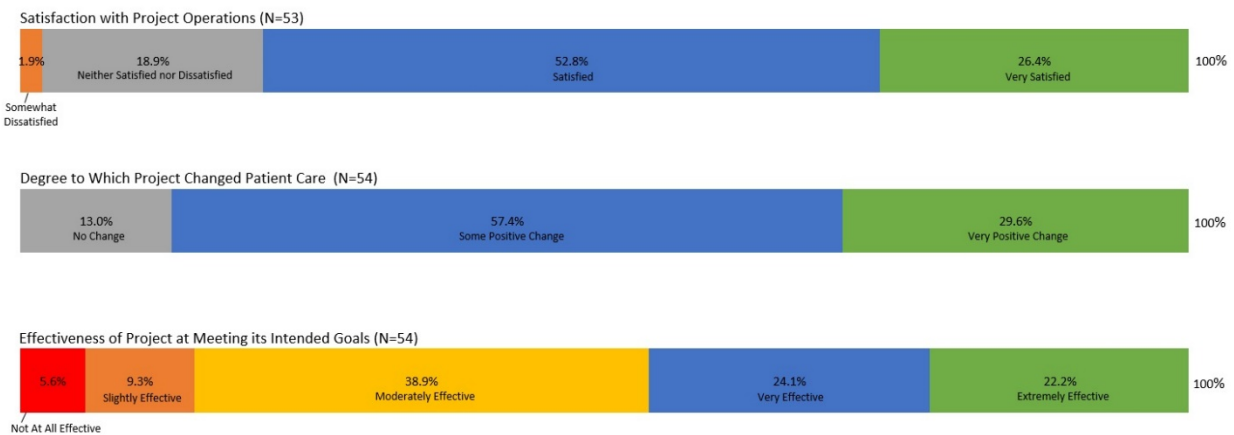
Exhibit 4.5.3.2.ii. 2019 Partner perceptions of project 4.b.i, “Promote Tobacco Use Cessation”



Source: Authors’ analysis of the 2019 statewide partner survey.

In the 2019 partner survey, 79.2% of respondents were satisfied with the operations of Project 4.b.ii (Increase Access to High Quality Chronic Disease Preventive Care and Management). A total of 87.0% believed the project made a positive change in patient care, and 85.2% perceived the project as at least moderately effective in meeting its intended goals. (see Exhibit 4.5.3.2.iii)

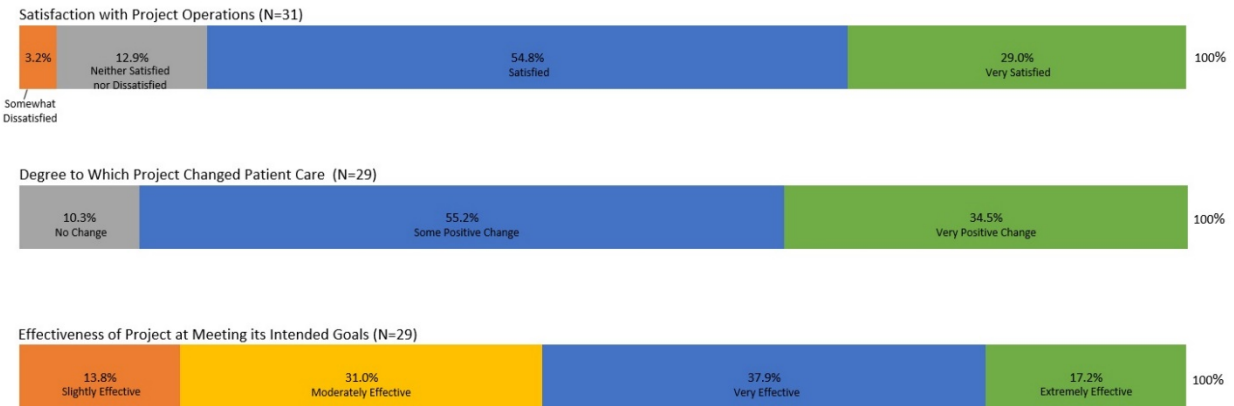
Exhibit 4.5.3.2.iii. 2019 Partner perceptions of project 4.b.ii, “Increase Access to Chronic Disease Preventive Care and Management”



Source: Authors’ analysis of the 2019 statewide partner survey.

In the 2019 partner survey, 83.8% of respondents were satisfied with the operations of project 4.c.ii (Increase Early Access to and Retention in HIV Care). A total of 89.7% believed the project made a positive change in patient care, and 86.1% perceived the project as at least moderately effective in meeting its intended goals. (see Exhibit 4.5.3.2.iv)

Exhibit 4.5.3.2.iv. 2019 Partner perceptions of project 4.c.ii, “Increase Early Access to and Retention in HIV Care”



Source: Authors’ analysis of the 2019 statewide partner survey.

4.6. Assessment of Changes in Health Care Costs

Section Overview

This section addresses RQ-F:

Did the DSRIP program reduce health care costs? (Sub-question: Was the DSRIP program cost effective in terms of New York and federal governments receiving adequate value for their investments?)

Its associated hypotheses are below:

- **H9:** Costs for primary care services will increase.
- **H10:** Costs for behavioral health care services will increase.
- **H11:** Costs for emergency department services will decrease.
- **H12:** Costs for hospital inpatient services will decrease.
- **H13:** Total cost of care will decrease.

Summary-At-A-Glance

The **final** Summative Report evaluated whether the DSRIP program reduced health care costs by analyzing changes in expenditures for different categories of health care services over time. It was anticipated that the DSRIP program would increase expenditures for primary care and behavioral health services and decrease expenditures for emergency department and hospital inpatient services, thereby leading to a decline in the total cost of care.

Summary of Cost Analysis Results

Key statewide findings follow:

- Total annual expenditures per member per month (PMPM) increased by 1.9%, from \$465.83 PMPM in MY0 to \$474.81 in MY5; however, changes in expenditures varied across categories.
- Inpatient and emergency department expenditures per member per month (PMPM) decreased by 11.9% and 8.4%, respectively, from MY0 to MY5. Although the declines in hospitalization expenditures were consistent with expectations that these would decrease, most of the decline was between MY0 and MY1, before full implementation of the DSRIP program, and the extent to which the declining hospitalization expenditures are attributable to the DSRIP program is inconclusive.
- Primary care and behavioral health expenditures per member per month (PMPM) decreased by 4.6% and 3.7%, respectively, from MY0 to MY5. These expenditures initially had a notable decline from MY0 to MY1 followed by an increase in the last two years. The pattern of an initial decrease prior to the DSRIP program's implementation and reversal of the trend indicates modest support for expectations that expenditures for these services would increase.
- Health home expenditures PMPM had the largest increase of 62.5% from MY0 to MY5.
- The largest share of the increase in total Medicaid expenditures was attributable to the ambulatory care, pharmacy, and long-term care categories.

PPS Partner Survey Feedback on Health Care Costs

In the partner survey, slightly less than one-fifth of 2019 partner survey respondents believed that the DSRIP program reduced medical costs. These perceptions were somewhat inconsistent with findings from the detailed cost analysis, which found only slight increases in total expenditures but notable declines in inpatient and emergency department expenditures.

Contextualizing Changes in Health Care Costs

- Although counter to expectations there was a small overall decrease in primary care PMPM expenditures per between MY0 and MY5, there were several notable achievements in primary care quality outcomes during this period, including improvements in diabetes control, asthma medication management, adults receiving a flu shot, and patients advised to quit smoking/tobacco cessation.
- Declines in inpatient and emergency department PMPM expenditures were consistent with findings of overall statewide reductions (improvements) in potentially preventable hospital and emergency department utilization.

Limitations and Caveats

- For the pre-DSRIP period (12 months in MY0), the DSRIP program was not yet in place and it was not possible to classify members as being DSRIP-attributed versus non-attributed. Consequently, the cost analysis uses the “DSRIP-eligible” population for the full study time period (“intent to treat” analysis) which differs from the other quantitative analyses based on the performance measures which use the attributed population (“as-treated” analysis).
- The analysis focuses on changes in expenditure categories for spending on direct service delivery, and the costs of administering the DSRIP program including performance payments are not included.
- The cost analysis focuses on aggregate expenditures for all members eligible for the DSRIP program each month, which does not allow for detailed analysis of how expenditures changed over time for specific members.
- Encounter data have missing data in limited circumstances and have some data quality issues, but have been found by the NYS DOH to be satisfactory for payment of quality rewards.
- Factors such as growth in the Medicaid population due to the Affordable Care Act; unexpected surges in utilization such as those seen with the opioid crisis; and programmatic changes, such as the implementation of Health Homes, could have impacted expenditures.

4.6.1. Analysis of Medicaid Expenditures Among DSRIP-Eligible Members

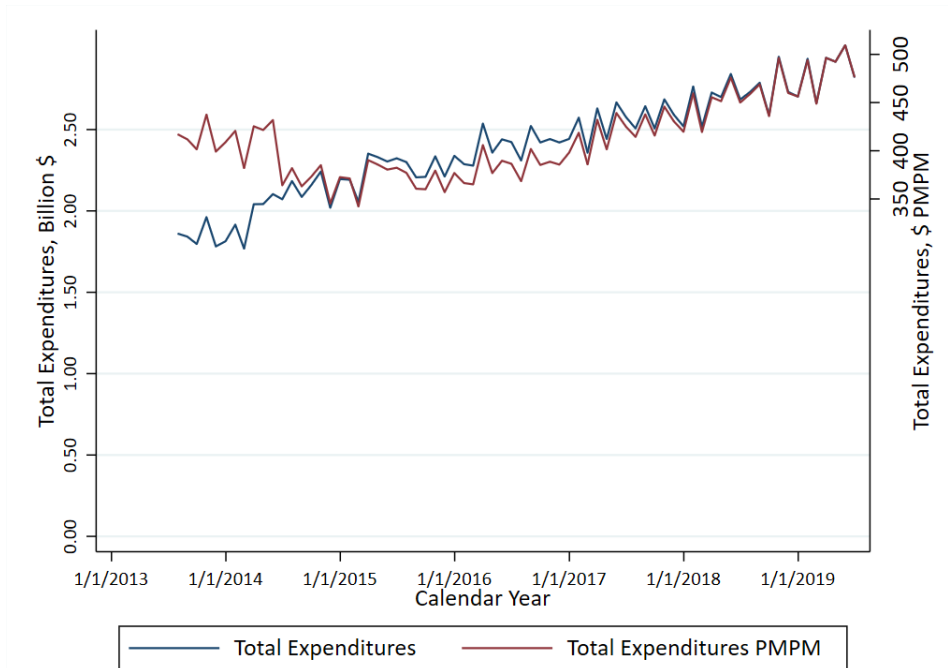
Exhibit 4.6.1.i displays the total monthly expenditures during the DSRIP program from MY0 Month 1 (July 2013) through MY5 Month 12 (June 2019) among DSRIP-eligible members.¹⁵⁶ They are presented on both a total expenditures and on a per member per month (PMPM) basis, as the number of DSRIP-eligible members also increased slightly during the study period. All expenditures are adjusted for inflation using the medical consumer price index and presented in 2019 dollars, the last year of the DSRIP program.

¹⁵⁶ For the cost analysis, the population is Medicaid members who were DSRIP-eligible, excluding dual-eligibles. The performance measures used for the other research questions were limited to the *attributed* population, whereas the *eligible* population examined for the cost analysis includes both attributed and non-attributed members. The expenditure data had a longer 12-month “pre” period starting in MY0 Month 1. Because the DSRIP program was not in place, it is not possible to determine retroactively which members would have been enrolled in the DSRIP program. The performance measures use 12-month moving averages, whereas the expenditure data reflect services delivered in a given month.

The total expenditures increased in the period, from \$1.8 billion in July 2013 (MY0 Month 1) to \$2.8 billion in June 2019 (MY5 Month 12). These expenditures also increased on a PMPM basis during the same period, from \$417.14 PMPM in July 2013 to \$476.14 PMPM in June 2019.

Because the monthly expenditure patterns are similar overall and by category when presented as total expenditures and on a PMPM basis, all subsequent exhibits use the PMPM outcomes for ease of interpretation.

Exhibit 4.6.1.i. Total monthly expenditures during the DSRIP program, overall and per member per month



Source: Authors' analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

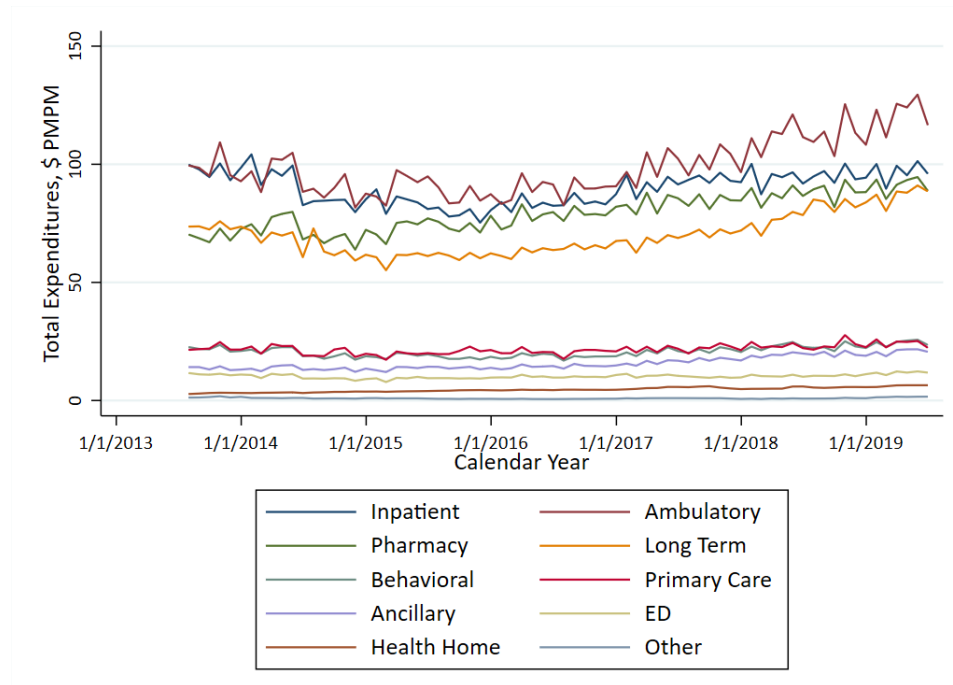
Notes: Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars. These are presented as both total expenditures (left axis) and on a per member per month basis (secondary axis).

Exhibit 4.6.1.ii breaks down the monthly expenditures into the categories assessed in the analysis: inpatient, emergency department, pharmacy, ambulatory care, long-term care, ancillary services, health homes, primary care, behavioral health, and other. The inpatient and emergency department expenditure categories include both preventable and non-preventable admissions. Behavioral health comprises both substance use disorder and mental health treatment.

Across the categories, the three highest expenditures were inpatient, ambulatory care,¹⁵⁷ and pharmacy; followed by long-term care. All other categories have much lower PMPM expenditures.

¹⁵⁷ The ambulatory care category includes the following claim types: non-primary care practitioner (primary care practitioner claims were categorized separately), clinic, dental, eye care, referred ambulatory, and undefined professional. These claims were not identified in other categories.

Exhibit 4.6.1.ii. Monthly expenditures by category during the DSRIP program, per member per month



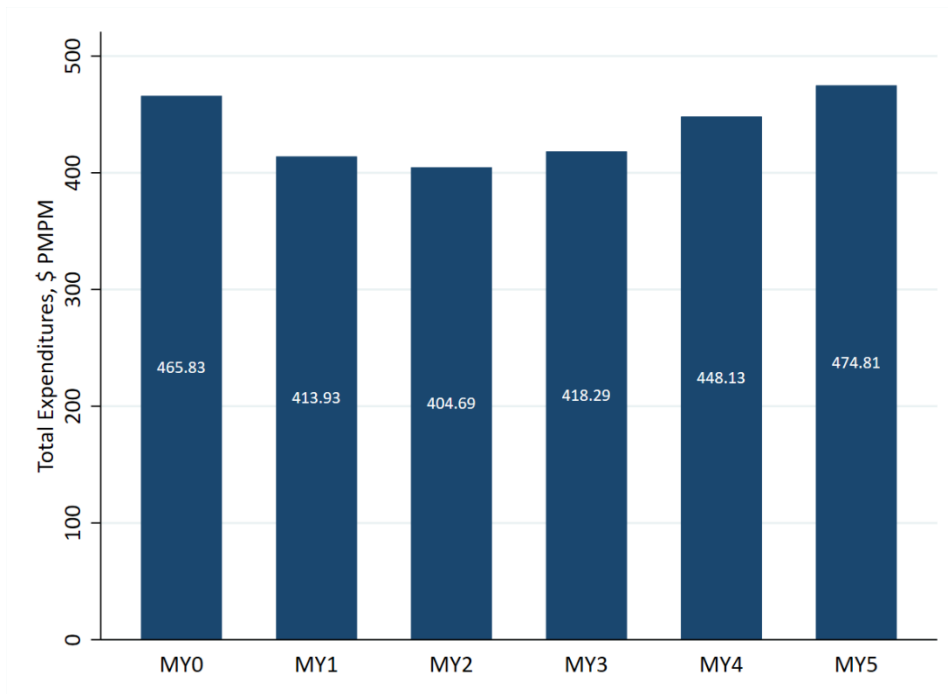
Source: Authors’ analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

Notes: Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars.

For all expenditures, there was considerable month-to-month variability which is common for claims-based data. For ease of interpretation, the subsequent exhibits present expenditures on an annualized basis. For each MY, the annualized expenditures are calculated using a numerator of the sum of all monthly expenditures across the 12 months, and a denominator of the sum of all persons attributed in each month (i.e., the total member-months).

Exhibit 4.6.1.iii displays the total annual expenditures PMPM, and Exhibit 4.6.1.iv represents these data as year-to-year changes. From MY0 to MY5, total expenditures increased slightly from \$465.83 PMPM in MY0 to \$474.81 PMPM in MY5, which was a 1.9% overall increase. There was a large decline of \$51.90 PMPM between MY0 and MY1, and an additional \$9.24 PMPM decline between MY1 and MY2. Thereafter, the expenditures increased in each subsequent year (see Exhibit 4.6.1.iv).

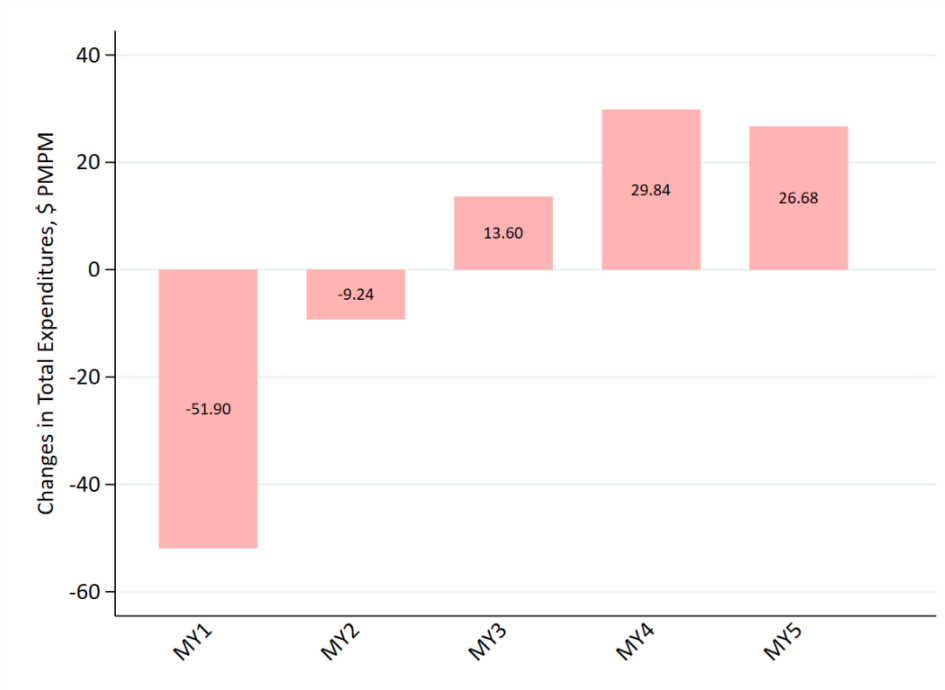
Exhibit 4.6.1.iii. Total annual expenditures during the DSRIP program, per member per month



Source: Authors' analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

Notes: Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars.

Exhibit 4.6.1.iv. Year-to-year changes in annual expenditures during the DSRIP program, per member per month

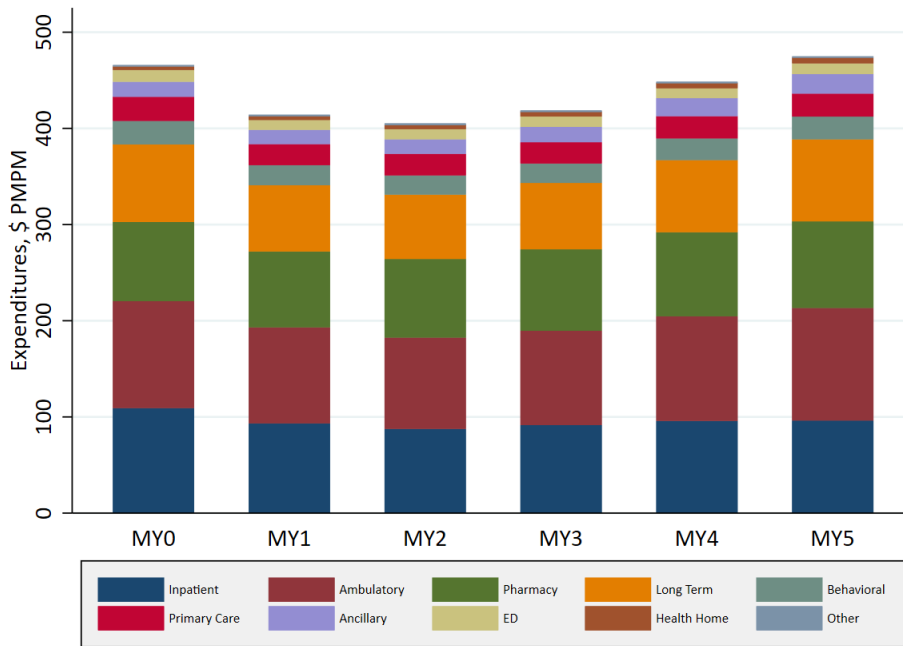


Source: Authors' analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

Notes: The year-to-year changes correspond with the annual expenditures in Exhibit 4.6.1.iii (any differences are due to rounding). Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars.

Exhibits 4.6.1.v and 4.6.1.vi show how these annual expenditures compare across the ten categories. The DSRIP program was expected to increase expenditures for primary care and behavioral health services (hypotheses H9 and H10, respectively) and decrease expenditures for emergency department and inpatient hospitalizations (hypotheses H11 and H12, respectively).

Exhibit 4.6.1.v. Annual expenditures by category during the DSRIP program, per member per month



Source: Authors' analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

Notes: Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars.

Exhibit 4.6.1.vi. Annual expenditures by category during the DSRIP program, per member per month

Expenditure Category	Annual Expenditures by Measurement Year (MY)						% Change MY0-MY5
	MY0	MY1	MY2	MY3	MY4	MY5	
Inpatient	\$109.21	\$93.29	\$87.56	\$91.46	\$95.90	\$96.26	-11.9%
Ambulatory	\$111.12	\$99.91	\$95.00	\$98.13	\$108.70	\$117.09	5.4%
Pharmacy	\$82.37	\$78.84	\$81.69	\$84.67	\$87.47	\$89.98	9.2%
Long-term care	\$80.62	\$68.83	\$66.97	\$69.05	\$75.03	\$85.36	5.9%
Behavioral health	\$24.49	\$20.92	\$19.97	\$20.27	\$22.52	\$23.59	-3.7%
Primary care	\$25.05	\$21.91	\$22.39	\$22.05	\$23.13	\$23.91	-4.6%
Ancillary	\$15.64	\$14.84	\$15.14	\$15.94	\$18.65	\$20.22	29.3%
Emergency department	\$12.25	\$10.23	\$10.52	\$10.74	\$10.35	\$11.23	-8.4%
Health home	\$3.64	\$4.16	\$4.71	\$5.11	\$5.51	\$5.92	62.5%

Expenditure Category	Annual Expenditures by Measurement Year (MY)						% Change MY0-MY5
	MY0	MY1	MY2	MY3	MY4	MY5	
Other	\$1.42	\$1.00	\$0.73	\$0.87	\$0.87	\$1.24	-12.8%
Total	\$465.83	\$413.93	\$404.69	\$418.29	\$448.13	\$474.81	1.9%

Source: Authors' analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

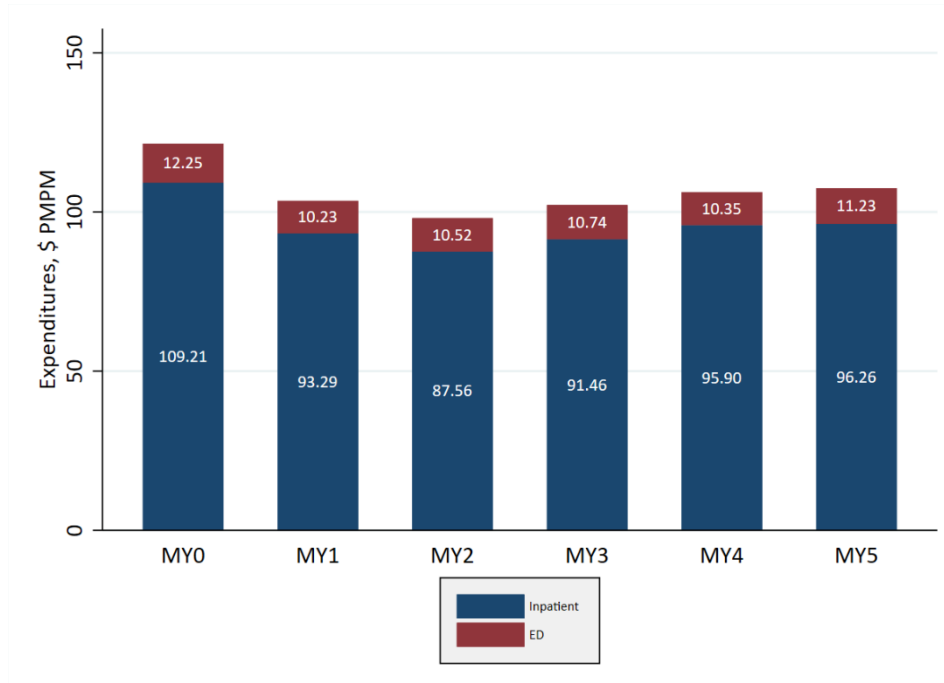
Notes: Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars. The "total" row does not add precisely to column sums due to rounding.

Exhibits 4.6.1.vii and 4.6.1.viii show the annual hospital expenditures in more detail. These are the same values as those shown in Exhibits 4.6.1.v and 4.6.1.vi, but focused on the inpatient and emergency department expenditures only for ease of interpretation because they relate to hypotheses H11 and H12.

Emergency department expenditures decreased by 8.4% during the period, from \$12.25 PMPM in MY0 to \$11.23 PMPM in MY5. This decrease was primarily attributable to a large decrease from MY0 to MY1. Inpatient expenditures decreased by 11.9% during the period, from \$109.21 PMPM in MY0 to \$96.26 PMPM in MY5. Consistent with the emergency department expenditures, this was primarily due to a large decline between MY0 and MY1. Inpatient expenditures had an additional, but smaller, decline from MY1 to MY2, and thereafter expenditures increased in each subsequent MY.

Overall, the declines in hospitalization expenditures were consistent with the hypotheses for hospital inpatient services (H11) and emergency department expenditures (H12). However, because most of the decline was between MY0 and MY1, before full implementation of the program, the extent to which the decline is attributable to the DSRIP program is inconclusive. It is notable that these categories had the smallest percent increase of all categories which suggests that their expenditures slowed compared to the rise in health care costs overall.

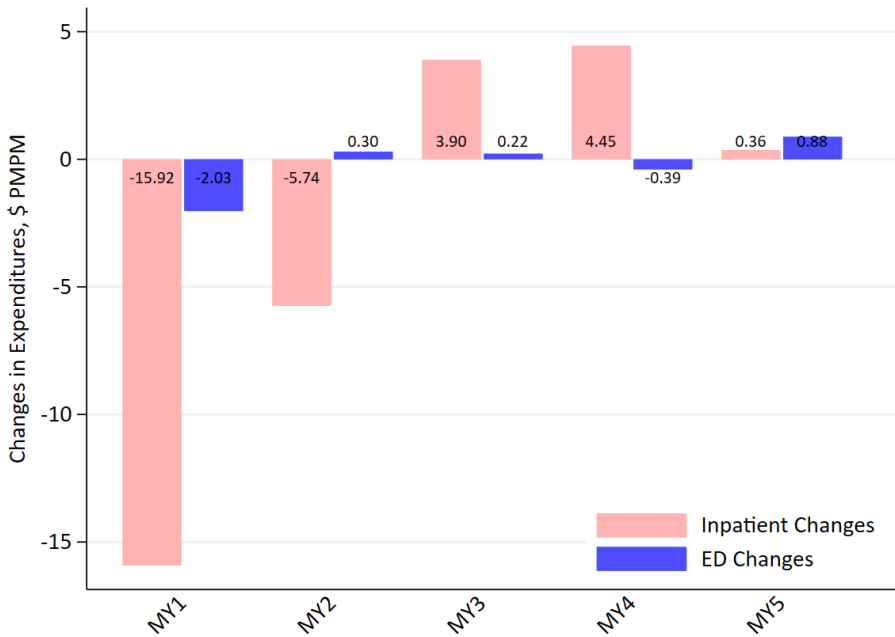
Exhibit 4.6.1.vii. Total annual hospital expenditures during the DSRIP program, per member per month



Source: Authors’ analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

Notes: Hospitalization costs are the same categories as Exhibit 4.6.1.v, but plotted separately here. Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars. Inpatient hospitalization and emergency department expenditures each comprise both preventable and non-preventable expenditures.

Exhibit 4.6.1.viii. Year-to-year changes in total annual hospital expenditures during the DSRIP program, per member per month



Source: Authors’ analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

Notes: The year-to-year changes correspond with the annual hospital expenditures in Exhibit 4.6.1.v. Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars.

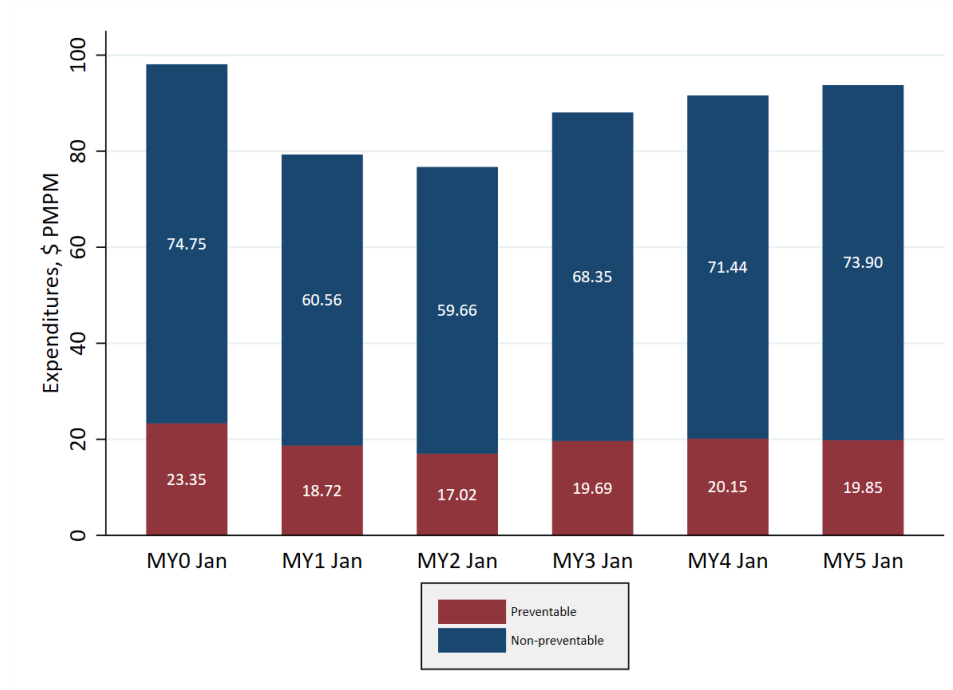
Exhibits 4.6.1.ix and 4.6.1.x provide additional detail on the PMPM hospital expenditures. These charts break down inpatient (Exhibit 4.6.1.ix) and emergency department (Exhibit 4.6.1.x) expenditures into preventable versus non-preventable. The inpatient “preventable” expenditures include those that are classified as potentially preventable admissions (PPA) and/or readmissions (PPR) based on the 3M grouper. (Some expenditures are classified as both; for performance measures, a visit qualifying both as a PPA and part of a PPR chain is counted as a PPR). The inpatient “non-preventable” expenditures are those that are classified as neither PPA nor PPR. The emergency department “preventable” expenditures comprise those classified as potentially preventable emergency department visits (PPV) using the 3M grouper, and “non-preventable” expenditures are non-PPV. Some inpatient and emergency department expenditures (inpatient: 10.2%, emergency department: 8.7%) could not be classified using the 3M grouper and are excluded from the exhibits. These exhibits only display expenditures for January of each MY. Although the PPA, PPR, and PPV measures reflect 12-month periods, the PPA grouper was only run once annually by the data vendor. January was selected to present the preventable versus non-preventable detail because this month had the most complete data with respect to adjudicated claims.

As shown previously, total PMPM inpatient and emergency department expenditures decreased by 11.9% and 8.4%, respectively, between MY0 and MY5 (see Exhibit 4.6.1.vii). Consistent with the focus of the DSRIP program, changes over time were more favorable for preventable expenditures when inpatient and emergency department expenditures were further broken down into preventable and non-preventable. In examining the specific findings of preventable versus non-preventable expenditures it is important to consider that a portion of the expenditures could not be classified as preventable or non-preventable. Additionally, expenditures for only one month of each MY were broken down into preventable or non-preventable. For inpatient expenditures, both preventable and non-preventable expenditures declined but the decrease was more notable for preventable expenditures (Exhibit 4.6.1.ix). For emergency department expenditures, both preventable and non-preventable expenditures increased but the growth was smaller for the preventable category (Exhibit 4.6.1.x). This increase in both preventable and non-preventable emergency department expenditures, even though there was an overall decrease in total emergency department expenditures, is likely due to the exclusion of unclassifiable expenditures. It may also be due to the focus on a single month and a potential artifact of sample selection.

Details on inpatient expenditures: From MY0 to MY5, preventable inpatient expenditures decreased by 15.0% from \$23.35 PMPM in January 2014 (MY0) to \$19.85 in January 2019 (MY5). During the same period, non-preventable inpatient expenditures decreased by 1.1% from \$74.75 PMPM in January 2014 (MY0) to \$73.90 PMPM in January 2019 (MY5).

Details on emergency department expenditures: From MY0 to MY5, preventable emergency department expenditures increased by 7.9% from \$7.17 PMPM in January MY0 to \$7.74 PMPM in January MY5. During the same period, non-preventable emergency department expenditures increased by 11.0% from \$3.10 PMPM in January MY0 to \$3.44 PMPM MY5.

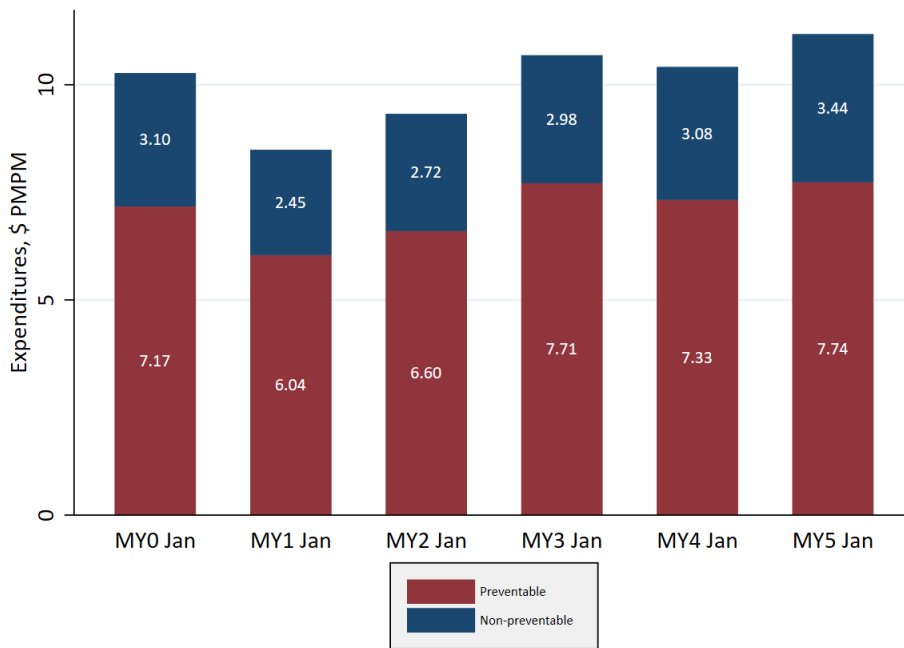
Exhibit 4.6.1.ix. Preventable and non-preventable inpatient hospital expenditures during the DSRIP program, per member per month



Source: Authors’ analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

Notes: Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars. The “preventable” category includes expenditures that are potentially preventable admissions (PPA), potentially preventable readmissions (PPR), or both PPA and PPR. These categories do not sum to values in Exhibit 4.6.1.iv because a small portion of expenditures were unable to be classified as PPA, PPR, or neither PPA/PPR. Data are from January of each measurement year because the PPA measure was run once annually and January was determined to be the month with the most complete data.

Exhibit 4.6.1.x. Preventable and non-preventable emergency department expenditures during the DSRIP program, per member per month



Source: Authors’ analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

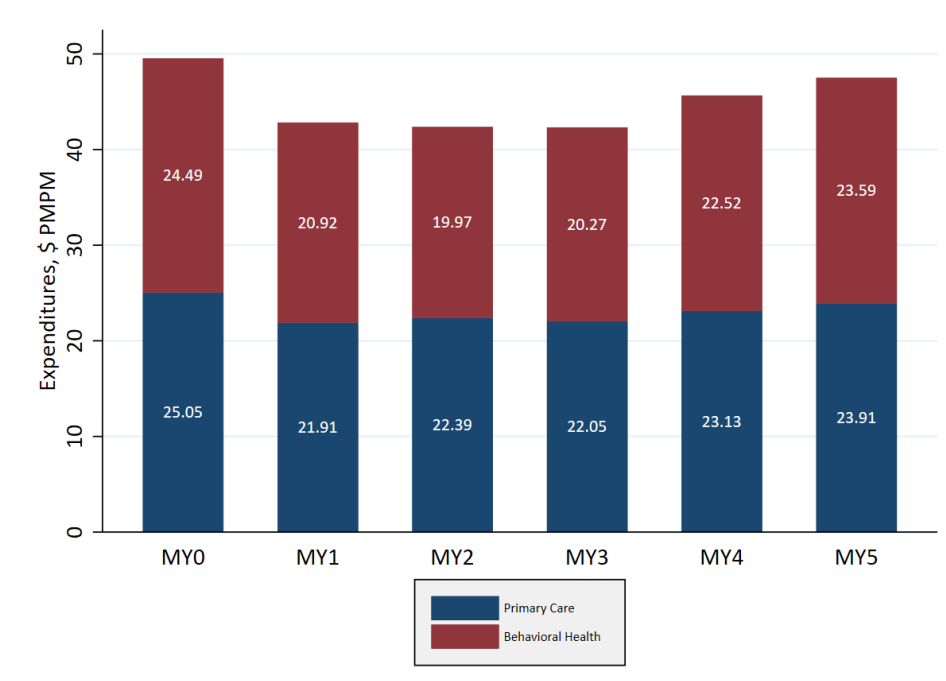
Notes: Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars. The “preventable” category includes expenditures that are potentially preventable emergency department visits (PPV). These categories do not sum to values in Exhibit 4.6.1.iv because a small portion of expenditures were unable to be classified as PPV or non-PPV. Data are from January of each measurement year because the PPA measure was run once annually and January was determined to be the month with the most complete data.

Exhibits 4.6.1.xi and 4.6.1.xii show the primary care and behavioral health expenditures in more detail. These are the same values as those shown in Exhibits 4.6.1.v and 4.6.1.iv, but they focus on these categories only for ease of interpretation because they relate to hypotheses H9 and H10.

Primary care expenditures decreased slightly by 4.6% during the period, from \$25.05 PMPM in MY0 to \$23.91 PMPM in MY5. Behavioral health expenditures also decreased slightly by 3.7% during the period, from \$24.49 PMPM in MY0 to \$23.59 PMPM in MY5. For both categories, the MY0 to MY5 decline was driven by a large decrease between MY0 to MY1, prior to the DSRIP program’s full implementation. Both expenditure categories had some fluctuation between MY1 and MY2, and between MY2 and MY3. Thereafter, both expenditure categories had increases from MY3 to MY4, and from MY4 to MY5.

Overall, the pattern of an initial decrease prior to the DSRIP program’s implementation and reversal of the trend to an increase in the last two years indicate modest support for hypothesis H9 (primary care expenditures) and hypothesis H10 (behavioral health expenditures).

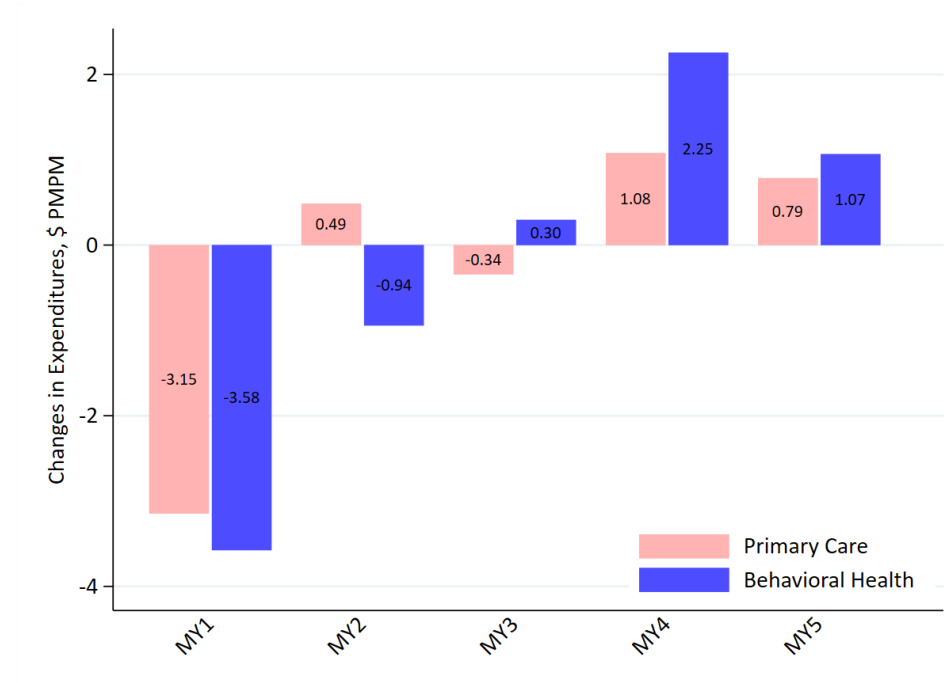
Exhibit 4.6.1.xi. Primary care and behavioral health expenditures during the DSRIP program, per member per month



Source: Authors’ analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

Notes: Primary care and behavioral health costs are the same categories as Exhibit 4.6.1.v, but plotted separately here. Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars.

Exhibit 4.6.1.xii. Year-to-year changes in primary care and behavioral health expenditures during the DSRIP program, per member per month

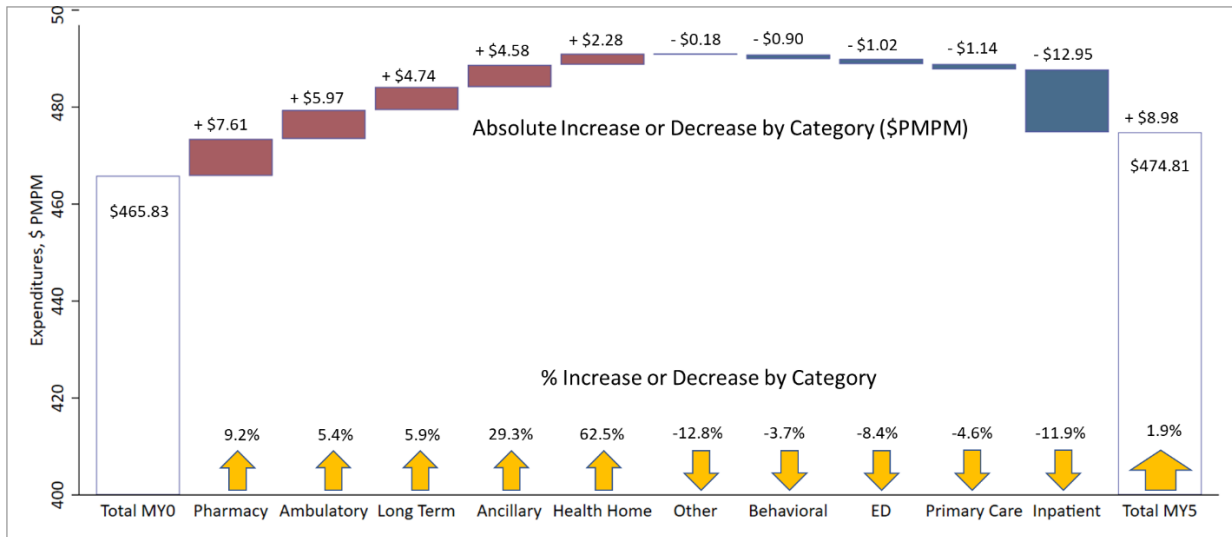


Source: Authors’ analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

Notes: The year-to-year changes correspond with the annual primary care and behavioral health expenditures in Exhibit 4.6.1.v. Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars.

Exhibit 4.6.1.xiii summarizes the changes in expenditures by category through a waterfall chart showing the differences between MY0 and the last year of the DSRIP program (MY5), overall and by category. Overall, this waterfall chart confirms the key points described above. The non-shaded bars on the left and right of the exhibit shows the total expenditures in these starting and ending months, with \$465.83 PMPM in MY0 and \$474.81 PMPM in MY5. For each category, there is a red or blue bar corresponding to how that expenditure contributed to the overall changes and the value of each category’s absolute change between MY0 and MY5. Increases are in red and decreases are in blue. In the bottom of the exhibit, orange arrows indicate the percent increase overall (right arrow) and by category, with data labels conveying the percent change. As noted previously, inflation adjusted PMPM inpatient and emergency department expenditures decreased by 11.9% and 8.4%, respectively, between MY0 and MY5.

Exhibit 4.6.1.xiii. Waterfall chart of changes in expenditures by category across the DSRIP program period, per member per month



Source: Authors' analysis of Medicaid expenditures data prepared by Salient Management Company on behalf of the NYS DOH

Abbreviations: Long-term Care (LT), Health Homes (HH).

Notes: Values reflect changes in annualized expenditures between MY0 and MY5 of the DSRIP program.

Expenditures are for the DSRIP-eligible population (attributed and non-attributed); exclude dual-eligibles, managed care capitation payments, and Graduate Medical Education expenditures; and are inflation-adjusted to 2019 dollars. The red and blue bars represent the absolute changes by category (with red bars to represent increases and blue bars to represent decreases), and the orange arrows show the percent changes by category.

4.6.2. Perception of Health Care Costs among DSRIP Partners

Fewer than one-fifth (18.1%; N=123) of 2019 partner survey respondents believed that the DSRIP program reduced medical costs. This varied by the partner's organization type. At least 30% of partners working in hospice/palliative care centers or health Homes/care management programs believed that the DSRIP program reduced medical costs. However, this was true for less than five percent of partners working in substance use treatment organizations, home care agencies, or pharmacies.

Exhibit 4.6.2.i. Perceived reduced medical costs by organization type

Organization type	Percent	N	Total N
Hospice/palliative care center	57.1%	4	7
Health home/care management program	30.0%	6	20
Primary care provider	22.0%	29	132
Hospital	21.8%	19	87
Clinic	20.8%	5	24
Federally Qualified Health Center	20.0%	8	40

Organization type	Percent	N	Total N
Non-primary care practitioner	20.0%	2	10
Community-based organization	17.4%	27	155
Behavioral health organization	13.2%	7	53
Government office	12.5%	2	16
Skilled nursing facility/nursing home	10.9%	5	46
Substance use treatment organization	4.5%	1	22
Home care agency	0%	0	21
Pharmacy	0%	0	4
Other [please specify:]	19.5%	8	41
Total	18.1%	123	678

Source: Authors' analysis of the 2019 statewide partner survey.

Note: Total N refers to the number of respondents to this item; N refers to those that answered positively.

4.6.3. Contextualizing Changes in Health Care Costs

Although the populations examined for the cost analysis and performance measure analysis differ somewhat and cannot be compared directly, contextualizing the cost analysis with findings from analyses of the performance measures can help provide a more complete picture of the DSRIP program time-period. For example, although counter to expectations there was a small overall decrease in primary care PMPM expenditures between MY0 and MY5, there were several notable achievements in primary care quality outcomes during this period, including improvements in diabetes control, asthma medication management, adults receiving a flu shot, and patients advised to quit smoking/tobacco cessation. Results of the cost analysis also showed that inpatient and emergency department expenditures per member per month decreased by 11.9% and 8.4%, respectively, from MY0 to MY5. This is consistent with the findings of overall statewide reductions (improvements) in potentially preventable hospital and emergency department utilization described in Section 4.1.

4.7. Successes and Challenges of Implementation and Process

Section Overview

This section addresses RQ-G:

What were the successes and challenges with respect to PPS planning, implementation, operation, and plans for program sustainability from the perspective of DSRIP program planners, administrators, and providers; and why were they successful or challenging? (CMS RQ7)

There are no associated hypotheses, as these are qualitative questions.

Summary-At-A-Glance

Based upon the qualitative activities and partner surveys conducted by the Independent Evaluator during the three research cycles in 2017, 2018 and 2019, several themes emerged reflecting multiple perspectives on successes and challenges of the DSRIP program's planning, implementation, and operations. These activities were conducted with PPS partner focus groups, interviews with PPS project managers and executives, and surveys of PPS partners. The details that follow in Section 4.7 are organized in a thematic manner that begin with Start Up, Operations, Support Systems and Accountability Structures, and evolve to Partners and Key Informant's Perceived Outcomes and Observations over time. Each of these themes is further broken down into subtopics that emerged from participant responses.

Summary of PPS Administrator and Partner Feedback

- Many PPSs experienced initial challenges in selecting appropriate projects, committing to speed and scale targets, building infrastructure, and engaging partners.
- Implementation challenges were greater in areas that did not have a pre-existing infrastructure and needed to develop new coalitions from the ground up.
- Over 70% of partners perceived the DSRIP program to be extremely or very effective, and more than three-quarters reported that the services or clinical care at their organization had changed for the better since the DSRIP program was initiated.
- Partners and PPS key informants cited particular success in strengthening collaborations, providing more coordinated care, integrating primary care with behavioral health, shifting attention to population health and social determinants of health, encouraging innovation, providing training, and updating data infrastructure.
- Partners and PPS key informants believed that DSRIP program effectiveness was reduced due to lack of: time to make changes, partner buy-in, hospital buy-in, engagement of managed care organizations, and funding to community-based organizations. They also recommended improvements to data access and sharing and assigning just one PPS per region.

Limitations and Caveats

There are several important caveats for interpreting these findings:

- The key informant interviews and focus groups were subject to the standard limitations of data collection, such as non-response bias and social desirability bias.
- As survey, focus group, and key informant interview data were retrospectively focused on DSRIP program activities over many years, there is a possibility that some information was not recalled correctly.
- Key informant interviews were conducted in a small group via telephone. There is potential that interviewees moderated their contributions to the discussion based on the other people present.

- Engaged partners who were invited to participate in the partner survey and focus groups were identified by PPSs, and a complete list may not have been provided.
- While qualitative conclusions are supported by stakeholder quotes, there is a possibility that some experiences in the DSRIP program will not be represented by performance measure analyses.
- In some PPSs there was staff turnover, which may have made it more difficult to get a complete historical perspective.

4.7.1. Start-up

This section presents the findings related to building the Performing Provider Systems (PPSs) and launching the DSRIP program from the perspectives of the PPS key informants and partners engaged in projects.

4.7.1.1. PPS Formation

To receive DSRIP program funding, interested entities needed to form coalitions of partners to create a PPS and submit an application to the NYS DOH. Depending on the pre-existing health care systems in their regions, some PPSs found this to be more of a challenge than others.

While many communities convened planning groups with newly formed coalitions, some PPSs leveraged existing relationships with partners to create collaborative applications. Many PPS key informants indicated that the application process involved public meetings as well as workgroups, where partners met several times per week to develop the application. While in most cases, a broad-based coalition of planners was found to be beneficial, sometimes a large and diverse group led to difficulty in consensus building.

We pulled together a workgroup or steering committee to write the application. It included three FQHCs¹⁵⁸, four [community-based organizations], and [Hospital] as well as other community providers. The whole process of building the application that way was very painful because we had to have a lot of conversations earlier on that other PPSs didn't have to yet. – 2017 PPS key informant

In regions where many competitors were organized into a small number of PPSs, key informants often reported difficulties during the initial application development. Challenges included alignment on key issues, allocation of resources, and leadership structure.

¹⁵⁸ Federally Qualified Health Centers

It could really be described as “cooperatition,” or an amalgamation of cooperation and competition, since these entities who came together were previously competitors and remained that way to some extent. – 2017 PPS key informant

Sometimes these challenges were addressed and resolved, and the group evolved to develop better functioning relationships by the final application phase.

The major thing that turned the tide was integrating these two PPSs. We re-selected all of our projects together. We had 120 people in the meeting in small groups. Each table worked with and reported out the projects selected...The willingness to stop, take a breath, and let go of what we did independently to collectively pick our projects raised the confidence of the PPS and their ability to hold their own in a larger PPS. – 2017 PPS key informant

Several PPSs, especially those which evolved from unified health systems, reported that their existing structures enabled them to quickly pivot to the requirements of PPS formation and related work.

Our overall governance and the speed with which we were able to get this launched from ground zero was pretty incredible. – 2017 PPS key informant

With the medical home and the ACO¹⁵⁹, we already had a lot of infrastructure there. – 2017 primary care/hospital focus group participant

Some PPSs described building a PPS around their regional hospital. Through an advisory council, they developed a consensus model and networked with major stakeholders, including local government, behavioral health, social service organizations, and community hospitals. In one example, this council transitioned into a governance committee.

A small number of PPSs reported that they had fewer formation challenges because they already had ongoing strategic initiatives related to the goals of the DSRIP program.

We started a transformation effort here about two years before DSRIP came in terms of reducing unnecessary Emergency Department visits and moving toward value based payments. We had a number of risk-based contracts and level-1 contracts prior to DSRIP. – 2017 PPS key informant

The lead agency, [health center], was DSRIP-ing before DSRIP. It seemed so logical for us to continue what we were doing in a more formal structure. That was the genesis. Rather than join another PPS, we did it on our own because we were experienced in this area already. – 2017 PPS key informant

¹⁵⁹ Accountable Care Organization

The PPSs that did not already have a pre-existing infrastructure reported additional early challenges with project implementation and partner engagement. Key informants from these New Corporation (NewCo) PPSs explained that it was difficult to simultaneously build infrastructure for a new organization, engage partners, and adhere to the breadth and pace of DSRIP program project requirements.

We were concurrently organizing around the region, while also organizing around the rollout of the projects. Those two things have two completely different needs and I think that there's a mismatch of pace compared to what it takes to effectively organize a region, and ideally, then you roll out projects. The nature of DSRIP was that we needed to do both of them at once and that presented a lot of operational challenges. – 2018 PPS key informant

Unlike many PPSs with hospital-based infrastructure, we didn't have anything when we began. In order to implement and measure and do all of the things we needed to do, an IT platform was critical. We didn't even have computers at first. Sort of like a startup, we are building everything from the ground up. – 2017 PPS key informant

The NewCo creates an administrative structure that is kind of an impediment to getting things done in our organization. – 2017 primary care focus group participant

4.7.1.2. Project Selection

The PPSs were required to select projects that demanded investment in technology and human resources to better serve target populations consistent with DSRIP program goals. Each PPS submitted an application that included a detailed plan for each selected project and commitments to speed (how fast they could meet their goals) and scale (how many patients would be served, or how many partners would be included). This phase was challenging for many PPSs.

Nearly all PPSs described utilizing the results of their community needs assessment to select projects. The community needs assessment was a required component of the PPS application, and was slated to be a “comprehensive assessment of health care resources, including behavioral health, and community-based service resources currently available in the service area and the demographics and health needs of the population to be served.”¹⁶⁰

¹⁶⁰ New York State Department of Health. (2014). [Guidance for conducting community needs assessment required for DSRIP planning grants and final project plan applications](https://www.health.ny.gov/health_care/medicaid/redesign/dsrp/community_needs_assessment.htm). Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrp/community_needs_assessment.htm.

Overall, the community needs assessment exercise was perceived as beneficial to inform project selection.

The community needs assessment led to the selection of the right projects for us. All selection was based on data and going through the exercise made us realize certain areas where we already had high performance, wouldn't have a gap to goal, or wouldn't be able to move the dial on that. Some of the analyses put behavioral health at the forefront of our minds, where it wasn't before. – 2017 PPS key informant

Although most PPS key informants described positive outcomes of the community needs assessment and project selection process, some reported that in hindsight, they should have selected different projects. The reasons for this were varied and included changes in partnership structure, project design flaws, emerging clinical needs in their community, pressure from a dominant body, or lack of information.

One PPS had a particularly problematic experience with one project and had to reach out to NYS DOH for assistance after the interpretation of the project changed.

One of the struggles with all project selection is that we had a limited time to absorb what the project was and what it meant, and it was hard to see what the details were on the project. We found a lot of issues with this particular project...The State or Independent Assessor revised the wording on the project. It was a total game changer to us, to the point that we had many discussions with the State and the Independent Assessor, and got some relief on an alternative implementation plan. – 2017 PPS key informant

Many key informants reported that they were generally pleased with their projects, but felt that the “11th project” was problematic for their PPS. The optional 11th project focused efforts on uninsured patients and Medicaid low- or non-utilizers who may benefit from additional primary care services. All of the uninsured patients in the region as well as a New York State determined portion of non-utilizing and low-utilizing Medicaid members were attributed to this project 2.d.i. See Section 4.4.4.

We probably didn't have all of the right information to understand the uninsured at that point in time. The exchanges were barely up and running; it was hard to understand what the uninsured population looked like. It made the PAM¹⁶¹ survey a nightmare in terms of qualifying someone to meet the survey requirements. They reflected the environment prior to the exchanges. The structuring of the 11th project didn't get the best footing because it didn't have the right understanding of the size, scope, and

¹⁶¹ Patient Activation Measure or PAM is from project 2.d.i. The project is focused on increasing patient activation related to health care paired with increased resources that can help the uninsured as well as non-utilizing and low utilizing Medicaid populations gain access to and utilize the benefits associated with DSRIP PPS projects, particularly primary and preventative services.

location of that population and how hard it would be to find the uninsured. Not that we'd eliminate it, but we'd have to size and scale it differently if we knew what the population would be like. – 2017 PPS key informant

Some PPS key informants expressed that in hindsight, they would have selected projects differently given Pay for Performance considerations. They reported a lack of alignment between the projects and the Pay for Performance measures on which they are being assessed.

We should have selected projects that would meet the Pay for Performance measures. We lost sight of that in the list of the 44 projects. There is so little correlation between the projects and the Pay for Performance measures. The projects are there to just check-the-boxes and get dollars... If we had to do it over, I'd select new projects. I think a lot of PPSs didn't realize that at the time. Meeting the milestones structured in terms of building the organization was the big focus in the beginning, and we lost sight of the end goal because of that. Speed and scale and actively engaged partners were the main focus, and it detracted from the bigger picture. – 2017 PPS key informant

4.7.1.3. Project Milestones

The DSRIP program Project Requirements Milestones and Metrics centered around Domain 1, PPS-led projects. Each quarter, PPSs were required to submit reports to the Independent Assessor through the Medicaid Analytics Performance Portal (MAPP), including project-level reporting requirements (e.g. establishing monthly meetings with managed care organizations) and provider-level reporting requirements (e.g., primary care practices achieving National Committee for Quality Assurance (NCQA) Level 3 PCMH certification). For each requirement, PPSs committed to a target completion date which could not exceed the prescribed speed and scale commitments made in their application.

Key informants from PPSs reported significant challenges with committing to speed and scale targets in Demonstration Year 0. They had trouble understanding the milestones and also criticized continually changing requirements. These changes reverberated down to partners as they described devoting time and staffing to meet requirements, only to have them change again. Key informants said that guidance on the projects was often changing, there was not a clear source of consistent information for PPSs, and PPSs had to make decisions without all the information they needed to inform their commitments.

If we're thinking about the history, I think the main, underlying problem that led to all of these challenges was how the initial process went, where the State was asking us to decide on a lot of things before they gave us the information that we would need to make those decisions. Certainly, any kind of commitment...it seemed like those were very premature. I know that the State was going as fast as they could, and then they were pushing us to go as fast as we could, but it was a really hectic process that led to a lot of weirdness that we're still stuck with these years later. – 2018 PPS key informant

The challenge was just how quick everything was happening. The State was figuring out what their requirements were; we didn't get validation until after things were due. We worked around it all; we have made 100% of our milestones and goals that we set out to, but it really has come down to the State's timeliness (or lack thereof) on guidance. – 2017 PPS key informant

In the beginning, I think New York State was kind of making it up as they go, too. It was difficult because we would receive multiple emails even per day on directions for many things, from reporting, from metrics, from new plans. But over time, over the first year, I think that finally sorted out and both sides got more organized. But, that was a bumpy first year. – 2018 PPS key informant

Respondents felt there was inconsistency and a lack of clarity surrounding specific milestone definitions, and did not believe the definitions aligned with project implementation and how PPSs would later be measured.

For me, there were issues in implementation around ambiguity and inconsistency in the language. For example, the milestone and the metric or the metric and the data requirements were essentially talking about the same thing, but if there were inconsistencies in the language between those two, it could be very difficult to figure out what was actually being required and asked for. There might be a list of things in parenthesis, it was unclear if those were examples or if those were the only options that were eligible. – 2018 PPS key informant

The speed and scale [sic], we set those numbers before the definitions were even complete...we didn't even know what the actively engaged criteria was until after the fact. The provider counts, we didn't know what that meant until after the fact. Honestly, that made things very difficult when the requirements were changing. – 2018 PPS key informant

Because of this confusion, many PPS key informants reported that they set targets unrealistically high, or that they did not understand the commitments they were making. They cited challenges with not having the data they needed to assist them in making informed decisions when setting their targets, and some felt they were pushed into making commitments and only learned the ramifications of those decisions later. Without clear definitions related to milestones, some PPSs projected their targets based on what they anticipated the metrics would be, and key informants said they would have made different projections if the requirements were clear from the beginning.

The targets were set so high that we didn't even have enough admissions to meet the numbers set up. There was a push from DOH to set high marks for networks, which became speed and scale commitments. It was after the numbers were handed in that it became clear what we were committing. Essentially, the way speed and scale commitments were set up was that we were instructed to give an informational forecast

we weren't prepared to give yet. They said, "You're either in this pool or not..." Then, once you're in the pool, they said, "Let me explain what it means to you to be in this pool." "Let me tell you ramifications of the numbers you just gave us." On the provider commitment side, one of the project requirements is that we will have seven emergency rooms involved, and we only have six hospitals. Those are examples of the nonsensical requirements. – 2017 PPS key informant

A number of key informants expressed that not knowing their PPS's attribution in advance led to particular difficulty with forecasting speed and scale targets. Attributions are the number of Medicaid members assigned to each PPS, based on a NYS DOH algorithm applied to a PPS partnered network. Many PPSs regretted being stuck with inaccurate or unreachable service targets.

It definitely has to do with making the projections before we even knew what our attribution was going to be. It was a little bit of a blind projection and there was no ability to really go back and edit those based on the reality of the situation going forward. I think that was definitely a challenge. If we had re-forecasted based on the actual attribution and actual membership within the PPS, I think we would have gotten a lot closer to achieving those targets on a prospective basis. – 2018 PPS key informant

When we started the application phase, we were focusing heavily on a 10-county catchment area. As we went further along into the application period, we were approved for a five-county region, which was still a good amount of coverage geographically. Because everything we had been looking at for our application was nine or 10 counties in terms of patient/provider engagement and community needs, not being able to make changes to that after our size changed drastically continues to be a huge challenge. The number of providers we have committed to and patient numbers are totally wrong and unable to be changed. – 2017 PPS key informant

Engaged partners largely echoed these frustrations. Some focus group participants felt that project milestones were not realistic or tangible, which ultimately discouraged partner participation. They often felt their own targets were out of sync with their work.

I think all of the participants are rational participants, and the way Albany is defining metrics for the hospitals – the people in DSRIPs – they're defined in some way that doesn't encourage participation and doesn't encourage success. The benchmarks they're looking for really have nothing to do with improving care in the community. - 2018 hospital focus group participant

4.7.1.4. Early Implementation Challenges

Key informants and partners identified several factors that slowed project implementation. Key informants from both large and small PPSs recalled the immense resources required to get

projects up and running. They described needing to reallocate staff from other departments, hire talent externally, and create new office spaces. In some cases, initial reliance on consultants led to a lack of staffed projects. The PPSs and partners that needed to build more infrastructure noted that it was even more challenging to do without capital funding.¹⁶²

We doubled or tripled the size of our staff since the beginning of DSRIP. Trying to have the resources to organize this program and get it up and running was a very significant challenge. – 2017 PPS key informant

Key informants pointed out that as a system transformation demonstration project, the DSRIP program required significant culture change. Groundwork needed to be established to prepare the health care system for the transformative work that would ensue through DSRIP program initiatives. Respondents expressed that simultaneously working to adjust administrative systems, develop workflows for reporting requirements, formalize contractual agreements with partners, and carry out DSRIP program project requirements to ready the system was an initial challenge.

Formalizing agreements between different agencies in a different way was a unique challenge because there are certain timelines related to these legal and contractual documents which were sometimes outside of our hands, however were important to establish. DSRIP initiatives are incredibly important but are a catalyst for change within our service system, which predicates that the rest of the system is ready for that change. I think that administratively aligning the different initiatives, so we could actually transform the rest of the system, was also an administrative challenge. -2018 PPS key informant

The biggest challenge I had from the get-go is that we were not very top heavy. We were a skeletal staff, and the reporting requirements were immense. ...We felt like we needed a significant amount of manpower. I visited some other PPSs, and they had giant office spaces and huge armies of employees, which was intimidating. My initial reaction was that we just didn't have the infrastructure in place. – 2017 PPS key informant

Key informants from several PPSs reported that interim leadership at their PPS delayed start-up, and in some cases perceived that a lack of decision-making or conservative approaches to project development by original leadership teams resulted in delayed outcomes.

Some study participants wished that the NYS DOH had saved the PPSs time by defining some structures for them.

¹⁶² The Capital Restructuring Finance Program (CRFP) offered funds to PPSs and partners to support capital projects but the evaluation of the PPS sponsored site applications took longer than anticipated. Therefore, PPSs and partners had to move forward with the DSRIP program without knowing if they received a CRFP award.

There was zero structure. There was a group of projects and a bag of money ... each [PPS] had to go out and figure out structure. – 2017 behavioral health focus group participant

Whether it was an EHR, connectivity consent form... Something. Give us some foundational things so that we didn't have to invent everything ourselves. Or, even just some guidance how the PPSs were going to be structured so that each PPS was the same structure. – 2017 hospital focus group participant

There were probably ways that DOH could have maybe either guided some of those efforts or at least on best practices... It almost seemed like the default was that you were a PPS within a hospital system and already had those mechanisms in place. -2018 PPS key informant

4.7.1.5. Partner Engagement

Partner engagement also went slowly for some PPSs. Given that some partner organizations were competitors prior to the DSRIP program, obtaining buy-in and aligning different objectives took time. Some respondents acknowledged that the nature of their PPS structure posed initial challenges with partner communication and workflows. Others mentioned that while they established large project workgroups to represent all provider types from their network, early buy-in and consensus building was difficult to reach among so many participants.

We attempted to build a workgroup comprised of 35-40 individuals from 35-40 partners, so all the different provider types that make up our network. Although there was a lot of engagement from the group, it was very difficult to obtain appropriate buy-in and come to conclusions with a group that large for some of the larger milestones... That was one of the challenges from an engagement perspective, just ensuring we can get buy-in and then coordinate toward one or two primary solutions that we can move forward with. – 2018 PPS key informant

The general consensus was that involving a broad-based group of partners early on was vital to a well-functioning group and continued engagement. Key informants often attributed early success to their partner engagement efforts, and emphasized the lengths to which they had gone to gain buy-in from their partners. Some ways PPSs engaged partners early on included an advisory council with a consensus model or an active project advisory committee. In-person meetings were generally described as an effective way of increasing partner buy-in and camaraderie, despite scheduling difficulties. Some key informants reported that the project selection process brought partners together. For example, they led PPS-wide conferences for project selection, or used local agencies to conduct the community needs assessment and then kept them on as partners.

Some focus group participants felt that the PPSs initially brought too many people to the table which resulted in more confusion than action, and that it took PPSs too long to fully roll out the DSRIP program. Others felt that their PPS did a good job organizing partners and getting work started in a timely manner.

With DSRIP, we had to make sure that we were moving. We didn't have five years to sit and talk about what we were going to do, we needed to put boots on the ground. So I think that coming to that decision really positioned the [PPS] and all of our organizations to move quickly and see results, and what we were able to do was rather than plan out how we were going to come to these excellent outcomes, we were learning as we went and tweaking the process as we went. I think that has been why we've been successful as a PPS, because we did not hold back and we just moved forward and corrected as we went. – 2018 hospital focus group participant

I think that we wasted the first year paying all those consultants, and that money could have gone to providers. The initial rolling out of it was a year behind before it even caught up and started getting any real traction. Consultants were driving everything and there was really a disconnect between PPSs and consultants and providers. I think that was the first misstep. – 2018 behavioral health focus group participant

Partners were critical of the PPS when they were not included in early decision-making.

What we found most frustrating about the process is that when we first became involved, the projects were laid out. The PPS selected the projects that the PPS would be involved in. – 2017 behavioral health focus group participant

Respondents noted that with the multitude of DSRIP projects, it was often difficult for partners to fully understand the various project definitions, metrics, and patient populations. It was also a challenge to ensure that the correct stakeholders were at the table to discuss specific initiatives during the implementation phase, even within a single organization.

In the beginning, it wasn't very well organized, it was very confusing. You go into different group meetings and so many different boards were there and all these stakeholders; everybody was on a different level of what they do. There was no organization ... They never went over things. It was almost like they were rushing, they had all these deadlines and quick dates, so nobody gave a base in the beginning to have a level platform for connectivity. – 2018 hospital focus group participant

Some of the other challenges...is that there are just so many initiatives with DSRIP and what we found is that a lot of partners just really struggled with what is what. When we're looking at this process outcome or trying to hit this metric or this target, how are we defining these things? What patient populations are we talking about? Even getting the right people within an organization or within a site in the same room, the people

that would be working on the specific projects, was a challenge. -2018 PPS key informant

4.7.1.6. Governance Structure

Governance committees helped PPSs with decision-making around administration. Initially there were fewer and smaller committees, but as the DSRIP program projects began, growth of committees offered better representation of PPS provider networks.

Key informants noted that establishing committee work streams was more manageable by pairing committees to the DSRIP program projects, but later on, the dialogue shifted from projects to broader clinical implementation strategies. Many PPSs began combining and simplifying their committees to eliminate overlap and redundancy.

Although some PPS key informants reported that the collaborative and participatory nature of their committees made partners feel like they truly had a voice, others felt that the committees were “checking a box.” Many noted partner engagement as a challenge. Although PPSs used numerous platforms to communicate information, and planned meetings in different locations to minimize travel fatigue, partner engagement waned after the excitement of initial formation. This led some PPSs to begin paying their committee members to encourage ongoing participation. Additionally, PPS key informants reported that some committees, like finance and funds flow, were stronger than others were, and received more interest in participation from their partners.

We value a lot of the feedback that [committees] provide to us. For example, they know how to create a registry within EHR. There’s always someone there to say whether it will or won’t work. There is a high level of conceptual thinking that happens, and then there is also feedback about what happens daily at a given level. – 2017 PPS key informant

We had quarterly town hall meetings, which now have been moved to a less frequent basis, but these included partners from all types across the network. The discussions that occur within the clinical committee have transitioned as well. It used to be very project-related, and now it’s related to discussing clinical implementation and the strategies related to that. It’s now a forum for input from members in terms of increasing approval for what we are doing and extending projects to other partners to support our network. – 2017 PPS key informant

The IT committee, compliance, and clinical committees meet on an as-needed basis. People have limited time, and committee meetings were taking up too much time. They meet now when they need to, and the governing body takes the lead on these issues. – 2017 PPS key informant

4.7.2. Operations

This section presents stakeholder experiences regarding several of the DSRIP program operations, including partnerships, performance measures, funds flow, PPS overlap, value based payment preparedness, data access and sharing, workforce issues, and support systems.

4.7.2.1. Partnerships

Improved Collaboration

The most frequently noted operations change due to the DSRIP program was increased collaboration. This included collaboration between providers who were previously in competition with each other, as well as collaboration between providers of different types of services. Study participants reported that organizations that did not previously trust each other had the opportunity to work together toward common goals, and formed positive relationships that would not have occurred in the absence of the DSRIP program.

Because of DSRIP, we have accelerated the rate at which competing organizations work well together. Competing hospitals, nursing homes, [and] physicians at different practices are working together. It is unique and DSRIP helped make it possible. – 2018 PPS key informant

We're [three area hospitals] a support group now. As competitors, we get together and we say "how are you doing this?" and we never would have done that before. Not because we don't like each other, but there was no vehicle for that and no reason to do it. We share information too, and again I think pre-DSRIP it would have been like "Oh God, no," and now we willingly share because they're not 'state secrets' and we can learn from each other. – 2019 hospital, nursing home, hospice, home care focus group participant

Partners began working together more comprehensively and cohesively. Key informants from several PPSs described the formation of care collaboratives that met regularly. Additionally, they reported an increase in hospitals partnering with community-based organizations, and primary care practices collaborating with behavioral health providers. Bringing different entities to the table that had not collaborated previously was said to lead to new ideas and bring communities closer together.

We have made great strides with collaboration between organizations that without DSRIP would never have collaborated. We really pride ourselves on this; that we brought the community together. – 2018 PPS key informant

It [DSRIP] certainly caused us to look outside of the walls of the hospital a lot more than we ever had. I think bringing different groups to the table, which didn't have that open

communication, that seat at the table-- different primary care providers, behavioral health, a lot of integration and a lot of improvement in the transitions of care arena-- was very significant. – 2019 hospital, nursing home, hospice, home care focus group participant

We were able to create relationships between organizations that have not worked collaboratively before to such an extent that we were able to align around goals, metrics, measures, and processes.– 2019 PPS key informant

Study participants said that collaboration became a standard process and habit which they expected to continue after DSRIP program funding ended.

We knew every provider within the community and they knew us, but we never sat at a table with everyone. I've said at many PPS meetings where we are able to sit with colleagues, that they really brought us together, and that was a very good thing. Those conversations will continue now, long into the future. – 2018 community-based organization focus group participant

I think DSRIP has shifted the way that our providers think about health care. Just from the hospital side, our hospitals are thinking about social determinants of health. They're thinking about partnering with community-based organizations. They're thinking about food services, legal services, and they're thinking about how all these things impact someone's health. They're thinking about how they can partner with different types of organizations and work with people beyond their own walls. These are things that will have lasting impact beyond the five years of DSRIP. Beyond the projects we put in place, they've learned how to partner with different types of organizations beyond traditional health care organizations and think about health in a different way. – 2018 PPS key informant

And then also, I think one of the most fun parts of DSRIP is when you bring unlikely partners together on the cause of advancing health care. So bringing CBOs, hospitals, clinicians, providers, think tanks, and different individuals through the way that DSRIP works, and including managed care organizations to collaborate on the same patient that sees us all, was also a very special experience, and probably one of our biggest successes, because those conversations will continue beyond this implementation year. – 2019 PPS key informant

Shared provider accountability was singled out as a big step for the health care system. Key informants said that previously, hospitals felt their responsibility ended when a patient was discharged, but due to the DSRIP program, health care organizations developed connections that encouraged them to work together to maintain responsibility for their patients. These collaborations led to better care coordination between providers and improved care transitions, which are discussed further in the hospitalizations section (see Section 4.1).

A majority of PPS key informants pointed to their new work with community-based organizations as fundamental to their success, and cited these partnerships as a vital change to the health care system. They said that development of more robust relationships with community-based organizations led PPSs to have more successful collaborations, break down silos, and reduce hostility between medical and community providers. Community-based organizations that had not previously considered their organizations to be part of the health care system began seeing their roles a bit differently. Community-based organizations and health care providers developed a common vocabulary and were starting to “look at the same picture from almost the same perspective.”

One of our biggest successes has been our ability to work with and integrate community-based organizations into the project. When it was first rolled out, we had CBOs that were an integral part in developing the workflows, plans, and how the project would look. That was really important, because it wasn't just us saying, “This is how we're going to do it,” and trying to find people who would want to do it our way. We really sat down with the organizations that were going to be doing the work in the community, with their staff, and valued their input. As a result of that, we've been able to grow it, we've been able to add a lot of other types of CBO partners to the project, and that has allowed us to reach a much bigger section of the population than we would have been able to do on our own. – 2018 PPS key informant

For the private practices, what I think has been most helpful with DSRIP is really opening our eyes to community partners and community-based organizations and working with them. It's not really anything that we had done a lot of on a regular basis, and so that's really helpful to get to know them; to get some working relationships around that. – 2019 primary care physician, health home, clinic, and specialist focus group participant

We had a lot of pressure to give money to Tier 1¹⁶³, and we even got remediation on the mid-point assessment because we are working with the [community-based organizations] who need help in capacity building. It takes time. We finally are seeing them blossom... This is the beginning of doing transformational work in developing a community practice where we are sharing goals and ways of doing care. – 2017 PPS key informant

CBOs don't necessarily know the clinical piece, so when we began to really have open discussions, those were successes. Really being able to see how we can learn and work together – it probably now is pushing us to look at how we can have collective impact and collective engagement. – 2018 community-based organization focus group participant

Most partners from community-based organizations were pleased with the expanded project scope they had been able to develop with DSRIP program funding. They reported increased

¹⁶³ Non-Medicaid billing community-based organizations are considered Tier 1.

service provision in some of their toughest service areas and gratitude for the ability to expand the scope of their health care workforce.

This has opened the doors for us to engage new clinical partners, develop relationships within those organizations, and get our services out to patients whose doctors would not know about it. We are reaching a new group of people in our own community. – 2018 community-based organization focus group participant

Some community-based organizations did struggle with figuring out how their organization fit into the DSRIP program. For example, the exposure to risk was new for many of them:

I know some of the initial bumps in the road and to be honest, that we still face today, is the amount of risk that this endeavor carries. We had to ramp up our HIPAA and our compliance end of things and it's still a work in progress. That was a major investment that we made on our own. We didn't write a funding request for anything from the [PPS]. So there's been a lot of investment, to get to us to this place. ...They really put us on the hook for everything. I mean, God forbid something were to happen. We are a three or four-million-dollar organization. I mean, everything can get wiped out in a heartbeat. Now, the payoff on our end is obviously that we can create new jobs, that we can grow and expand our mission beyond what it ever had been before. And, it gives us a place at the table that we have never been at before too. So, there is some payoff to that risk. Hopefully, that continues. –2017 community-based organization focus group participant

Being that Tier 2¹⁶⁴ is very challenging because you're seeing the risk that you could potentially be putting your agency in and you have no cash flow to be able to say, "Yeah, we can cover that for a while." –2019 community-based organization focus group participant

Partner Engagement Challenges

While collaboration was viewed as a success by a significant majority of study participants, partner engagement challenges were also reported by about two-thirds of PPSs. Challenges were most often experienced during the initial implementation phase, but some continued beyond that to a lesser degree.

Many noted that partners were already overloaded with their own tasks, and the additional DSRIP program-related responsibilities required further dedication of time.

¹⁶⁴ The New York State Department of Health defines Tier 2 community-based organizations as non-profit, Medicaid billing, non-clinical services providers (e.g., care coordination provider).

While there are good intentions from partners to engage, they have to make multiple priorities with limited resources and are juggling multiple things. –2019 PPS key informant

Although some suggested that participation in the DSRIP program was more difficult for larger organizations with multiple sites where more staffing was required, other key informants noted that smaller organizations also faced significant challenges. With more constrained staffing, DSRIP program engagement could be financially harmful to smaller practices.

Engaging our smaller partners, not necessarily CBOs, even smaller PCPs, was extremely challenging. They do not even have the resources to engage. The cost of engagement is the cost of seeing patients in their practice. Even taking an hour out of their day to talk about project implementation can be financially detrimental to their practice. It made us think about how much more effort we need to put forth to understanding the unique needs of those partners and how to tailor support to them based on their ability. – 2018 PPS key informant

Several PPSs had trouble obtaining buy-in from partners they considered particularly important to engage.

As we get along to implementing our projects, we have very influential partners who are making decisions on whether to engage in projects based on whether the money they'd get from DSRIP is equal or more than the effort they will put into the work. It's a transformational effort, and the DSRIP dollars are a bridge to get them to a VBP¹⁶⁵ world. They aren't buying into the system. These partners are looking very short-term to figure out next quarter gains, and if they spend more than they make, they won't do the activity. – 2017 PPS key informant

Partners, meanwhile, did not always see the benefit of participating in DSRIP program projects, and were frustrated when offered contracts that were not financially feasible.

We were offered an opportunity for transitions of care at [PPS], and it was going to be a money loser from the word "Go." There's been more than one project that we had to walk away from, and it's not like we pay people gazillions of dollars. But there was no appreciation for the cost of delivering care or services, and we just had to say it was amazing that they wanted to work with us, but we couldn't afford to do that. Who is in a position where they can lose money from day one? So that was a real frustration. – 2018 hospital focus group participant

Sometimes partners found that larger organizations were unwilling to work with them collaboratively.

¹⁶⁵ Value Based Payment

It just seems that historically, the large practices don't know how to work with the [substance use disorder] patients. They don't know how to develop good connections. One of the roles I had was outreaching every FQHC, and only a handful actually got back and wanted to meet... Somebody is going to provide these services for [substance use disorder], and what we found is some of them try to provide it themselves. It usually looks good for patients, because it ends up being a very minimal touch. I am not sure what their outcomes are, but generally, when the client continues to use and is unable to maintain, then they end up trying to refer them to us when the patient is more severe. Maybe if we could have gotten them earlier and actually provided the appropriate level of treatment... – 2018 behavioral health focus group participant

Not all partners were accustomed to the level of reporting or oversight that projects demanded, and this led to frustration on both sides.

[Partners are] struggling with understanding that we're asking them to implement an evidence-based intervention related to the project, and integrate some form of quality improvement to ensure they are reviewing what they are doing, and that they are doing it within acceptable standards. I think a lot of partners were used to being able to say, 'I did something,' but not having to demonstrate that they did it with any rigor. – 2018 PPS key informant

If we want to become integrated, the paperwork that needs to happen for us to be able to provide medical care in our mental health clinics is crazy. –2018 behavioral health focus group participant

A lot of partners felt that PPSs took too long to engage them initially, and that lag continued into the first years of the DSRIP program. They expressed frustrations about contracts taking too long to take effect and PPSs committing to work that never actually got off the ground.

We have a project with a PPS where they're going to be putting nurse practitioner physician assistants in some of our programs and we're going to put social workers in some of the PCP offices in the community. That contract has taken over a year; not on our side, on their side, the PPS side; to formalize and sign. It also seems that the mental health providers are the ones that have to make all the changes, not so much the providers on the health side, the physical side of the PCPs. –2018 behavioral health focus group participant

I feel like it's Groundhog Day we keep having. It's been a year and we keep having the same conversation over and over again. You sit at the table – I won't mention the hospital – but you say, "You're going to work with us and this is where we need to go," and nothing happens – so are you just doing this for show? It's very frustrating because we do make so many changes. – 2018 behavioral health focus group participant

Some key informants sensed that partners were not connecting with the DSRIP's program larger purpose.

They view this as a standalone program; the list of to-dos in exchange for funding, kind of like a grant, and it's just for Medicaid work. I think that many organizations have disassociated this from their organization's long-term all-payer VBP strategy and I don't think the State helped that by some of their own messaging and the delays we're perceiving, particularly in upstate New York. -2019 PPS key informant

And several key informants noted that maintaining partner engagement was difficult, especially as the DSRIP program was nearing its end.

One of the biggest challenges was maintaining the partners' engagement. There was a huge momentum at the beginning; there was a lot of publicity around DSRIP but then keeping them engaged in the project was something that took us a lot more time to keep them excited and ongoing. What happened was, we went from many partners being engaged to a few that really embraced the projects and were able to work with us. -2019 PPS key informant

Educational Resources and Training

All PPSs provided educational resources and training to partners, including education to improve organizational capacity as well as training for partners' service provision staff. Nearly all PPS key informants and a majority of focus group participants reported that the resources and training PPSs provided to partners resulted in higher levels of engagement and participation. They believed that materials such as community resource guides and project toolkits helped partners not only implement projects but think "outside the box" in their approaches. Partner staff trainings, which may not have been accessible to smaller organizations if they were not offered by the PPS, were said to improve service quality (for example, through cultural competency trainings) and capacity (for example, by training tobacco treatment specialists).

And training and education has been a very big thing – we've been able to get access to training that we would never have access to before, at a very high level. – 2018 community-based organization focus group participant

We have trained thousands of workers in our area, both at our hospitals and throughout the region at CBOs and various practices. We've done work with educational institutions in the area to develop trainings on community health workers and care transitions. We train people who are skilled and non-skilled health care workers on careers and how they can better identify patients that need help in transitioning after they leave the hospital. – 2019 PPS key informant

A number of PPSs were successful with helping their partners achieve NCQA PCMH 2014 Level 3 Recognition. Key informants attributed this success to the additional resources and training that

they were able to provide, particularly for smaller practices which would not have been able to accomplish this otherwise.

We understand advanced primary care type models are really the future of how we're going to be able to manage a value based world. And primary care being that linkage, our ability to continue to support the PCMH practices and to help them not just put the recognition on their wall, but to actually make that a day-to-day way they live and work their practice, and to help them connect with the community at large, is the way to get them to understand the value of CBO relationships and tackling the social determinants of health. – 2019 PPS key informant

Although many focus group participants reported positive thoughts on the education and training offered by PPSs, some believed that the trainings could have been expanded to cover a wider array of topics and could have been targeted for specific organizations and positions. Additionally, several partners would have appreciated trainings on the services other partners provided so that everyone was familiar with each other's work and could make appropriate referrals.

So we're going to build these teams of care coordinators, but we're not going to let providers or primary care physicians know that these people that are not case managers, that are mainly focused on medical and mental health, are out there and can be a support and an ally in the community. That information was never shared, or maybe to the extent that it should have been. - 2018 primary care focus group participant

4.7.2.2. Performance Measures

In Demonstration Year 2, clinical improvement (Domain 3) measures shifted to Pay for Performance, and in Demonstration Year 3, all system transformation (Domain 2) measures shifted to Pay for Performance. As the DSRIP program continued, funding progressively shifted from Pay for Reporting to Pay for Performance. Domains 2 and 3 were completely Pay for Performance by the end of DSRIP Demonstration Year 4.

Participants reported being unsure where to direct their efforts as the program shifted to Pay for Performance. They noted that many PPSs focused so heavily on meeting the project milestone requirements early on, it was difficult to later shift focus toward meeting performance measures.

Part of my concern with that is that we are moving into Pay for Performance, but we are spending a lot of time in our practices working with EHRs¹⁶⁶ and changing workflows when really, we have to be focused on the outcome or performance measures. With so much of the focus now on performance, we are still spending a lot of time trying to build the

¹⁶⁶ Electronic Health Records

EHR screen and the workflows around getting this done. My concern is that we aren't spending enough time on more of the performance-related requirements. – 2017 PPS key informant

The way the program requirements were laid out initially, it really drew our attention to the details around meeting project requirements and checking some boxes (I hate to say that, but there was a lot of box checking that went on to satisfy those project requirements). The other thing was the emphasis on that, as opposed to some of the performance aspects early in the formation of the program, really sent a lot of the PPSs down the path for both an incentivization model for the partners and a focus on the activities and resources that we brought on board to execute on the project requirements, but they were worth a relatively small amount of money and I think just took a disproportionate amount of resources. It was also the clearest path we had initially, we knew what was expected and we could march in that direction, where the performance improvement pieces were a little more ambiguous, especially given the data challenges. – 2018 PPS key informant

Early on, it was easier because you knew what the milestones were and you were working toward those milestones. Now, the milestones have been met, and there's still work to be done, but it's not defined clearly quickly, and there's a lot of waiting. – 2019 primary care physician, health homes, clinic, specialist focus group participant

Respondents expressed that the initial emphasis on project milestones did not align with subsequent performance measures, which had the unintended consequence of diverting focus away from building a meaningful infrastructure.

Of the [number] projects that we chose, some of the requirements of those projects, process milestones, had no relation to how you were later judged in DSRIP as far as Pay for Performance. There were some things that were sort of contrary to actual Pay for Performance measures. You may have spent your time hiring nutritionists to meet a requirement, but you're later going to get judged on medication adherence. We spent two years setting up projects that were valuable to impact patient care but might not have the impacts that we're being evaluated on in the latter years. – 2018 PPS key informant

There's been a tremendous focus on getting project requirements met, but what we are finding is that it doesn't necessarily translate to performance on outcome measures unless other innovative things are done. – 2017 PPS key informant

Most of our projects were completed within the first two years. So to change the perspectives of our partners who were really focused on meeting the milestone requirements to really working on a population approach and working on transformation changes, it took them a while to get them to focus on this because they were so used to checking the boxes, and to shift their perspective was a challenge. I think

we are finally getting to do that but unfortunately, DSRIP is ending. If we had more time to really transition from project milestone completion to meaningful activities, we would have been in better shape. – **2019 PPS key informant**

A number of partners were concerned that this shift toward Pay for Performance might leave them behind.

I think some of those infrastructure issues that have hampered our participation, I think of this junction as they move into performance-based payment is just leaving us behind, and the medical folks are going to move forward. Because we don't have that capacity, when interestingly the biggest effect on the scores are going to occur by our participation. – **2017 behavioral health focus group participant**

Challenges with Domain 4: New York's Prevention Agenda

Each PPS selected and committed to at least one (and up to two) projects from Domain 4, which focused on priorities in New York State's Prevention Agenda and were designed to impact population-wide health. Each PPS could select project categories that corresponded to, but did not duplicate, efforts related to their Domain 3 projects in the following topic areas: promote mental health and prevent substance abuse, prevent chronic disease, prevent HIV and STDs, and promote healthy women, infants and children.

Under Domain 4, PPSs appreciated the flexibility that came with developing their own milestones in the sense that they could focus more directly on their work. However, the lack of predefined targets sometimes created confusion during project implementation. Respondents stated it was difficult to develop and guide projects without clear, pre-established deliverables.

With the [Domain 4 project], it appeared like the group was struggling because there weren't direct targets to go after, or direct metrics. It seemed that they had been floundering for a little while deciding what it was they actually wanted to do. I think that was a different sort of set of challenges as opposed to having metrics that were hard to decipher in some way or were sort of ambiguous. Not having output metrics to guide project development was kind of equally confusing for people. – **2018 PPS key informant**

When the group came together, there was a lot of enthusiasm, but it was like, "What exactly are we supposed to do?" We'll define what we are going to try to accomplish and make our own milestones, but each step of the way there was a sense of, "Are we doing what we are supposed to? Are we doing the right thing?" Lack of definition in Domain 4 was sort of a curse in that respect, but also a blessing in that people were relieved to have the freedom to identify the goals they thought were the most important, and not be spending a great deal of time trying to configure reports to meet some specific reporting metric that had been defined by DOH. It was a relief not to be caught in that bureaucratic exercise, and to focus on the work. – **2018 PPS key informant**

Some key informants also stated that the lack of strong requirements and flexibility within Domain 4 had the unintended effect of making it difficult to prioritize those efforts.

I think all the Domain 4 projects are so vague...sometimes the things that are vague or don't have strong deliverables can take a back burner. It would almost have been unwise to prioritize that over things that were actually due. If I were doing it again, I don't know that I could recommend a 'blank slate' that was the Domain 4 projects. – 2018 PPS key informant

Criticism of the Projects Approach

Some respondents felt that the projects reinforced the health care delivery system's siloed approach and distracted them from reaching the broader DSRIP program transformational goals.

The emphasis on the projects in the beginning may have been the wrong emphasis if the State was hoping for mass systems change. It may have been a little too specific, and while it resulted in sort of really good microsystems of care, it may have not resulted in the "health care systems of the future" that they were looking for. It may have only moved us more incrementally in that direction. – 2018 PPS key informant

I woke up one day and realized we weren't providing patient care. We did an excellent job along the way checking off the boxes on our projects, but I can't say whether that has made a change for patients. We've been extremely successful wasting dollars on the projects. We've gotten the marks for getting the boxes all ticked. Once you get out there bringing these community neighborhoods together, you realize the transformation is not about specific projects. It's about bringing people together, determining what the goals and objectives of the referral relationships [are], and connecting people with each other through IT systems in some form or fashion. Care management from the simplest form of it to the most complicated is the key to the whole thing, but it's care management from people who are not organizationally related except through referral relationships. That's where transformation takes place. The biggest problem with the projects is that they have interfered with the meaningful transformation. Our challenge has been, "How do we do something meaningful while checking the boxes?" We have had some success doing that, but all the boxes we've had to tick have gotten in the way, and we could have done more, faster, at less cost if we didn't have to do that other stuff. – 2017 PPS key informant

I would like to see them become focused on tangible, meaningful goals, not arbitrary metrics. The goal is to save money for the health system. The goal is to reduce hospitalizations. I would like them to engage in projects that have near-term, tangible, measurable results that do those things as opposed to these pie-in-the-sky ideas, which likely will never come to fruition. - 2018 hospital focus group participant

The collaboration we have seen among our partners in the last year or so has really been gratifying and amazing, but if we were able to focus on the activities with our partners that we feel will have the biggest impact and decrease the focus on some of the specific requirements of those projects, I think we could probably advance this thing better and faster. – 2017 PPS key informant

The projects and the evaluation of those projects and the pulling down of their money was the focus- not in actually creating an integrated delivery system where providers were working together across multiple domains. Instead we were siloed into projects. -- 2019 primary care physician, health home, clinic, and specialist focus group participant

They were more interested in the data, and less interested in how are things really working. So the ADHD project got boiled down to, "Did they follow up within 30 days? And did you see a decrease in symptoms based on a self-reporting sheet?" That's basically what it boiled down to. And asthma was, "Did they get a asthma action plan?" We kind of lose things, you know? Medicine is not really like that and those aren't the real endpoints. The real endpoints are, "Is that patient better controlled or not? Did they have less visits to the ER or urgent care or admissions and things like that?" -- 2019 primary care physician, health home, clinic, and specialist focus group participant

Annual Improvement Targets (Gap to Goal)

The New York DSRIP program set overall performance goals for each DSRIP program performance measure. These performance goals represented the best performance in New York and were the same for all PPSs. Annual Improvement Targets were set for each PPS using a methodology of reducing the gap to the goal by 10% to earn the associated Achievement Value, which determined payment. Achievement Values could only be earned if a PPS met or exceeded its annual improvement target. There were both facilitators and challenges to the annual improvement targets.¹⁶⁷

Facilitators to achieving Annual Improvement Targets

In the absence of real-time state-level data, PPS key informants overwhelmingly cited establishment of internal data analytics systems as a key facilitator to success with achieving Pay for Performance metrics. This is further discussed in Section 4.7.2.6. Data Access and Sharing.

Data was gathered from partners and we incentivized partners to provide it to us since we didn't have other actionable data sources. Overcoming barriers around data,

¹⁶⁷ New York State Department of Health (2018, September 30). Delivery System Reform Incentive Payment (DSRIP): Measure Specification and Reporting Manual, Measurement Year 5. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrp/2019/docs/2019-07-18_measure_specific_rpting_manual.pdf

attribution, and change in attribution was a success for us and facilitated us to move on those P4P measures. – 2019 PPS key informant

Some PPS key informants felt that combining network performance with partner-to-partner accountability and support facilitated partner buy-in and collaboration, which ultimately contributed to success in meeting performance targets.

While the initial focus was on projects, we introduced the measures to our partners at the very front end of DSRIP. We had dollars in their contracts that were based on performance from our very first contract. The percentage of dollars assigned to outcomes has continued to increase. The other thing I think is incredibly important is we've maintained a focus on awarding dollars based on the combined performance of the network. I think the differentiating element here is when you hold providers accountable to how they perform as a network there is more of an incentive to collaboration. A lot of the measures we are trying to drive through DSRIP are really focused around having appropriate transitions of care, and that financial incentive to collaborate allows us to break down silos to move these measures – which was one of the most meaningful elements of our strategy. – 2019 PPS key informant

Challenges to achieving Annual Improvement Targets

Several PPS key informants reported the lack of timely data, restrictions on sharing data with partners, and continued attribution changes were significant underlying barriers to meeting gap to goal targets. These challenges are further discussed in section 4.7.2.6.

We don't know the patients who were attributed to us for a MY until after the MY has closed. Even had we known who those patients were, we didn't have timely information about patients. Even if we did, we weren't allowed to share with downstream partners. Really working to the performance measure is sort of like a black box...we had a [substantial] member shift from MY3 that we just found out about in MY5 which significantly impacted our results. – 2019 PPS key informant

The churn that we experienced, and the patient population attributed to us. We're a very large PPS, we're working in [a location] where there are four other PPSs, and patients do go back and forth and fall in and out. Depending on how we look at things, if we look at a stable core of our population, we see great success and it gets washed out when we take a look at patients who go back and forth frequently. – 2019 PPS key informant

While Annual Improvement Targets were meant to incentivize continuous performance improvement, the DSRIP program only awarded Achievement Values and subsequent payments when meeting the full 10% improvement. Stakeholders strongly believed this “all or nothing” approach to be a significant limitation. They felt that incremental progress should be recognized and awarded proportionately, especially since missed Achievement Values corresponded to a potentially substantial loss of funds.

For a lot of the performance activities, the goals that Department of Health sets, you have to reach, let's say, 85% on something and if you reach it, you get the money. If you don't reach it, you don't get the money. I think it would be better if it was on a percentage grade. If you made 80% of the goal, why not get 80% of the funds instead of it being a pass/fail kind of situation? Especially when we don't get \$500,000 because ONE patient wasn't seen and we didn't even know that that would have happened until it was too late to do it. -2019 mental health and substance use regional focus group participant

Some pointed out that they were already high performers on some measures and improving further would be difficult or near impossible.

For a lot of projects we had, we started very high, some past the state target. When you're already in the 90th percentile, it's that much harder to close it [gap to goal]. Also, our N is very small, so sometimes the noise in the data is all it is. If you look at month 11 of 12 and the results show, "You're meeting these five metrics but not these five metrics," and then a month later the results are flipped, when the N is that small it's very hard to trend because one patient makes a huge difference in the actual rate. – 2019 PPS key informant

Innovation Funding

In DY3, PPSs encouraged partners to submit proposals for Innovation Funding. These resources were intended to fund demonstration projects to improve the systems of care for Medicaid and uninsured patients and to encourage collaboration between community-based organizations and health care providers.

Partners and PPS key informants appreciated that this funding was flexible and allowed for more involvement from community-based organizations and other nontraditional partners. They said that while DSRIP program projects tended to be clinically focused and hospital-based, the Innovation Funds fostered more of a grassroots approach that allowed them to get out into the community.

I think the best thing that happened around mid-point was when the State kind of said, "If you want to go off menu, go ahead." At the very beginning, we were very focused on the projects and checking all the boxes. Then they said, "If something is not working, fine; we don't expect every single one of these projects to work. If you want to do something you didn't predict you were going to need to do, that's fine, too." I would say that's what set us up for success because that allowed us to go in the directions we wanted. – 2019 PPS key informant

One that I can point to that I think has been wildly successful is the Innovation Fund. We started to fund some creative projects in 2018, these were projects/programs designed to look outside the prescribed projects that we selected and really foster cross-sector

collaboration among not only health agencies, but community-based organizations and local agencies that may not have had any participation with us up to that point. – 2019 PPS key informant

It was nice to have some DSRIP monies to push out to our partners from a [amount] million dollar Innovation Fund...This allowed us to do some really creative thinking to touch these metrics and help the PPS achieve these outcome metrics. – 2018 PPS key informant

I think none of these CBO relationships we've had with the hospitals would have happened outside of DSRIP. I think a major incentive for that was our Innovation Funds, because when you do things like that in the current state it's not reimbursable. If you're not already in VBP, you're not writing it into contracts, so in an already strapped system, how do you do such a thing? The Innovation Funds let us do that... and then strengthen these relationships and test out some of our theories to figure out if we can do VBP with this kind of relationship. -2019 hospital regional focus group participant

Some believed that utilizing Innovation Funding sooner would have been more effective.

I think we fell a little short on the implementation side. Where we are now is that the metrics projects are behind us and now we're doing the innovation projects. They almost without exception did not have enough time to really even expect that you would see the impact that innovation was proposing, let alone be able to evaluate it. Until we got over the hump of all that stuff, we really didn't have the freedom or resources to do these innovations. Once we started innovation we were out of time and out of resources, and out of time to evaluate it from a performance measure perspective. It didn't sync up right. – 2019 PPS key informant

4.7.2.3. Funds Flow

The amount of time it took PPSs to distribute funds to their partners varied. In some cases, partners' experiences with funding differed based upon the level of PPS infrastructure that existed prior to the DSRIP program. New Corporation (NewCo) PPSs, without established infrastructures, more often struggled with delays and lapses in the flow of funds. However, some partners preferred the direct payment model of the new entities, rather than the hospital or health-systems based PPSs, which they described as having more indirect payment models.

Many PPSs were successful in quickly moving the funds out to partners, and felt they were rewarded for those efforts.

One of our successes is that we've received 97% of the available funds to date. We are a small, lean-running PPS, so we don't put a lot of money into building capital. More than 85% is put back into our partners, and all of that has gone to our partners successfully.

We are very transparent with our funds flow and how it works and how funds cycle back to them. We try to maximize all available funds, and it's been a great success. – 2017 PPS key informant

We were able to get money quickly out to partners, which helped us out in the long run. We created educational documents and webinars for the partners to teach them why we were doing things in a certain manner. It allowed us to have an opportunity to flow our funds quickly, and the required documentation and information was submitted timely and accurately, so it made our jobs easier when these partners were on board and up to date. We knew exactly what we needed, so our partners were on the ball in terms of providing things to us. – 2017 PPS key informant

Other PPSs described why they dispensed funds more slowly.

We had challenges with funds flow. This whole idea of getting funds out to partners as quickly as we can, but having some accountability for what they do with those funds without having mature reporting structures, expectations, and deliverables... It concerns us to this day. We were trying to be very conservative, cautious, and accountable in what we were doing, but we were also trying to meet the demand that our state and our partners had in trying to get funds out the door. – 2017 PPS key informant

Funds flow was difficult for us at the beginning. We had to flow dollars to organizations that would make meaningful changes, while also flowing dollars to the CBOs. In addition, we have a 5% cap on CBOs for safety net providers. We got called out on the funds we were flowing, and we had to justify why funds weren't flowing to the CBOs, but it was difficult to figure out how to do it in a meaningful way. – 2017 PPS key informant

A number of partners and key informants said that the 5% funding limitation¹⁶⁸ to non-safety net providers versus the 95% to safety net providers had alienated key partners that were fundamental to the DSRIP program's success.

We are a private practice in a rural county and see about 17% Medicaid but do not meet the criteria as a safety net provider. The resource sharing seems too heavily weighted towards safety net providers who are not typically as efficient or as nimble in the marketplace as we have to be in private practice. – 2017 partner survey respondent

The 95/5 rule has been a great challenge for us, because we have been supporting our Tier 1 CBOs throughout our region, but getting hung up on that we're being held to, we

¹⁶⁸ This designation is described in the DSRIP program requirements outlined by the MRT Waiver Amendment STC. Relevant excerpts include: (1) "DSRIP funds provide incentive payments to reward safety net providers when they undertake projects designed to transform the systems of care that support Medicaid beneficiaries and low income uninsured." And (2) "non-qualifying providers can participate in Performing Provider Systems. However, non-qualifying providers are eligible to receive DSRIP payments totaling no more than 5% of a project's total valuation."

can only support them with only 5% of that funding. Keeping in mind that CBOs support nearly every other non-preventative project with regards to the social determinants of health, basically retraining and training our workforce partners and also with the patient engagement project, so that's been a definite challenge. – 2018 PPS key informant

CBOs are safety net providers if you will, but were really not identified early on as participants in a way that could've allowed a lot more capacity being provided to them. It really was another lesson learned about the importance of more thoughtfully understanding the ecosystem of who your partners are in the community, because as social determinants of health factors have become all the rage, these groups have been doing this for decades and they were left out of the equation. – 2019 PPS key informant

95/5 is how the funds have to be distributed. But 80/20 is where the work happens. And through all the research, 80% of the care of the Medicaid or the uninsured population is driven by the social determinants of health. But the reimbursement currently, and even as we head into VBP, does not reflect that. – 2019 community-based organization focus group participant

Many partners reported a desire to see the NYS DOH monitor whether funds flow was indeed making its way to non-hospital participants, including community-based organizations and clinical practitioners.

The State should more closely monitor the funds flow between PPSs and the community-based partners. The community partners are engaged but are not sufficiently compensated for their time/effort. – 2017 partner survey respondent

Unquestionably, to get appropriate and effective funding to CBOs, CMS and the State will have to "carve out" real funds for CBOs to implement projects. Since the CBOs have had so little opportunity within DSRIP to demonstrate what their programs can do---many of which may not fit into the "siloeed" official DSRIP projects but do bring down hospital use---they will be in an even worse position for VBP. – 2017 partner survey respondent

I think one of the challenges has been to actually get the funds. My understanding is that the hospitals are holding onto the money and they're not really releasing it to the CBOs that really need it to do the work and are helping the hospitals meet their targets. There's a lot more being put on the CBOs – more responsibility in treating clients and keeping them out of the hospital, but without the necessary funding that we really need. – 2018 behavioral health focus group participant

Our services are the ones that really impact emergency room costs, also there are other ones that could help achieve most of the goals on 2.a.i., 3.a.i., and most of the integration projects. Of the nine [PPSs] that we are in, seven of them stood on the sidelines scratching their heads and collecting money. Most of them never paid DY1, DY2

incentive dollars to behavioral health and SUD providers. – 2018 behavioral health focus group participant

Meanwhile, partners from hospitals reported that the funds were not significant enough to make meaningful change to the health care system.

The funds flow to partners, especially hospitals, has not been significant enough to propel change that will transform the way we provide services. Rather, DY0-2 has felt like an exercise in “checking boxes” to meet goals on paper. Until VBP is here across all payers, hospitals still need to operate within the FFS ¹⁶⁹system. Until funds flow to hospitals to truly offset the cost of a volume decrease of 25%, there won’t be incentive to change. – 2017 partner survey respondent

Partners also reported challenges with delays related to funding and other contractual hurdles to their work with the PPSs. For example:

My organization still does not have a contract for this year...so we have no funds flow. I know how much we’ve earned and I know how much we’ve gotten paid and there’s a very big discrepancy between the two because the payment doesn’t happen until there’s a contract and of course that’s way above my pay level, but that concerns me. – 2017 primary care focus group respondent

4.7.2.4. PPS Overlap

In New York, 33 of the state’s 62 counties had only one PPS entity, while the remaining 29 counties had an overlap of between two and six PPSs. In regions with PPS overlap, some providers worked with multiple PPSs on DSRIP program projects.

Partners were often frustrated with conflicting interpretations of DSRIP program rules by different PPSs. For example, a partner working with two different PPSs sometimes received different guidance on how to handle a rule change or project guidelines. Partners sometimes felt overwhelmed by working with multiple PPS administrations, and struggled to meet DSRIP program project reporting requirements.

These partners want more alignment across PPSs so they aren’t doing things three different ways for three different PPSs. It’s hard for us to change course later on. We’ve had to collaborate with partners after the fact, which has been immensely challenging. It would have made sense not to have 10 PPSs in the NYC area, but at this point, it is what it is. Some partners complete four different surveys for four different PPSs. – 2017 PPS key informant

¹⁶⁹ Fee-for-service

Being a part of nine different PPSs, they all have their own intricacies and things. Sometimes it was difficult to work with the staff because, depending on what PPS was involved in that particular area, it was working on different projects. So where one project may be working on peer services, another may be working on integration, another may be working on integrating medical services. – 2018 behavioral health focus group participant

When partners first learned about DSRIP, they signed up to participate with multiple PPSs, and along the way became fatigued and either did not comply with the contractual obligations or simply said, “I want to remain a partner, but I can’t get anything done this year because I’m busy with my other PPS obligations.” Fatigue impacted their ability to implement projects and to demonstrate their implementation of those projects through reporting. – 2018 PPS key informant

Respondents described challenges with keeping track of which patients were attributed to which PPS, and felt that the need to focus only on “their” patients was sometimes a distraction from their work or encouraged other PPSs to transfer patients to their own partners.

I just feel like in our area we're at a disadvantage having two PPSs anyways, because just naturally, I mean this not in a bad way, but Medicaid folks tend to migrate from one practice to another. And so their lives are going here this month and then there next month and three months later, they're back to this group and then maybe not in the same primary care, but back to the same PPS. It's a mess.- 2019 primary care physician, health home, clinic, and specialist focus group participant

I think we are challenged in this area more than some because of the way our PPSs overlap and also with our shifting attribution. At the last all-PPS meeting they referenced that attribution didn't shift that much, but I think there's a handful of PPSs that really had a lot of attribution shifts, and I don't know if that's because of our overlapping nature. – 2018 PPS key informant

When they go into the hospital, the first thing they try to do is move you over to their doctors, even though you are happy with your primary, because this hospital's [PPS] doesn't have enough patients yet. – 2018 hospital focus group participant

Some PPS key informants said that attribution shifts made it more difficult to provide feedback to providers, resulting in missed opportunities to engage clinicians and illustrate their efforts and results.

With that attribution problem, it's really hard for us to, again, go back to the clinicians and make it real to say, “These are definitely the patients that you are caring for that are driving these measures,” and making that linkage so that they can understand that. So that has been, from a data standpoint, the biggest challenge is really being able to give that feedback loop back to the providers to say, “Okay, you implemented this project or

this program and this is the effect it had on your patients,” and making that real from a reporting standpoint. -2018 PPS key informant

When the data comes and goes, it makes this thought of population health management really difficult to get your head around because what is the population? If the population is transient, and even transient between two or three miles like we see in our area, then the data turns off and back on. Yet, we don't have the full longitudinal view of patient's care and it makes impacting the patient's care really difficult. – 2019 PPS key informant

Most respondents in overlapping PPSs said that it would have been preferable if there was only one PPS per region. They said this would prevent confusion and fatigue among PPS partners, as well as reduce inefficiencies in the investment of time and resources in areas where other PPSs were established. Key informants from PPSs noted that they had not originally built their service models to be collaborative; thus, they found overlap difficult.

I hope the State sees this as a lesson learned to not have multiple PPSs in one region. We have a problem with attributed membership going back and forth between multiple PPSs. This causes a lot of confusion for the CBO partners being part of multiple PPSs, deciding which PPS to align with, but you still have attributed membership that is part of all of the organizations. Multiple PPSs in one county is a problem. – 2018 PPS key informant

I think there's been a lot of issues derived from mixing counties across PPSs. It's incredibly impractical for us to dedicate resources to patients in a county that we do very little business, in a county that already has infrastructure set up at the PPS level and is already doing this work. It's at best an inconvenience and I just think it's very inefficient. I guess the question for me would be “why?” – 2018 PPS key informant

Finally, while PPS key informants acknowledged challenges with overlapping PPSs at the design and initial implementation phase, some felt they had overcome these challenges by collaborating with other PPSs to develop similar reporting requirements and alignment of other procedures.

We deal with a lot of overlapping providers, and we had to discuss early on as to how to divide and conquer the work. It was a challenge, but we had some elegant solutions to that. The PCPs only had one PPS to work [with] within this agreement, which was really helpful for us in the end. Behavioral health providers are involved in both PPSs and are committed to shared outcomes and shared goals. It is a real commitment regionally. – 2017 PPS key informant

We've gotten challenges with providers in two or three of our sister PPSs, but on the other hand, we've placed more emphasis on collaborating to try to overcome those challenges with an “all must rise” philosophy. The medical directors have tried to come

up with similar sets of reports that would be easier for our participating partners to fill out one set of forms, rather than multiple different sets. They've really worked hard to try to coordinate the efforts, and we did one community needs assessment for the entire region. – 2017 PPS key informant

The other thing I think for partners is that they had multiple potential sources of support. One PPS was offering technical assistance for the PCMH, the other one was offering funding for the RHIO connection, meaning that whatever you as a partner needed, there were three stores you could go shop at, not just one. So I'm hopeful that it made them actually able to close their gaps more easily. – 2018 PPS key informant

We've been able to start to coordinate with adjacent PPSs on key programs. We've been able to cross those lines and organizations that have classically worked with one PPS, they've seen programs we've rolled out and say they would like to participate because it's right for their patients. We've done some partnering where even if they weren't on our attribution list, if they serve members of our community, they began to work with us. –2019 PPS key informant

4.7.2.5. Value Based Payment Preparedness

Partners and PPSs reported devoting a lot of attention to preparing for value based payment (VBP). Almost all PPSs provided significant partner education activities for the shift to value based payment, including trainings, videos, webinars, workshops, conferences, and symposiums; and the NYS DOH offered “VBP Bootcamp” and “VBP University” programs as well. In 2019, nearly all partner survey respondents (97.9%) reported that they attended value based payment training sessions.

Key informants felt that the trainings were well-received and helpful in educating partners about how to operate in a value based payment environment. They also saw positive changes over time in partner understanding of value based payment.

A lot of what we do is tied to the shift to value based payment. We had some VBP educational series ourselves that we launched to our partner organizations in conjunction with our overlapping PPSs. We've created an account management team that focuses on going out to visit partner sites to educate on how the work they do as it relates to DSRIP ties to VBP and how they can align themselves with VBP. – 2018 PPS key informant

We've seen a nice evolution of our network's understanding of value based payments, and also an evolution of the types of things they're interested in. I look back at some of our early submissions to that [VBP readiness] survey and they were at a 101-level in terms of types of questions being asked: “What is a value based arrangement?” Now we're getting questions about data analytics and warehousing as well as office structure

and performance for those organizations, in order to get them in a place where they can have a meaningful relationship with an MCO or be part of an IPA or a risk-bearing entity.
– **2019 PPS key informant**

Focus group participants had mixed responses about the value based payment education they received. Many partners felt that the training and technical support they received were well done and helpful.

Our PPS has really helped to be the liaison; so giving us a seat at the right table, or connecting us to the right person at an MCO. They've never said, "Oh, we're going to be the experts on billing," necessarily. They will help connect us with the right people to talk to. – **2019 community-based organization focus group participant**

Others did not like the format of the trainings, did not believe useful information was provided, or did not feel they gained enough knowledge to enter the value based payment landscape confidently.

Best practices and things like that have not been shared broadly, or have only been shared in a finance-directed way, and not so much in a general administration way. What needs to be done to support the contracts? Not how do you write the contract or negotiate the contract? All of the VBP boot camps I have gone to have been very finance-driven or contract management-driven, where it's about how to negotiate contracts -- not from the health care administrator perspective, which is how to develop the organization to support these contracts, or poise the organization to be successful in these contracts. – **2018 hospital focus group participant**

One thing I would like to change is the VBP training. I had to take the VBP training¹⁷⁰ because that was a requirement. When I clicked the YouTube link, I laughed. Everyone, all the staff who had taken the training, they laughed because it was really a total waste of money. – **2018 community-based organization focus group participant**

Getting results, looking at data in order to inform those results, quality improvement cycles- that, I'm relatively comfortable with. It's that part of the "Where do we sit in these larger nesting doll contracts that potentially could exist?" I think the training that DSRIP has done or in general the State has done around value based payment has not helped anyone get to that level of complexity. – **2019 primary care physician, health home, clinic, and specialist focus group participant**

Each PPS had partners that started from different points of value based payment preparedness, and many PPSs launched surveys and listening tours to learn more about their partners' needs. A number of PPS key informants reported targeting some support specifically towards

¹⁷⁰ VBP University Freshman Year

community-based organizations, since they were often less prepared for the shift to a value based payment environment than medical providers.

As we move towards the VBP model, we're working with each of those [CBO] partners to determine, "Well, if we're going to contract with an MCO, what is your contribution? What should you be measuring? What should you be saying is your value statement?" so that when we get into potentially risk-based or capitated models, that they can say, "Okay, this is the part I contributed to the overall success and I get paid on that." That's a very challenging formula for a primary care office; it's a near impossible formula for a CBO. We're really trying to tackle that...we're actually hosting roundtables and stuff like that with the CBOs to work through some of those questions. – 2018 PPS key informant

Because we recognized early on that many of our social service providers did not have the infrastructure or the capacity to successfully compete in a VBP-arena, we realized we needed to do some of the work to be able to guide them along the road. We offered the capacity-building assessment to 90 of our providers and 62 picked up the offer and went through an elaborate assessment process, which then had learning collaboratives specifically for social service providers. Our CBO partners were extremely grateful that we were paying attention to their sector in particular, because most of the work has focused on health care providers. We want them to be able to have conversations with MCOs about how their services impact the social determinants of health and increase health outcomes. - 2018 PPS key informant

CBOs tend to be very small and lean and they were truly starting from square one, so educating them about VBP was almost like putting the cart before the horse. We had to talk to them about keeping records about their clients and keep track of that; a lot of CBOs are not set up to actually keep track of this; they're just doing their good work, that's their primary mission. We were educating them on the value of keeping track of what they're doing: the number of clients they see, interventions they did, how many received them over time, what is the cost associated with that, before we could even talk about VBP. We worked with one MCO who came in and talked to CBOs about how they're pulling in CBOs to VBP formulas. It's just even getting to that point that took a lot of time, especially with CBOs. – 2019 PPS key informant

Despite these efforts, focus group participants voiced frustrations about the value based payment system excluding community-based organizations. Even when trainings were aimed at bolstering their strengths, they believed that the model was not set up to include them.

The value based payment system still was only clinical and medical, it was not based or built on CBO. - 2018 community-based organization focus group participant

I feel that they understand the importance of social determinants of health, but in terms of looking at value based payment and how we can actually make a big impact in a client's life, I feel they're still trying to figure out how they can utilize us to make that

difference and increase the impact on a client's life. That's been a frustration from the very beginning for us... I would like to have some technical assistance around as a community-based organization, "Where do I go? Do I go directly to the MCOs? Do I go to the providers? What are the directions that we can go in, to kind of get into this world?"
- **2019 community-based organization focus group participant**

In addition to education activities, PPSs invested in infrastructure to prepare for value based payment. Specifically, PPSs used DSRIP program funds to increase information technology connectivity and data analytics capabilities to better prepare their partners to operate in a value based payment environment.

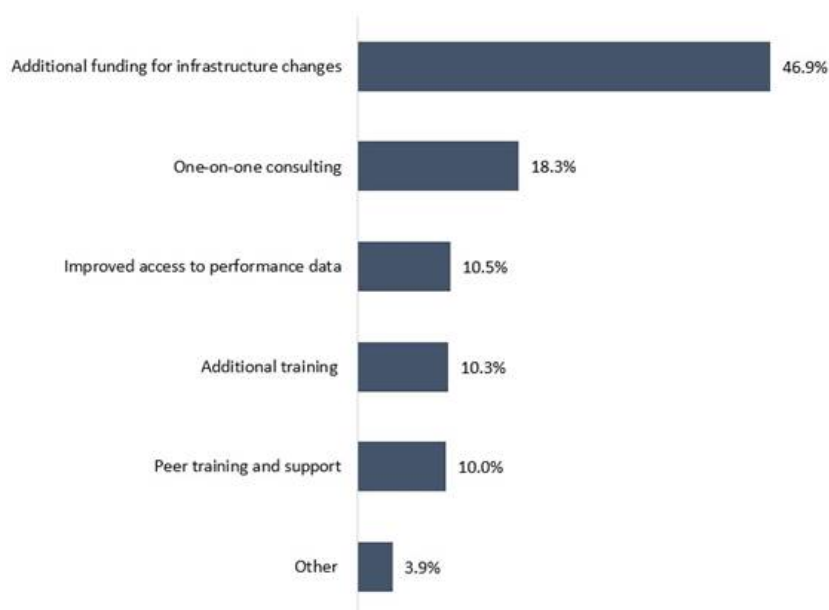
Several PPS key informants also increased engagement of managed care organizations, which they saw as key for a successful transition to value based payment. Having managed care organizations at the table was viewed as crucial since they will be negotiating contracts with partners in a value based payment environment. However, many PPSs experienced challenges with this, and wished that NYS DOH had helped with this process.

I find the MCOs' unwillingness to speak to us dismaying. It suggests they are happy doing what they have been for the last 10-15 years, taking these required incremental baby steps to meet minimum requirements but really not finding their way to think outside their boxes. – **2019 PPS key informant**

Partner survey results suggested that these activities were fairly successful at educating partners about value based payment. More than three-quarters of respondents characterized themselves as “very knowledgeable” or “somewhat knowledgeable” about value based payments (82.2% in 2017; 78.9% in 2018; 84.0% in 2019). About three-fourths of respondents' organizations had made changes to prepare for value based payment (73.7% in 2017; 78.9% in 2018; 76.8% in 2019).

However, most still said they required more resources to facilitate the shift to value based payment (83.7% in 2017; 80.4% in 2018; 80.8% in 2019). In 2018, partner survey respondents who said this were asked which resource would be most helpful. Almost half (46.9%) said they most needed additional funding for infrastructure changes, and almost one-fifth requested one-on-one consulting. About 10% listed improved access to performance data, additional training, or peer training and support (see Exhibit 4.7.2.5.i).

Exhibit 4.7.2.5.i. Which of these resources would be MOST helpful to your organization’s shift to value based payment? (N=688)



Source: Authors’ analysis of the 2018 statewide partner survey.
Note: Responses do not total 100% due to rounding.

There was some variation in these resource needs by organization type. More than two-thirds of respondents from hospitals and more than half of community-based organizations cited additional funding as most helpful. One-on-one consulting was chosen by at least one-quarter of respondents from non-primary care providers, clinics, and government offices. At least one-fifth of respondents from substance use treatment organizations, clinics, and health home/care management programs selected improved access to performance data. Peer training and support was most common among respondents from skilled nursing facilities and hospice/palliative care centers.

Within the framework of value based payments, many PPSs described facing tensions before the full transition to a value based payment environment. Key informants at PPSs and partners noted that as they had early successes in meeting performance measures like avoidable emergency department visits, they were losing financially, as their hospital admissions went down.

There has been a constant tension in this program that we are moving to VBP, because the more we reduce avoidable visits, the less we get paid. If we do our job and have success, we lose pay. That doesn’t mean we aren’t moving to VBP. This group is really tuned into that. It makes reimbursement precarious in some respects, though. – 2017 PPS key informant

When asked if value based payment would help sustain DSRIP program projects, PPS key informants provided mixed responses. Some believed that the projects were not important in

the end but were primarily a means for the PPS to organize and identify what they would need to proceed with value based payment. Others felt that since value based payments were not aligned with the work being done through the projects, they would not be sustainable beyond the DSRIP program. Many of these respondents believed that collaboration with managed care organizations was integral to sustainability, and that DOH should have facilitated these collaborations as part of the DSRIP program. They felt that the DSRIP program did not provide enough time to make these shifts.

DSRIP was meant to be a bridge to get us from fee-for-service to value based payment. The bridge is ending and we're still over the water. We haven't gotten to the shore yet and the program is coming to an end, so I think that was a miscalculation to some extent. -2019 PPS key informant

However, several PPS key informants said that if negotiations with managed care organizations were fair, their projects would be sustainable. Additionally, a few reported that although they were less optimistic about sustaining projects in the short-term after the DSRIP program ended, they believed that in the long term, after more health care transformation took place, work related to the projects would be sustainable.

Focus group participants voiced concerns about being able to demonstrate their value for value based payment contracts. Many partners reported they lacked the data access and capabilities to show managed care organizations the value they provided, which made them fear they would not be able to sustain their work.

If we had data from the payers, we would know when our patients were rehospitalized, because we don't see claims. I don't know how that would all work, but it's hard to know what kind of value we are producing or creating because we don't see the whole picture. That's a challenge. - 2018 hospital focus group participant

It's very hard for community-based organizations to understand how you fit in, how you can price your services, because we don't have data that isolates what our value is. After all this time, we understand that's what we need, but there really hasn't been much emphasis on trying to tease that out to see what we contribute to the overall picture because we don't have directly billable services in many cases that you can look at claims to see. We're part of the value based purchasing world. Probably almost all of our organizations are involved in one form of network or another that's forming [independent practice associations] so that we don't lose our place, but again, it's very hard to understand how to price out our services within that, put a value on them. Even though we all kind of know it, we don't have the hard data. – 2018 community-based organization focus group participant

In 2019, partner survey respondents were asked whether their organization had entered into any value based payment contracts. Half had entered into a contract directly with a managed

care organization or into a subcontract with a lead value based payment contractor (such as a hospital, Independent Practice Association, or Accountable Care Organization).

Exhibit 4.7.2.5.ii. Percent entered into value based payment contract or subcontract (N=718)

Type of Contract	Percent
Contract directly with managed care organization (N=718)	35.0%
Subcontract with a lead VBP contractor (N=716)	33.9%
Total with any VBP contract or subcontract	50.0%

Source: Authors' analysis of the 2019 statewide partner survey.

Abbreviations: Value Based Payment (VBP)

Note: Total does not sum because 135 respondents entered into both a direct contract and a subcontract.

These respondents were then asked how helpful their participation in the DSRIP program was in entering these contracts. More than half (56.0%) said that the DSRIP program was very helpful or somewhat helpful.

Exhibit 4.7.2.5.iii. How helpful was your participation in the DSRIP program in entering VBP contracts or subcontracts? (N=352)

How Helpful was Partner Participation in the DSRIP program in Entering VBP Contracts?	Percent
Very helpful	24.7%
Somewhat helpful	31.3%
A little helpful	17.6%
Not at all helpful because the VBP contracts began prior to the DSRIP program	9.7%
Not at all helpful because the VBP contracts would have occurred without the DSRIP program	16.8%

Source: Authors' analysis of the 2019 statewide partner survey.

Note: Responses do not total 100% due to rounding.

4.7.2.6. Data Access and Sharing

Data access and sharing was a significant issue throughout DSRIP program implementation and operations. Study participants most often mentioned utilization and cost of care data as being important to understanding performance, targeting opportunities, and identifying trends. The PPSs and partners were frustrated by difficulties accessing data provided by NYS DOH, and PPSs were not always able to access the data their partners were collecting. Respondents described substantial challenges with data lag, data access, and data sharing.

Accessing Data from NYS DOH

The PPSs did not have full access to NYS DOH electronic data during Demonstration Years 0-2, which made it difficult to obtain the information they needed to develop projects and track progress.

Once data access was obtained, ongoing reporting lags remained a significant challenge that prevented PPSs from knowing their current performance level and adjusting interventions as necessary. Key informants from PPSs found the Salient Interactive Miner (SIM) and the Medicaid Analytics Performance Portal (MAPP) to be useful, but less actionable than they would like. Without real-time data, it was not clear whether efforts were influencing outcomes, and it was a challenge to provide effective guidance to partners.

It would have been helpful to lessen the lag with the outcomes data so that partners can see their investment, and how their investment is or is not paying off. Either way, it is a challenge to say, “you’re still not getting it right, because the data is showing that,” or, “you’re hitting it out of the park and doing great,” or, “you’re supposed to be hitting it out of the park, so adjust your efforts a little bit and try to make it happen.” By the time they get data it is so long after they put in the effort. –2018 PPS key informant

We end Measurement Year 5 in two weeks and we still don’t have data for a conclusion of Measurement Year 4 which ended one year ago. This has been challenging where we have been asking for these things to try and push quality improvement, but we can’t even close out data from a year ago. That has been a big hurdle and an ongoing issue throughout our DSRIP experience; trying to figure out the DSRIP platforms and not being able to have a single source of truth of how the state is judging us on quality measures. – 2018 PPS key informant

Partners echoed frustrations with their inability to measure real-time impacts due to the data lag time.

The problem is that the data is delayed. We don't know how we're doing. We get data that's nine months old. So it's hard to react to that, and we think we're doing okay, but then it's too late by the time we find out what the data is. So if there was some more contemporaneous way of knowing where they were on these projects, I think that would've helped. – 2019 behavioral health focus group participant

The PPS key informants also reported that certain types of data they expected were not available. Overwhelmingly, PPSs and partners struggled to obtain data from managed care organizations, noting the importance of managed care organization data and collaboration to system transformation. Some key informants lacked necessary claims data for Pay for Performance measures, and explained that data on cost associated with care would have been helpful for partners to understand their financial impacts in preparation for value based

payment opportunities. Other respondents felt limited in their ability to provide care for patients with substance use issues without access to patient substance use data.

I was at several meetings at several different PPSs, and people around the table would say, “We need someone from managed care here. Why isn’t there anyone from managed care here?” That was two years ago, and finally, they just gave up asking. I don’t know if they couldn’t get them to the table, I don’t know what the reason was, but a lot hinges on them and them giving us claims data so that we can see how we can make an impact. If we want to do a before and after study on asthma, for example, we need to know if this child has had multiple hospitalizations, and what was the cost before the intervention so that we can show that it made a difference. – 2018 hospital focus group participant

I don’t think anyone sufficiently considered at the launch of DSRIP the fact that the PPSs, as a PPS, are not legally entitled to contract for care; and absent the contract for care, most of the MCOs would not and will not share data directly with the PPS. –2018 PPS key informant

It would be great to know the cost associated with the care so we can have a better sense of what we’re trying to do with value based care. We don’t know the value if we don’t know the dollar signs. We have great statistics that show over 50% reductions in emergency room visits, but we really don’t have the sense of what the financial impact of that reduction is. –2018 PPS key informant

Data accuracy was also a concern, as NYS DOH needed to recalculate some of the data provided.

I would say our biggest challenge has been lack of timely and accurate data. I mean, especially this past year, we’ve been flying pretty blind. Even though we have lacked data before, now we have known issues with the data. So, we don’t get any data anymore, except for what we can draw out internally within our own system. –2019 PPS key informant

There have been all sorts of issues that have come to light lately in terms of attribution, health home attribution, as well as duplicate claims files from a particular MCO, and some of the age bands were being incorrectly calculated for the “child active measure”...which means the DOH is now going back a couple of years and re-running all of that data. We’ve been really communicating to our partners and the board regarding where we felt we were performing over time, and I think all the PPSs are at a point now where we’re not really sure what that will look like. –2019 PPS key informant

Sharing Data with Partners

Patient privacy regulations also prevented PPSs from sharing some types of data with partners, which reduced its utility.

Here we are in Measurement Year 5 and even if we had all the data at our fingertips, the reality is that we are very limited as a PPS with what we can share downstream. There's been a tremendous amount of confusion and dialogue and limited documentation; and even with documentation, confusion about comingling of data ("what does that mean?"), what we can share with our partners downstream, even what defines a partner relative to attribution. We do talk to our PPS colleagues, everybody seems to interpret it very differently...we err on caution on things because we are obviously very concerned. We share minimum information with partners downstream, we have not really shared much with the CBOs. Where we've wanted to implement some interesting interventions and activities, particularly around patient engagement and unengaged patients, if you can't give a partner (particularly a CBO) a patient's address, for example (because that is not allowed, at least in our interpretation), it's meaningless. –2018 PPS key informant

The State knows who the super-utilizers are, and they've provided PPSs with the patient data. I've been saying it for three years, if they just provide the patient data to us, we could tell you exactly how we can impact this, and we probably could have been doing it two years sooner. – 2017 behavioral health focus group participant

What we attempted to do to get around [patient privacy regulations] was to use claims data to identify which providers had touched those patients so that we could send the information to those providers. The State has now said that we can't put the data in that RAM¹⁷¹ environment and use it externally. Even though we aren't taking any of the claims data outside of that environment, we are only taking the data we put into it and the data we created that cannot be put into the state's file—they said it's contaminated now, and that we are not allowed to share it. They give us access, but then put handcuffs on so we aren't allowed to share it. – 2017 PPS key informant

The PPS key informants wished they had more assistance from NYS DOH with data sharing issues.

Organizations were looking for guidance from NYS, not the PPS. There's been a lot of challenges around that to date. Navigating around HIPAA is almost the easy part. The state-specific regulations around HIV, SUDs, and MH adds a larger complexity to it and makes it difficult to do data-sharing across the PPS. There are different interpretations and meanings depending on who you ask. –2019 PPS key informant

¹⁷¹ Restricted Access Model

Data Systems Developed by PPSs

Because of data lag, data sharing barriers, and data security and privacy protocols, many PPSs developed their own internal data systems to provide more real-time feedback. The majority of PPS key informants reported that they built dashboards or other platforms which largely made use of online partner portals to gather partner data. Some PPS data analytics teams were able to use partners' electronic health record data along with state-provided data to share aggregate results and guide efforts to close gaps in patient care and meet performance targets.

We spent a tremendous amount of resources, people and technology, on interoperability with our divisions to make sure that their data is flowing through our platform, as well as the claims data that we receive in our value based contracts, and really working hard to co-mingle all these data sources and make sure that they're talking to each other appropriately, so we can get the best picture of what's going on in real time... every day it feels like we're getting more and more capable with our data.—**2019 PPS key informant**

Real-time information, as it relates to most of the 43 Pay for Performance measures, is critically important. We have been able to take that data to evolve dashboards where users can look up their status on any given day and respond. PCP practices can respond. You can only do that with real-time information—not with claims data. For Pay for Performance, we've had to rely on new systems for this.—**2017 PPS key informant**

We listened to our partners early on in DSRIP and began having the discussion with them a little over a year ago around implementation and improvement work to drive improvement/performance measures, and they needed actual data opposed to snapshot/outdated information that the State typically has provided to us with an 8-month lag. We began collecting [data] on a monthly basis from our highest attribution partners. We placed it in a dashboard that is a little more user-friendly to understand their patient population, which patients have care gaps, and specific to each of our performance measures we want them to focus on.—**2018 PPS key informant**

Several respondents saw these systems as a waste of resources, and believed that NYS DOH could have provided better support to avoid the need to create so many separate data systems statewide.

I wish they had figured out the IT thing before they had started DSRIP. Every PPS has a different vision, they have a different platform, they use different RHIOs (QEs), they're creating their own thing, and as an organization – and most of us are in a bunch of different PPSs – how do you do that? You can't. We can't, anyway.—**2018 hospital focus group participant**

I happen to know how much was spent on IT here, in a big bucket way, and if you multiply that number times 25 across the state, that money could have invested in the

SHIN-NY¹⁷² – even a part of it. So we’re allowing each PPS to decide what they need in terms of IT and spend as much as they want to spend. Who are you benefiting at the end of this? When you watch systems get developed that are so costly and have no real value in the long haul, except getting your portion of the [money], it’s really obvious. – 2018 primary care focus group participant

It would be really helpful if the State would come up with something that would eliminate the 90,000 different EHRs we’re all in. Because it also makes it hard for us to share data because how you collect data, how I collect data, or how I collect data in my [many] different systems, it makes it more complicated....That would make such a huge impact for all of us if there were one system. – 2019 community-based organization focus group participant

Accessing Data from Partners

While PPS-developed data systems were useful, they generally required partners to provide data directly to PPSs, which was also a challenge. Partners used a wide variety of electronic health records systems, and some partners (particularly community-based organizations) did not have electronic health records at all. The lack of integrated systems created challenges with project implementation, data sharing, and reporting. Information technology development and ongoing support were required, and this was new to some partners.

One of the barriers are the various EHR systems and interoperability challenges that we face. Since we’re not a single health system with one EHR (we probably have over 40 EHRs in use and that may not include [all partners]), that presents some challenges, especially when some of the project components weave in use of EHRs and registries and it requires IT onboarding and things of that nature with smaller practices not familiar with having to do this type of technological work. –2018 PPS key informant

Nearly all respondents reported challenges with health records data infrastructure, but some felt their solutions to those challenges were a success. Some PPSs set up their partners with new electronic health records systems or provided support to enhance the ones they already had. Key informants from PPSs felt that they came a long way with data connectivity, and that the DSRIP program was the impetus for that.

We’ve definitely given many providers support with their EHRs, support with the RHIO¹⁷³, to be able to start running reports so they can find the metrics that are meaningful to

¹⁷² The Statewide Health Information Network for New York (SHIN-NY) allows the electronic exchange of clinical information statewide and is described in more detail in Section 4.7.2.6.5.

¹⁷³ Regional Health Information Organization (RHIO), further described in Section 4.7.2.6.5. now called a Qualified Entity (QE)

them and use that information, and are working to do that more in real time. –2018 PPS key informant

[The PPS] also offered grants to hospitals and to CBOs to upgrade or to implement electronic medical or health care records. We had actually been exploring that need for about two years prior to that and really it was unaffordable for us. So we were able to take advantage of one of their grants and that has really been transformative for our agency... It has really been an incredible opportunity for us to really be much better at monitoring the work that we're doing and assessing performance and outcomes. – 2019 community-based organization focus group participant

Connecting with Qualified Entities

To facilitate the shift towards improved care coordination and value based care, the DSRIP program served as a mechanism to promote clinical data exchange among providers. Providers that offered clinical services or had electronic health records were required to connect to their Qualified Entities (QEs), previously known as Regional Health Information Organizations (RHIOs), by March 2018¹⁷⁴. Qualified Entities are regional networks where electronic health information is stored and shared; there are eight in New York State.

In some cases, this connection was successful:

Very early on, we had our partners connect to [the Qualified Entity], sign agreements, and then we were able to work with [the Qualified Entity] to create what we call a population health gateway server. That collects our clinical information based on one-to-one agreements and connects to our analytics platform so we're able to have clinical data to support our claims data that we have from the state. We're just implementing this now, but the connectivity requirement of 2.a.i. really helped us energize our partners to sign agreements and get connected. – 2018 PPS key informant

However, many PPS key informants felt the NYS DOH should have taken a stronger role in emphasizing and leading the process of connectivity to lay a foundation for later transformative work.

The challenge is their ability to physically get connected. There's some interface issues, the RHIOs not being able to be responsive, but the partners themselves truly want to be able to get that information and they want that information flowing to them. It's just the challenge of making that a smooth transition for them. –2018 PPS key informant

¹⁷⁴ Domain 1 Project Requirements Metrics and Milestones; Project 2.a.i – Requirement 4
https://www.health.ny.gov/health_care/medicaid/redesign/docs/dsrip_domain1_project_requirements_milestones_metrics.pdf

There are QE connectivity requirements prescribed by the DOH, but they require PPSs to engage as a vendor. This has not been encouraged by DOH. The QE has been slow in responding to our area and understanding what our needs are. –2017 PPS key informant

But as just happened recently, we've passed now the March 31st timeline where all the safety nets who need to be connected, should be connected, and I suspect our PPS, as many PPSs, were not able to meet that deadline. Obviously, that work still needs to be ongoing, but after this year there is no further incentive from the State for that to occur. –2018 PPS key informant

Patient privacy regulations were noted to be an additional barrier to effective use of Qualified Entity data. The Statewide Health Information Network for New York (SHIN-NY) was created to permit electronic health record information exchange between clinical professionals across the state. Because patient data are protected by the Health Insurance Portability and Accountability Act (HIPAA), Qualified Entity participants were only able to access patient information if a patient signed a written consent form. The PPSs reported struggles with this process, noting it hindered the ability to access and review comprehensive patient health information for coordinated clinical work.

The rules and regulations regarding sharing information with the Regional Health Information Organization were barriers because you have to get consent every single time a patient interacts with a new provider, so each new provider has to get their own consent. It would have been much better if the RHIOs were run on an opt-out model as opposed to an opt-in. –2018 PPS key informant

4.7.2.7. Workforce

The PPSs reported both successes and challenges in workforce development. Key informants relayed that they hired hundreds of people and trained thousands in their efforts to get the PPSs and its projects operational. Additional positions were created and introduced new people to the health care industry.

In general, what DSRIP has highlighted, I think, for a lot of people, is we need more people in the workforce that are trying to reduce the total acute care utilization of our patients. And that is something that is relatively new. People that fall under that are care managers, navigators, project managers and the DSRIP team, there's a lot of people. – 2018 PPS key informant

Key informants from PPSs specifically mentioned successes in the following areas:

- Training health workers in care coordination, motivational interviewing, and cultural competency in working with low-income, immigrant, and LGBTQ populations.

- Recruiting and training emergency department staff to significantly reduce potentially preventable admissions.
- Bringing their workforce into historically underserved areas; one respondent said the changes that were happening in their community through workforce deployed through the projects were “mindboggling.”
- Developing scholarship and apprentice programs to increase staffing in needed fields, including certified nursing assistants, community health workers, care managers, and social workers.
- Expanding newer health care roles, such as peer navigators and community engagement specialists.
- Providing both online and in-person trainings.

However, the struggle to recruit and retain staff was widely noted to be a barrier to getting projects up and running.

So there’s a workforce shortage in the field right now, particularly Article 31 clinics¹⁷⁵. The work demand now, especially because of a lot of the DSRIP work that we’re doing and all of the added documentation, has led to experienced staff not really applying for jobs at Article 31 clinics. We’re getting students who are literally right out of school. So the staffing has become an issue...It’s problematic to do the work with less staff and green staff. – 2018 behavioral health focus group participant

Recruitment in general took a while because when all the PPSs were starting, there was a recruitment spree across New York State for qualified providers and front-line staff. IT development was not always in sync with the speed at which you were able to set up your project. Either you recruited 5 NPs¹⁷⁶ and they were live one day and their IT was not ready for two months, or you had your IT but no staff to use it. That was an issue in the first two years. – 2018 PPS key informant

Since smaller organizations did not have the capabilities to hire additional staff upfront in hopes that DSRIP program funding would cover the costs, partners reported workforce shortages that placed time-intensive DSRIP program responsibilities on staff who were already contributing a lot of their time and effort, causing employee exhaustion.

I don’t think there was any understanding or appreciation for the fact that most organizations cannot upfront hire staff. – 2018 hospital focus group participant

Adding additional responsibilities and meetings to an already lean, not administrative robust organization to begin with, has been a challenge. It was definitely framed under a hospital administration framework, where I think they have more capacity and more of those job positions to be like, "Oh, well, the COO could go to that meeting. And the CIO

¹⁷⁵ Office of Mental Health licensed mental health clinic

¹⁷⁶ Nurse practitioners

can go to that meeting." Those are not positions that we had... I don't even have an HR person, and I'm about to embark on a project hiring 30 new people. These are huge lifts that I think the community partners were lacking in the capacity to actually make some of these lifts. – 2018 behavioral health focus group participant

4.7.3. Support Systems and Accountability Structures

The PPSs received DSRIP program technical support from several sources, including:

- The Account Support Team (AST). Its main functions were to informally check in monthly on PPS progress one-on-one, conduct annual site visits, provide technical support, host annual Learning Symposia, facilitate policy and protocol questions and answers between PPSs and NYS DOH, and promote cross-PPS collaboration and learning. These tasks were contracted to outside companies; initially to KPMG and then to PCG.
- The Independent Assessor (IA). Its primary functions throughout the DSRIP program were project plan application reviews, a mid-point assessment, and regular monitoring of PPS progress. Monitoring occurred through quarterly reports and determined the semi-annual performance payments. Independent Assessor responsibilities were also contracted to PCG, but a firewall was created between the Independent Assessor and the Account Support Team to reduce the likelihood of any conflicts of interest related to the Independent Assessor's official duties.
- The NYS DOH. The NYS DOH provided support and communication in a number of ways, including sending out weekly emails to keep PPSs informed, hosting webinars for project and program area clarity, retaining guidance documents in the PPS-specific Digital Library, maintaining an up-to-date DSRIP program website, hosting all-PPS meetings, and facilitating regular enhanced oversight check-ins with specific PPSs that need more support and guidance.
- The Medicaid Accelerated eXchange (MAX) Series, facilitated by KPMG in Demonstration Years 3 and 4. This focused on improving care for high utilizers and sustaining that change. It consisted of three full-day structured and dynamic workshops, followed by fast-tracked action periods to implement change over a 5-6 month period.

Particularly in the early implementation stage, many PPS key informants felt that they had trouble getting their questions answered. They said that they sometimes had to wait long periods to receive answers, were directed to a different support team, or received vague answers that did not provide them with the clarity they needed. Many also reported that answers from the Account Support Team, NYS DOH, and the Independent Assessor were not always consistent. Different interpretations across PPSs were challenging and they wished for a repository of responses for more transparent implementation and operation of the DSRIP program. Over time, these issues improved.

Most key informants were highly satisfied with the Medicaid Accelerated eXchange (MAX) Series and the Learning Symposia. They credited the MAX Series for encouraging a greater

awareness of the social determinants of health, the creation of “daily huddles” to identify high utilizers, the development of behavioral health innovations, and for serving as a resource for collaboration, workforce development, and educational purposes. The speakers at the Learning Symposia were said to be high quality, and the face-to-face interactions with other PPS representatives and colleagues were valuable for creating comradery and learning from each other.

4.7.4. Partners’ and Key Informants’ Perceived Outcomes and Observations

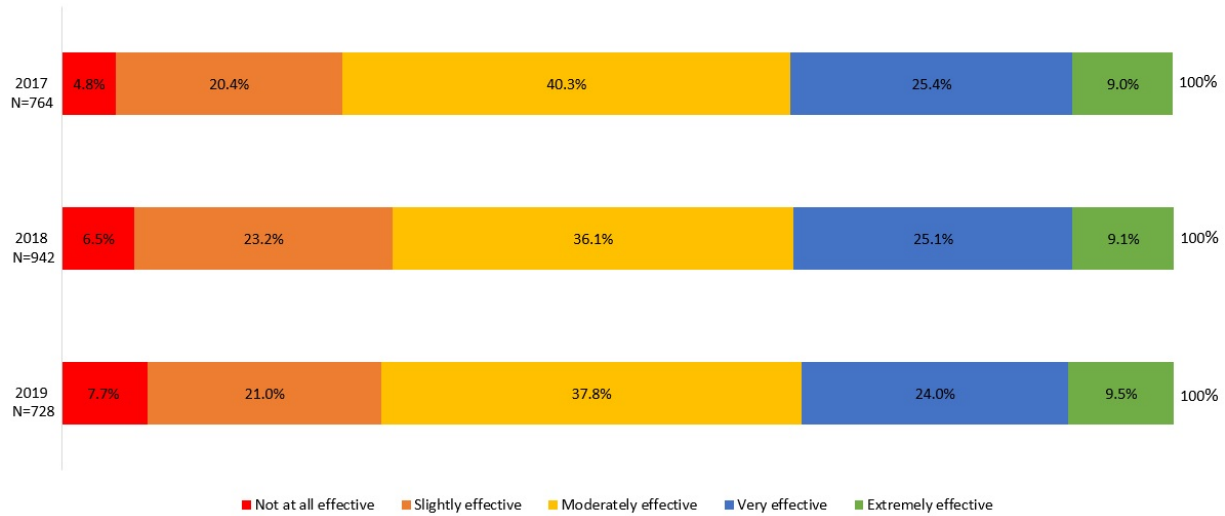
This section presents perceived outcomes from PPS key informants who participated in interviews and project partners who participated in the partner survey or focus groups.

4.7.4.1. Perceived Outcomes and Observations from the Statewide Partner Survey

Perceived Effectiveness of the DSRIP program

Most respondents (74.7% in 2017; 70.3% in 2018; 71.3% in 2019) reported the DSRIP program to be extremely, very, or moderately effective (see Exhibit 4.7.4.1.i). About one-fifth perceived it as slightly effective, and between 4.8% and 7.7% as not effective at all.

Exhibit 4.7.4.1.i. How effective do you perceive the DSRIP program to be overall?

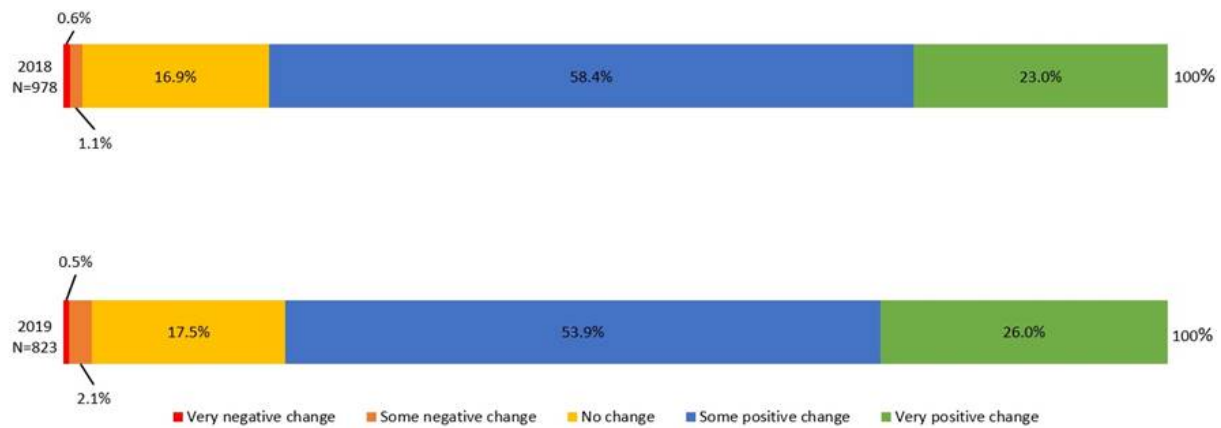


Source: Authors’ analysis of the 2017, 2018, and 2019 statewide partner survey.

Note: Responses do not total 100% due to rounding.

About four-fifths of respondents (81.4% in 2018; 79.9% in 2019) reported that the services or clinical care at their organization had changed for the better since the DSRIP program was initiated (see Exhibit 4.7.4.1.ii).

Exhibit 4.7.4.1.ii. How have the services or clinical care at your organization changed since the DSRIP program was initiated?



Source: Authors’ analysis of the 2018 and 2019 statewide partner survey.

Note: Direct comparison to the 2017 statewide partner survey is not possible for this survey item due to some wording changes to improve clarity.

Perceptions of the DSRIP program varied somewhat by the type of organization they worked for (see 4.7.4.1.iii). Respondents working at hospitals were more likely to report that the DSRIP program was effective, changed population health for the better, and changed services or clinical care at their organization for the better.

Exhibit 4.7.4.1.iii. Effectiveness measures by organization type

Organization type	Perceived DSRIP program to be at least moderately effective (%)		Believed DSRIP program changed population health for the better (%)		Reported services at their organization or clinical care changed for the better (%)	
	2018	2019	2018	2019	2018	2019
Hospital	79.8	80.8	84.3	84.8	92.6	94.4
Behavioral health or substance use treatment organization	73.5	71.3	79.5	77.5	87.2	79.6
Skilled nursing facility/nursing home	72.5	66.1	60.9	57.9	82.7	76.3
Primary care provider, non-primary care provider, or clinic	71.8	74.1	75.5	75.0	88.3	85.9
Community-based organization	65.9	68.9	73.1	74.3	72.7	72.4
All other organization types	64.2	68.1	68.1	72.5	71.4	76.0

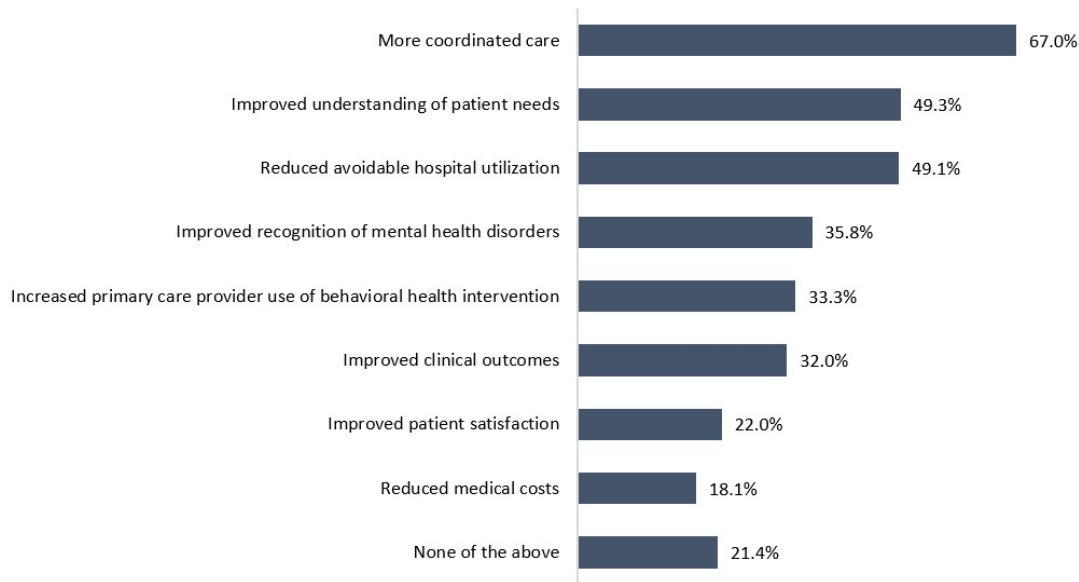
Source: Authors' analysis of the 2018 and 2019 statewide partner survey.

Note: All other organization types includes those that selected hospice/palliative care center, home care agency, government office, pharmacy, health home/care management program, Federally Qualified Health Center, or "other" as their organization type. Respondents were able to self-select their organization type. The survey did not define each organization type for respondents (see Appendix 7 for survey instrument).

Benefits Attributed to the DSRIP Program

Survey participants were asked if they observed any of the following benefits from the DSRIP program (see Exhibit 4.7.4.1.iv). In 2019, two-thirds perceived more coordinated care, and about half observed improved understanding of patient needs and reduced avoidable hospital utilization. Approximately one-third reported improved recognition of mental health disorders, increased primary care provider use of behavioral health intervention, and improved clinical outcomes. About one-fifth saw improved patient satisfaction or reductions in medical costs. None of these benefits was perceived by about one-fifth of survey participants.

Exhibit 4.7.4.1.iv. Benefits attributed to the DSRIP program (N=678)



Source: Authors' analysis of the 2019 statewide partner survey.

Note: Percentages do not total 100% because respondents could select more than one item.

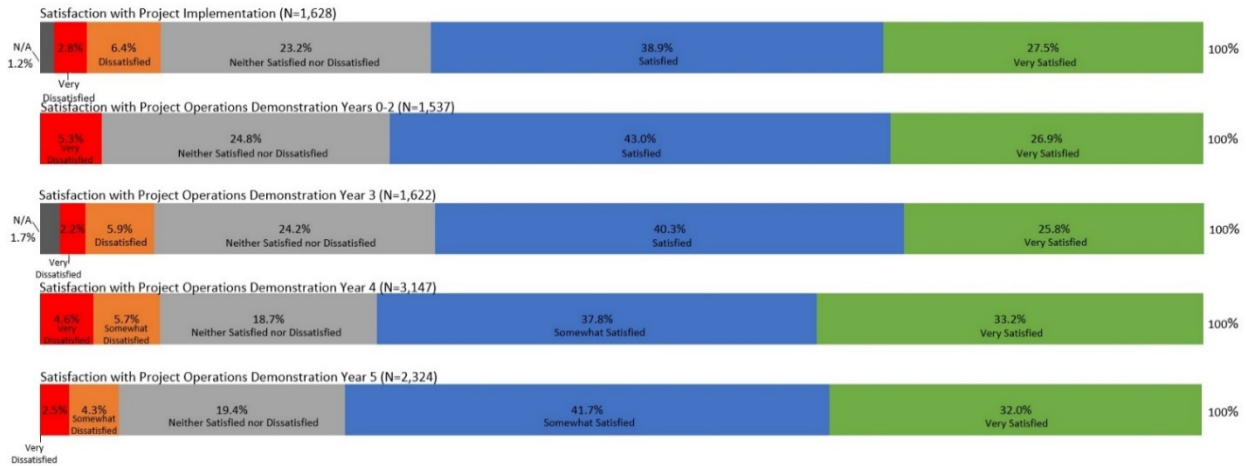
For each of the above benefits they selected, respondents were asked whether they expected that benefit to continue after DSRIP program funding ended. About two-thirds believed that the benefits would continue, ranging from half of those selecting “reduced medical costs” to 72.8% of those selecting “improved understanding of patient needs.”

Project Satisfaction, Effectiveness, and Implementation Fidelity

The partner survey asked providers about their experiences with individual projects as well as their experiences with the DSRIP program overall. In 2017, respondents had the opportunity to provide feedback about up to three projects they worked on, and 1,689 project-specific responses were collected. In 2018 and 2019, respondents could provide feedback about all of their projects. A total of 3,621 project-specific responses were collected in 2018, and 2,697 in 2019.

Partners' satisfaction ratings of projects are shown in Exhibit 4.7.4.1.v. In 2017, survey participants were asked about their satisfaction with project implementation, operations during Demonstration Years 0-2, and current operations (Demonstration Year 3 at the time of the survey). In 2018 and 2019, participants were asked about their satisfaction with operations of the project over the past 12 months (Demonstration Years 4 and 5 at the time of the survey). About two-thirds of respondents were satisfied or very satisfied with project implementation (66.4%) and operation in Demonstration Years 0-2 (69.9%), Demonstration Year 3 (66.1%), Demonstration Year 4 (71.0%), and Demonstration Year 5 (73.7%).

Exhibit 4.7.4.1.v. Project satisfaction ratings

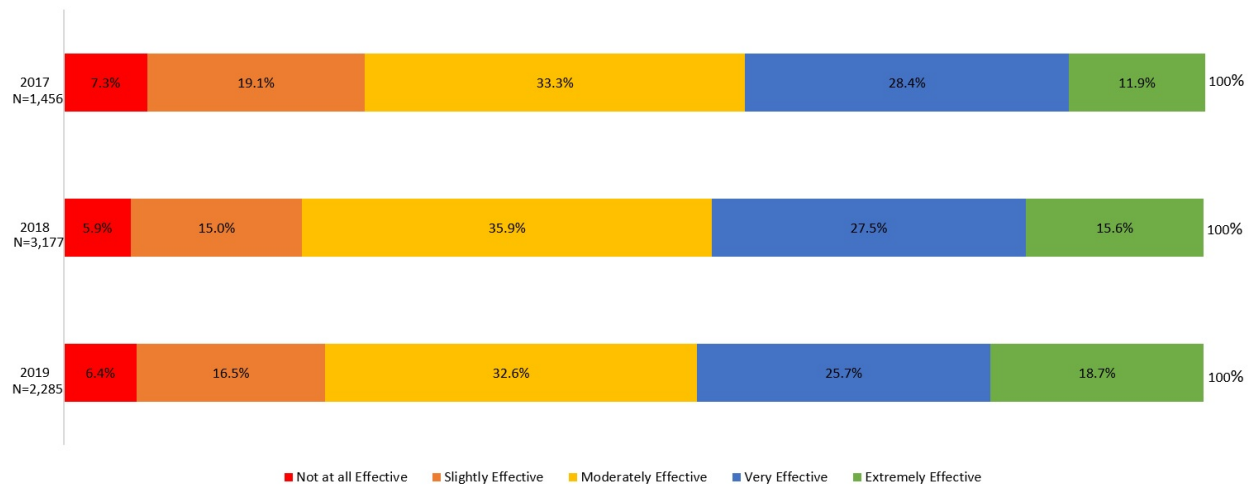


Source: Authors’ analysis of the statewide partner survey.

Notes: The results shown in the top three bars are based on the 2017 statewide partner survey. The results shown in the fourth bar are based on the 2018 statewide partner survey. The results shown on the fifth bar are based on the 2019 statewide partner survey.

Participants were also asked how effective they currently perceived the project to be at meeting its intended goals. About three-quarters (73.6% in 2017; 79.0% in 2018; 77.0% in 2019) viewed projects to be extremely, very, or moderately effective (see Exhibit 4.7.4.1.vi).

Exhibit 4.7.4.1.vi. Project effectiveness ratings



Source: Authors’ analysis of the statewide partner survey.

Note: Responses do not total 100% due to rounding.

The satisfaction and perceived effectiveness responses were also evaluated by project, to determine whether some projects were evaluated more positively than others. As some projects received only a few evaluations, a minimum of 20 total responses per project across PPSs was set as a floor for inclusion. The possible score range was between 1 and 5, with smaller numbers indicating greater satisfaction or effectiveness. These ratings are shown in Exhibit 4.7.4.1.vii and Exhibit 4.7.4.1.viii.

Exhibit 4.7.4.1.vii. Mean satisfaction ratings by project, 2018 and 2019

Project	2018 Mean (N)	2019 Mean (N)
Domain 2: System Transformation Projects		
2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems	2.17 (542)	2.08 (353)
2.a.ii Primary Care Certification (PCMH/APC Models)	2.00 (35)	1.63 (24)
2.a.iii Health Home At-Risk Intervention Program	2.32 (97)	2.04 (87)
2.a.iv Medical Village (Hospital)	2.08 (30)	2.59 (20)
2.b.iii ED Care Triage for At-Risk Populations	2.19 (163)	2.15 (118)
2.b.iv Care Transitions Intervention for Chronic Health Conditions	2.07 (308)	1.94 (243)
2.b.vii INTERACT: Inpatient Transfer Avoidance Program for SNF	1.82 (59)	1.89 (53)
2.b.viii Hospital-Home Care Collaboration Solutions	2.09 (51)	1.94 (30)
2.c.i Development of Community-Based Health Navigation Services	1.68 (81)	1.51 (37)
2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care	2.28 (216)	2.43 (154)
Domain 3: Clinical Improvement Projects		
3.a.i Integration of Primary Care and Behavioral Health Services	2.04 (439)	2.00 (330)
3.a.ii Behavioral Health Community Crisis Stabilization Services	2.16 (146)	2.27 (85)
3.b.i Cardiovascular Disease Clinical Management	1.84 (159)	2.00 (123)
3.c.i Diabetes Disease Clinical Management	1.68 (80)	1.88 (81)
3.d.ii Asthma Home-Based Self-Management Program Expansion	1.99 (54)	2.10 (62)
3.d.iii Evidence-Based Asthma Management	1.83 (50)	1.81 (37)
3.f.i Maternal and Child Health Support Programs	2.09 (36)	2.07 (27)
3.g.i Integration of Palliative Care into the PCMH Model	2.13 (71)	2.01 (47)
Domain 4: Population-Wide Projects		
4.a.i Promote Mental, Emotional and Behavioral Well-being in Communities	2.23 (47)	*
4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems	2.32 (100)	2.00 (105)
4.b.i Promote Tobacco Use Cessation	1.91 (112)	2.14 (74)
4.b.ii Increase Access to Chronic Disease Preventive Care and Management	2.28 (79)	1.96 (50)
4.c.ii Increase Early Access to and Retention in HIV Care	1.98 (26)	1.93 (29)

Project	2018 Mean (N)	2019 Mean (N)
4.d.i Reduce Premature Births	2.36 (22)	*

Source: Authors' analysis of the 2018 and 2019 statewide partner survey.

Abbreviations: Patient-Centered Medical Home (PCMH), Emergency Department (ED), Skilled Nursing Facility (SNF), Human Immunodeficiency Virus (HIV)

Notes: These are measured on a five-point scale, with 1=most satisfied and 5=least satisfied. * Fewer than 20 responses received

Exhibit 4.7.4.1.viii. Mean effectiveness ratings by project, 2018 and 2019

Project	2018 Mean (N)	2019 Mean (N)
Domain 2: System Transformation Projects		
2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems	2.75 (546)	2.74 (343)
2.a.ii Primary Care Certification (PCMH/APC Models)	2.09 (36)	2.00 (24)
2.a.iii Health Home At-Risk Intervention Program	2.96 (98)	2.70 (83)
2.b.iii ED Care Triage for At-Risk Populations	2.76 (161)	2.84 (118)
2.b.iv Care Transitions Intervention for Chronic Health Conditions	2.59 (306)	2.55 (240)
2.b.vii INTERACT: Inpatient Transfer Avoidance Program for SNF	2.25 (59)	2.65 (52)
2.b.viii Hospital-Home Care Collaboration Solutions	2.67 (52)	2.67 (30)
2.c.i Development of Community-Based Health Navigation Services	2.38 (83)	2.19 (37)
2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care	2.96 (217)	3.12 (152)
Domain 3: Clinical Improvement Projects		
3.a.i Integration of Primary Care and Behavioral Health Services	2.53 (448)	2.61 (323)
3.a.ii Behavioral Health Community Crisis Stabilization Services	2.79 (146)	2.91 (83)
3.b.i Cardiovascular Disease Clinical Management	2.51 (157)	2.79 (123)
3.c.i Diabetes Disease Clinical Management	2.25 (83)	2.23 (82)
3.d.ii Asthma Home-Based Self-Management Program Expansion	2.56 (55)	2.58 (60)
3.d.iii Evidence-Based Asthma Management	2.42 (50)	2.65 (37)
3.f.i Maternal and Child Health Support Programs	2.74 (36)	2.50 (26)
3.g.i Integration of Palliative Care into the PCMH Model	2.62 (73)	2.58 (50)
Domain 4: Population-Wide Projects		
4.a.i Promote Mental, Emotional and Behavioral Well-being in Communities	2.65 (48)	*
4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems	2.88 (104)	2.68 (104)
4.b.i Promote Tobacco Use Cessation	2.72 (113)	2.85 (54)
4.b.ii Increase Access to Chronic Disease Preventive Care and Management	2.84 (82)	2.51 (85)
4.c.ii Increase Early Access to and Retention in HIV Care	2.80 (25)	2.44 (29)

Project	2018 Mean (N)	2019 Mean (N)
4.d.i Reduce Premature Births	3.25 (21)	*

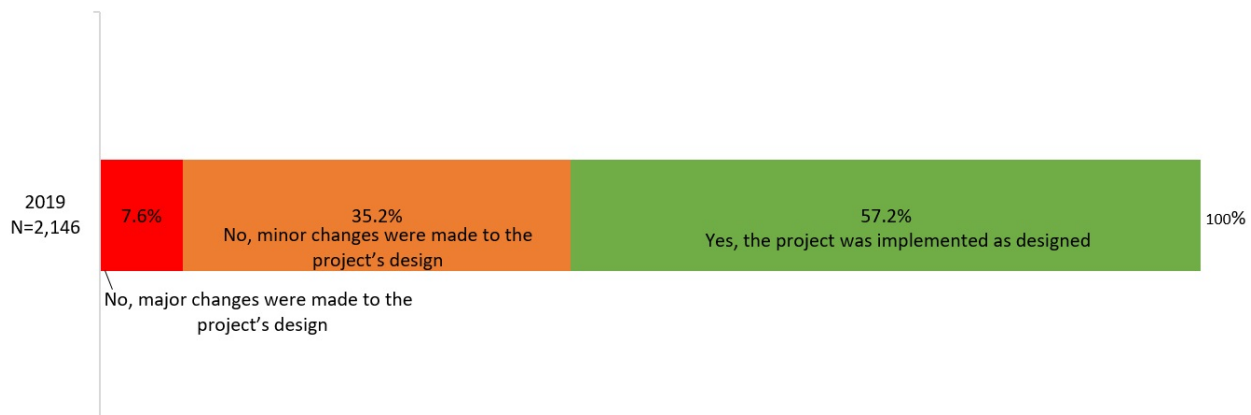
Source: Authors' analysis of the 2018 and 2019 statewide partner survey.

Abbreviations: Patient-Centered Medical Home (PCMH), Emergency Department (ED), Skilled Nursing Facility (SNF), Human Immunodeficiency Virus (HIV)

Notes: These are measured on a five-point scale, with 1=most effective and 5=least effective. * Fewer than 20 responses received

More than 90% of survey respondents reported that the project they worked on was implemented either as designed (57.2%) or with minor changes (35.2%); 7.6% said that major changes were made. (See Exhibit 4.7.4.1.ix).

Exhibit 4.7.4.1.ix. Was this project implemented as it was originally designed?



Source: Authors' analysis of the 2019 statewide partner survey.

4.7.4.2. Positive Perceptions of the DSRIP Program from Interviews and Focus Groups

Key informants from PPSs and focus group participants were also asked about their perceptions of DSRIP program outcomes. Consistent with the partner survey, most felt that the DSRIP program had laid a foundation for changes to the health care system.

Many study participants cited successes in five areas: (1) strengthened collaborations, (2) integration of primary care and behavioral health, (3) culture shifts, (4) innovation, and (5) training and infrastructure improvements.

Stronger and More Effective Collaborations

Stronger and more effective collaborations between providers led to improved care coordination and better care transitions. The development of new relationships between community-based organizations and health care providers afforded a greater ability to address a wider range of patient needs. Sections 4.4.1 and 4.7.2.1 include further discussion of collaborations.

Integration of Primary Care and Behavioral Health

Integration of primary care and behavioral health led to improvements in the quality of the care received in both areas. It reduced barriers to receiving behavioral health services, and increased the likelihood that behavioral health patients would receive primary care. There was an increased awareness of the connections between physical and behavioral health and a realization that these systems should not be segregated. See section 4.2.3 for further discussion of the DSRIP program's impact on the integration of primary care and behavioral health.

Cultural Shifts

Cultural shifts increased attention to population health and awareness of social determinants of health. Hospitals began devoting resources to reducing admissions, which was viewed as a significant paradigm change. Many practices became certified as patient-centered medical homes. In Section 4.4.1, these cultural shifts are discussed further.

Innovation

The DSRIP program encouraged partners to work on innovative programs, permitting them to experiment and pilot programs which may not have been attempted otherwise. The funding provided more flexibility and creativity than budgets typically allowed. While these programs were not necessarily transforming the entire delivery system, they filled important gaps and tested ideas for new interventions. Section 4.7.2.2 includes further discussion of this topic.

Training and Infrastructure Improvements

Some partners received opportunities to receive trainings and update data infrastructure that would not have occurred without the DSRIP program. This included value based payment preparedness activities. Sections 4.7.2.1, 4.7.2.5, 4.7.2.6, and 4.7.3 provide more information about these topics.

4.7.4.3. Less Positive Perspectives of the DSRIP Program from Interviews and Focus Groups

Not all key informants and focus group participants felt that the DSRIP program was effectively changing the health care system. They described five concerns: (1) insufficient time to make changes, (2) lack of partner buy-in, (3) difficulties with changing hospitals' practices, (4) limited engagement with managed care organizations, and (5) concerns among community-based organizations about demonstrating their value.

Not Enough Time to Make Changes

Many study participants did not think that five years was enough time to make a substantial difference in health care delivery because of all the system-level changes that needed to take place.

Much of this change is cultural, it's a culture shift. Five years, given that at the beginning we had to set up our own infrastructure, does not allow for much time left to get the work rolling and change made. This is a lot of significant change in terms of things outside our control: transportation, housing, regulatory bodies with different sets of rules and ideas, so that becomes very challenging for us. – 2018 PPS key informant

I do not think that in five years we are going to change all of the behavior, cultural and environmental constructs, political constructs, and financial constructs that enabled the way we have been delivering care for the last thirty years. – 2018 PPS key informant

Lack of Partner Buy-in

Some PPS key informants believed that a subset of providers were waiting for systems to go back to “business as usual” at the end of the DSRIP program. They felt that these providers were fulfilling their contractual obligations but not making fundamental changes to their service models.

DSRIP is a change management mission, trying to get health care organizations to change the way they do things, so some degree of resistance is inevitable. One of our biggest challenges has been, and will continue to be, that our partner organizations are entrenched in the ways that they do things, their culture; and their willingness to collaborate only goes so far. I think that is clear for our area in particular; we've got a lot of hospitals in our PPSs, all of them try to control their own destinies (understandably), and I think the work of DSRIP with the vision of the PPS forming some kind of integrated delivery system was potentially never fully supported by everybody that was signing on in the beginning. -2019 PPS key informant

Hospitals Not Fundamentally Changing

Some study participants questioned the amount of control hospitals had over the PPSs. They noted that hospitals remained incentivized to admit patients, which fundamentally conflicted with the goals of the DSRIP program.

Isn't it interesting that the hospitals are really leading the PPSs, leading the whole cause? And it's like they're doing things to put themselves out of business. We're building bigger ERs, we're, if you really think about it, it's kind of like you scratch your head and say, "Well, wait a minute, why isn't the CBOs leading it? And why are the hospitals leading it?" ... it kind of leads to why they kept so much of the money for themselves. But

like [one hospital], they're building a brand new ER. We're decreasing ER utilization by 25% [but] we're building a new ER. I don't know. – **2019 community-based organization focus group participant**

Lack of Engagement of Managed Care Organizations

Managed care organizations were perceived as integral to system transformation, but they had little participation in the DSRIP program.

I think the MCOs' engagement is important. I feel that DOH thinks they've been mandated to be engaged, but really having them at the table and having them outline what they would like to see from all different provider types would be most beneficial moving forward. – **2019 PPS key informant**

Community-based Organizations

Many community-based organizations remained unsure of how they would be able to demonstrate their value to negotiate value based contracts.

Our organization, we very strongly felt that [the PPS] definitely understood the value of the community-based partners. It was more along the lines of, "how we translate that to the value based payment?" I think our people understood our value in how we had an impact, but it's how those covered lives translate to our meaningfulness for [payers], and how to put us into the contract in a meaningful way. – **2019 community-based organization focus group participant**

5. Policy Implications

5.1. Interpretations of Conclusions

New York experienced statewide improvements in many areas targeted by the DSRIP program. This was largely driven by the efforts and accomplishments of the PPSs. Most PPSs experienced improvements in performance on multiple measures over the course of the DSRIP program. For any given measure, a subset of PPSs experienced substantial improvements. Statewide and PPS-level performance are discussed in more detail below.

5.1.1. Statewide Performance

Evidence from New York's performance on its Statewide Accountability Milestone (SWAM) 1 as determined by the Independent Assessor and the Independent Evaluator's analyses of DSRIP

program performance measures showed that New York has experienced statewide improvements in most areas targeted by the DSRIP program. Statewide Accountability Milestone 1 was comprised of 18 statewide measures spanning areas such as potentially avoidable hospitalizations, access to care, patient-centered medical home (PCMH) achievement, and system integration. The Independent Assessor has determined that New York has passed this milestone each year beginning in Demonstration Year (DY) 3 through the end of the program. In each of the years assessed, performance on the majority of the measures that comprise the milestone was maintained or improved compared to the prior year as well as compared to initial baseline performance.

The Independent Evaluator's analyses of statewide performance also showed that New York has made progress on many key areas emphasized by the DSRIP program, although the purpose and methods used differed from those used by the Independent Assessor for determining if statewide milestones were met.¹⁷⁷ New York experienced notable reductions (improvements) in the rates of potentially preventable admissions (PPAs) and potentially preventable readmissions (PPRs) during the DSRIP program period, meeting or coming close to meeting the goal of reducing avoidable hospital use by 25%. Between MY0 (baseline for the purposes of the Independent Evaluation) and MY5, the PPA and the PPR rates declined (improved) by 26.1% and 18.1%, respectively. Although the PPA measure was not in the original evaluation plan, it was examined to supplement the PPR measure because there is a higher frequency of PPA events than PPR events, and reducing PPA events was an important component of the DSRIP program's main goal of a 25% reduction in hospital use. On the hospital admissions continuum, PPRs are very low frequency events and tend to measure a narrower band of more specific hospital clinical breakdowns and follow up care. In contrast, PPAs are higher frequency events and tend to measure population health efforts more broadly and as such, better measure the impact of multi-provider/community level efforts to keep populations healthy and out of the hospital.

Potentially preventable emergency department visits (PPVs) did not show as much improvement during the DSRIP program period as PPAs and PPRs, declining (improving) by 3.5% between MY0 and MY5.¹⁷⁸ Smaller improvements in PPVs compared to PPAs and PPRs during the DSRIP program period may be due to external factors or unintended consequences of improvements seen elsewhere. Newly eligible and enrolled Medicaid members, such as the Affordable Care Act expansion population, may have been more likely to rely on emergency

¹⁷⁷ There were three main differences. First, for the purposes of assessment of SWAM 1 measures, the Independent Assessor defined "statewide" as all Medicaid members in New York eligible for the DSRIP program, whereas the Independent Evaluator defined the statewide population as members attributed to a PPS with the exception of the Domain 4 population health measures where statewide refers to all persons living in New York. Second, the Independent Assessor used MY1 as the baseline for all measures that began data collection in MY0 or MY1, and the Independent Evaluator used MY0 Month 12 for all regression analyses. Third, while many of the SWAM 1 measures were also examined by the Independent Evaluator, the evaluation also had a focus on two additional avoidable hospitalization measures and four behavioral health measures.

¹⁷⁸ Based on descriptive analysis of the percent change between MY0 and MY5.

departments for primary care if they were not previously connected to community-based providers. There may also have been an unintended “cascade effect” of potentially preventable event reductions. It is possible that reductions in PPAs and PPRs may have resulted in higher PPVs, if preventable emergency department visits which previously led to an inpatient admission (and were captured as a PPA or PPR), instead now resulted in a discharge from the emergency department and were counted as a PPV.

Descriptive analyses of statewide performance also showed improvement on multiple measures used to assess progress on health care delivery integration and health care coordination during the DSRIP program period, important indicators of system transformation. Patient-centered medical home achievement and both health information technology measures (participating agreements and bidirectional exchange) improved by at least 25%.¹⁷⁹

5.1.2. PPS-level Performance

Statewide Accountability Milestone 2, a composite measure of PPS project success, was met all three years in which the statewide milestones were applied by the Independent Assessor. The Independent Evaluator found that most PPSs experienced improvements on multiple measures between the beginning and end of the DSRIP program, with some PPSs experiencing especially large improvements, typically on measures with the most room for improvement (e.g., potentially preventable readmissions, health information technology). There were some measures for which PPS performance remained approximately steady, such as measures of access to care and primary care. Compared to other performance measures, PPSs’ baseline level of performance was high on most of the access to care and primary care measures and performance remained high over time. Small fluctuations in performance on these measures are likely random variation rather than meaningful changes. These observations are highlighted below for avoidable hospital utilization, behavioral health utilization, system transformation, and clinical management.

Avoidable Hospital Utilization

Twenty-three PPSs experienced reduced avoidable hospital admissions during the DSRIP program period and therefore improved on this measure. Reductions in avoidable hospital admissions between baseline and MY5 ranged from 6.5% to 46.8%, with 12 PPSs experiencing a reduction in avoidable admissions by 25% or more. Performing Provider Systems with the highest initial rates of avoidable admissions tended to experience the largest improvements.

Nearly all PPSs (22 of 25) also experienced reductions in avoidable hospital readmissions during the DSRIP program period and therefore improved on this measure. However, improvement

¹⁷⁹ For the two HIT measures, data were only available for MY2 through MY5. For the PCMH measure, data were available for MY1 through MY5.

across the 22 PPSs varied. Seven PPSs experienced reductions of 25% or more, including two PPSs that experienced total reductions of 49.3% and 60.0%.

Most of the PPSs that experienced the largest reductions in avoidable readmissions (as measured by percent change compared to baseline) were smaller PPSs, limiting their influence on the statewide average. Although large improvements among smaller PPSs may not have impacted the overall statewide average, they are important examples of success and for identifying promising practices that can be leveraged on a statewide basis, an objective of the New York DSRIP program. Many of the larger PPSs also experienced reductions in avoidable readmissions as measured by percent change compared to baseline, but by a smaller percentage than their smaller counterparts. Several of the larger PPSs that improved also had lower avoidable readmission rates at baseline, potentially making it challenging to substantially improve over the course of the DSRIP program. Variations in PPS improvements may have contributed to findings from the time series analysis that suggested that avoidable readmissions improved, but more slowly in the post-DSRIP program initiation period (MY2 through MY5) compared to the pre-DSRIP program initiation period. The findings were similar for avoidable emergency department visits, although improvements were smaller, and no differences were detected between the pre- and post-DSRIP program initiation periods in the interrupted time series models.

For both avoidable readmissions and emergency department visits, several PPSs experienced steady gains over one or more years, but annual reductions may have been slightly less than 10%. These are PPSs that would have contributed to overall statewide improvements but may not have been eligible for an incentive payment because their improvement did not meet the 10% gap to goal threshold required. Missing an incentive payment by a small percentage on a given measure may have a “chilling effect” on subsequent PPS performance efforts, if they determined that additional efforts would still not reach the threshold required for payment.

Behavioral Health Utilization

Integration of behavioral health and primary care, and improvement in behavioral health overall was an important emphasis of the New York DSRIP program. The majority of PPSs were experienced improvements in performance on behavioral health utilization measures, with the exception of initiation of alcohol or drug treatment, but improvement varied. For example, 18 PPSs experienced improved performance on the measure of children’s follow-up care for ADHD medications, but improvement varied from less than 1% to almost 24%. Improvements for the top quartile of PPSs that improved ranged from 10.0% to 23.9%. Similar to avoidable hospital readmissions, the largest improvements were among several of the smaller PPSs, limiting their influence on the overall statewide average, but providing a potentially important source for identifying “promising practices”. Statewide and PPS-level findings on these behavioral health measures should be interpreted cautiously. All of these measures experienced a notable increase in their denominators during MY1 and MY2, which may have had an impact on some of the performance measures.

System Transformation

Performing Provider Systems varied widely in their health information capabilities at baseline, with several PPSs having substantial room for improvement. In MY2 the percentage of providers in PPSs that had participating agreements with Qualified Entities ranged from 38.3% to 98.7%.¹⁸⁰ The majority of PPSs experienced improvements on this measure, with the six PPSs that started at the lowest levels at baseline experiencing the greatest improvement (between 33.7% and 110.7%). By MY5, the percentage of providers in PPSs who had participating agreements with Qualified Entities ranged from 72.2% to 100%. Large improvements were also seen for the percentage of providers who conducted bidirectional exchange with Qualified Entities.

The New York DSRIP program expected all primary care practices to meet National Committee for Quality Assurance (NCQA) Level 3 PCMH standards by DY3 and many PPSs provided assistance to help affiliated primary care providers achieve PCMH recognition. Variation across PPSs in the adoption of PCMH standards narrowed over time due to large improvements among PPSs that had the most room for improvement at baseline.

Clinical Management

Improvement in clinical processes and quality was reflected in PPS performance on several measures of clinical quality improvement related to chronic disease projects undertaken by PPSs. There were improvements across the DSRIP program period among 9 of the 10 PPSs that selected the diabetes projects¹⁸¹ and all 13 PPSs that selected the asthma projects. Fewer PPSs selected the HIV/AIDS project (1 PPS) and the perinatal project (4 PPSs), but some gains were also made in these areas. Similar to other measures, there was variation in performance on the clinical quality measures at baseline and how much PPSs improved over time. Performing Provider System performance on most of the cross-cutting measures used to assess aspects of care quality (e.g., health literacy, smoking cessation) started at relatively high levels of performance and high performance was maintained during the entire DSRIP program.

Examination of Variation in PPS Performance

The comparative analysis examined the association between seven PPS-level characteristics (size of attributed population, New Corporation (NewCo) status versus pre-existing lead entity, hospital system versus other lead entity type, geographic location, health status of members, racial composition of members, and average age of members) and performance outcomes. Comparative analyses were only performed for the measures used to assess preventable hospital utilization and behavioral health care service utilization. Findings were mixed for both

¹⁸⁰ MY2 was used as the baseline for the two health information technology measures because a different methodology was used for these measures in MY1.

¹⁸¹ For the diabetes control measure, data were only available for MY2 through MY5, no pre-DSRIP program initiation period data were available.

the avoidable hospitalization and behavioral health measures. Overall, none of the factors consistently explained differences in performance across PPSs. However, PPSs with healthier populations generally tended to have better outcomes, suggesting that risk adjustment may be appropriate when measuring performance of entities such as PPSs.

5.1.3. Cost

The cost analysis provided detailed information on how New York progressed in its efforts to reduce avoidable hospital use and focus on behavioral health care. Examining changes in expenditures by category allows for a nuanced view of specific services that had higher or lower utilization over time. The method to develop the cost data also allowed for an additional 12 months of pre-DSRIP data. Because the DSRIP program was not in place during the full twelve-month MY0 period, it was not possible to determine retroactively which members would have been enrolled in the DSRIP program and therefore the cost analysis focused on Medicaid members who would have been eligible for the DSRIP program.¹⁸²

Total annual expenditures per member per month (PMPM) increased by 1.9%, from \$465.83 PMPM in MY0 to \$474.81 in MY5; however, changes in expenditures varied across categories.¹⁸³ Inpatient and emergency department expenditures per member per month (PMPM) decreased by 11.9% and 8.4%, respectively, from MY0 to MY5. Although the declines in hospitalization expenditures were consistent with expectations that these would decrease, most of the decline was between MY0 and MY1, before full implementation of the DSRIP program, and the extent to which the declining hospitalization expenditures are attributable to the DSRIP program is inconclusive.

Primary care and behavioral health expenditures per member per month (PMPM) decreased by 4.6% and 3.7%, respectively, from MY0 to MY5. These expenditures initially had a notable decline from MY0 to MY1 followed by an increase in the last two years. The pattern of an initial decrease prior to the DSRIP program's implementation and reversal of the trend indicates modest support for expectations that expenditures for these services would increase. The health home category had a small absolute increase of \$2.28 PMPM, but it had a notable 62.5% increase which reflects state's efforts to expand this program. The largest share of the increase was attributable to the ambulatory care, pharmacy, and long-term care categories. With the exception of ambulatory care, the largest share of increases occurred in spending categories outside of the DSRIP program focus.

¹⁸² The performance measures used for the other research questions were limited to the *attributed* population, whereas the *eligible* population examined for the cost analysis includes both attributed and non-attributed members. The performance measures use 12-month moving averages, whereas the expenditure data reflect services delivered in a given month.

¹⁸³ Expenditures are inflation adjusted to 2019 dollars, which was the last year of the DSRIP program.

5.2. Impact of the New York State DSRIP Program within the New York State Delivery System

5.2.1. System Transformation and Collaborative Care

The New York DSRIP program took a comprehensive, multi-stakeholder approach to system transformation. The structure of the program, with coalitions of partners forming PPSs to work on a specific set of projects, necessitated collaboration and the breaking down of “silos” between a broad range of provider types, and investments in infrastructure development and capacity building (e.g., governance, technology, human resources). The DSRIP program has clearly served as a catalyst for changing the way providers and organizations think about and provide care to Medicaid members and to the population as a whole.

A clear theme that emerged from PPS key informant interviews and focus groups with partners is that the DSRIP program successfully increased collaboration between providers and organizations and allowed stakeholders to work together towards common goals. Notably, new collaborations were established between local providers and organizations across the continuum of care that had never worked together before, considered themselves competitors, or were previously mistrustful of each other. Increased collaboration and shared goals and accountability led to new ideas and brought communities closer together. As one PPS key informant noted, “We have made great strides with collaboration between organizations that without DSRIP would have never collaborated. We really pride ourselves on this; that we brought the community together.” This collaboration became a standard process which many PPSs and engaged partners expected to continue after the end of the DSRIP program.

The DSRIP program further helped break down silos between providers and organizations through shared accountability. Shared accountability, which many stakeholders viewed as a major step for the health care system, has improved provider connectedness, demonstrated the need for providers to work together to improve care for their patients, and helped prepare providers for value based payment. In particular, a majority of PPS key informants interviewed saw their new work with community-based organizations, many of which address the social determinants of health, as a vital change to the health care system. Community-based organizations that had previously not considered their organizations to be part of the health care system also began seeing their roles differently. In many cases, community-based organizations and traditional health care providers developed a common vocabulary and started to “look at the same picture from almost the same perspective.”

Consistent with increased collaboration and shared accountability, PPS key informants and focus group participants most often cited improved care transitions, the integration of primary care and behavioral health care, and encouragement of innovation as specific ways the DSRIP program transformed care. These were all goals of the DSRIP program and areas where PPSs showed large improvements on associated performance measures.

Performing Provider Systems' ability to improve collaboration among local providers and focus on "whole-person" care may best be demonstrated by their response to the COVID-19 pandemic. Near the end of the DSRIP program, the COVID-19 pandemic was spreading rapidly in New York. Due to the strong community collaborations developed through the DSRIP program, PPSs and their partners were able to mobilize and respond relatively quickly and effectively to the COVID-19 crisis; more quickly and effectively than would have been possible without the DSRIP program. The examples below show some of the local solutions that PPSs, in collaboration with their partners, undertook in response to the COVID-19 pandemic.¹⁸⁴

- Providing technology and support to providers and community-based organizations to convert from physical visits to telehealth service delivery including purchases of video-conferencing software licenses and tablets. Particular efforts were made to assure the provision of behavioral health (BH) and substance use disorder (SUD) services, as continued engagement is critical for BH and SUD patients who may be more vulnerable due to the stressors of social isolation.
- Leveraging population health data analytics to identify high-risk patients for time-sensitive outreach for converting their in-person visits to tele-visits.
- Building regional analytic platforms and models to anticipate the COVID-19 surge and assess local provider capacity.
- Advancing contracted performance payments to vital safety net partners to assist with cashflow and revenue loss in order to maintain health care access for Medicaid members.
- Bringing free COVID-19 antibody testing to immigrant communities through bilingual and tri-lingual sites to ease access and overcome cultural barriers. Multilingual telehealth provider appointments and informational hotlines were also implemented to assist during the pandemic.
- Redeploying non-clinical field staff, such as community health workers (CHWs) and Food Navigators, to conduct telephonic outreach screening to high risk patients for triaging to clinical providers. The outreach callers also screened for food insecurity as well as providing interaction to alleviate feelings of social isolation.
- Maintaining constant updates to regional communication clearinghouse and resource directories for the network partners of critical services such as food pantries, health insurance enrollment, and information such as legislative and regulatory updates.
- Regionally coordinating the purchase and/or aggregation/distribution of needed supplies (personal protective equipment (PPE), thermometers) for the provider network.
- Training of essential non-clinical workers in transportation and shelters on disinfection and safety protocols and use of PPE.

¹⁸⁴ New York State Department of Health, Office of Health Insurance Programs (2020, May). New York DSRIP 1115 Quarterly Report. January 1, 2020-March 31, 2020. Year 5, fourth quarter. Retrieved from: https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/quarterly_rpts/year5/q4/y5_q4_rpt.htm

- Collaborating with partners to create a comprehensive screening manual that provides guidance for homeless shelter facility hygiene and sanitation, as well as client screening and isolation procedures. The collaboration has developed support service teams and permanent housing resources for homeless individuals placed in hotels to reduce shelter census.

New York's DSRIP program funded and built an infrastructure and a performance-based reward structure that helped drive change and prepare providers and organizations for value based payments. Performing Provider Systems were key facilitators of change and the gains made in transforming New York's Medicaid delivery system may not have been possible without PPSs or a similar entity to act as the change agent. The PPSs were responsible for building infrastructure and capacity, improving clinical processes, and leveraging partnerships in their networks. In addition to building internal infrastructure and capacity to manage population health (e.g., developing clinical and claims handling capacities to share actionable information with partners), PPSs provided technical support, resources, and education to assist network providers achieve PCMH recognition, improve data sharing abilities, and prepare for value based payment. By the end of the DSRIP program, most PPSs had made substantial gains in the percentage of affiliated providers connecting with and exchanging data with Qualified Entities and the percentage of primary care providers in their network meeting PCMH requirements.

Additional efforts by New York supported DSRIP program efforts to transform the delivery system and were often well received by PPSs and their partners. The New York DSRIP program's STC required an annual Learning Symposium. Each year the NYS DOH brought together all PPSs in a statewide Learning Symposium for PPSs to share their progress, exchange ideas, and learn from each other and experts in the field. There was consensus from PPS leadership and administrators that these symposia were rich in content and information, and the face-to-face interactions with other PPS representatives were valuable for creating comradery and learning from each other. The NYS DOH also launched the Medicaid Accelerated eXchange (MAX) series, a rapid-cycle continuous improvement approach to support PPSs' efforts to address high utilizers and the integration of primary care and behavioral health. Similar to the annual Learning Symposium, PPSs found the MAX series to be helpful and effective at creating greater awareness of the social determinants of health; developing behavioral health innovations; serving as a resource for collaboration, workforce development, and education; and contributing to positive outcomes in patient care and reduction of emergency department visits.

New York's DSRIP program was ambitious, comprehensive, and complex. Any large, complex program is likely to encounter challenges when trying to reform a health care system that is equally complex, especially in the context of a five-year demonstration program. DSRIP program participants did experience several challenges along the way, such as accessing timely data and ensuring meaningful inclusion of community-based organizations, but were largely able to overcome these challenges through continuous feedback, frequent communication, and adjustments.

5.2.2. Sustainability

In New York, value based payment (guided by its Value Based Payment Roadmap¹⁸⁵) was meant as one of the pathways to sustain delivery system transformation efforts achieved through its DSRIP program. The New York DSRIP program was important for educating providers and organizations on the fundamentals of value based payment through the state's Value Based Payment University and technical support and resources provided to network partners by PPSs. Although PPSs were not value based payment contractors, the DSRIP program's use of upside risk to reward PPSs that met their performance targets was helpful for preparing providers to eventually accept downside risk. However, preparing to accept downside risk takes time. Some subsets of providers affiliated with PPSs may have been in a position to accept downside risk when the DSRIP program ended, but this was likely to be the case for larger medical providers and not smaller provider groups or community-based organizations. Value based efforts will need to continue, with a particular focus on ensuring that organizations focused on social and human service needs are not left out of value based contracts.

Given that value based payment takes time to mature, PPSs were required to put sustainability plans in place. In 2018 after the mid-point assessment time period and again in the summer of 2020, the NYS DOH sponsored a survey of PPSs to gain insights into their post-DSRIP program plans.¹⁸⁶ Performing Provider Systems responded that they were committed to sustaining the population health infrastructure built under the DSRIP program and ensuring that it is leveraged to support the goals of the DSRIP program in the future even after the end of the DSRIP program. At the time of the surveys, most PPSs expected that DSRIP program-built capacities would transition to a successor organization, although some elements may be maintained by a parent or partner organizations. At the time of the 2020 survey, PPSs were in the process of reorganizing or making plans to reorganize into one or more organizational models (e.g., Management Services Organizations/Administrative Services Organizations, Independent Practice Associations, Accountable Care Organizations) and developing plans to integrate, or align, population health management capabilities under these models. Sustainability plans, however, may have been impacted by the COVID-19 pandemic. The pandemic has put significant stress on the New York health care system and the financial impact on providers and organizations remains to be seen.

5.3. DSRIP Program Impacts on the Overall Health Care Environment

New York's DSRIP program specifically focused on transforming the health delivery system for Medicaid members, but has likely already had or will have positive spillover effects on the overall health care environment. Commercial insurers and the Medicare program are also

¹⁸⁵ New York State Department of Health, Medicaid Redesign Team (2015). A Path toward Value Based Payment: New York State Roadmap for Medicaid Payment Reform. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/vbp_reform.htm.

¹⁸⁶ New York State Department of Health. (2018, November 29). PPS sustainability survey (slide deck). Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/paop/meetings/2018/2018-11-29_sustainability.htm

moving towards population health management and alternative payment systems to achieve the Triple Aim. It is possible that some of the New York DSRIP program's most promising practices, such as those identified by the United Hospital Fund,¹⁸⁷ will be adopted outside of New York's Medicaid program. Providers and organizations that participated in the New York DSRIP program who care for persons outside of the Medicaid program are likely to have changed the way they perceive and deliver care to all persons, including, but not limited to Medicaid members.

However, the overall ability to transform health delivery and sustain changes in the Medicaid program and beyond may ultimately depend on provider payment reform. A common theme raised in key informant interviews and provider focus groups was the challenge of changing behavior in a still largely fee-for-service environment that incentivizes volume over value. Without widespread adoption of value based payment, it may be difficult to change and sustain change in the overall health care environment.

5.4. Key Lessons from the New York DSRIP Program: Leading the Way in System Transformation

New York's DSRIP program represented an ambitious effort to transform its Medicaid delivery system. Lessons learned from New York's experience and both the successes and challenges of its DSRIP program can be informative to the federal government and other states pursuing system transformation.

Bringing population health improvement to scale is challenging and requires time, effort, and preparation, with continuous feedback and adjustments.

Programs to bring population health improvement to scale are complex and challenging, especially in the context of a five-year demonstration program. It requires policymakers to determine how to sequence dollars in a way that provides flexibility yet ensures accountability. This is particularly challenging in the early stages, when infrastructure is being built as entities are also learning which activities drive outcomes. Early planning on the part of both policymakers and system transformation participants is needed to translate ideas into a concrete plan. New York's DSRIP program built in a planning year prior to the start of the first year of its DSRIP program (referred to as DY0). This year provided emerging PPSs with time for planning, assessment, and project development, yet still required PPSs to quickly pivot to implementation by the beginning of the first demonstration year. States must also decide how they will reward entities for the infrastructure building needed to create a local integrated delivery system. Rewarding the development of organizational components, the structure of

¹⁸⁷ Myers, N., Burke, G.C., Sharp, M., Gilman, M., Shearer, C. (2019, July) DSRIP promising practices: Strategies for meaningful change for New York Medicaid. Retrieved from <https://uhfnyc.org/publications/publication/dsrp-promising-practices/>

how to bring resources to individuals, and overall preparedness more broadly may be more appropriate in the capacity building stage than rewarding levels of specific individual inputs.

Even with careful planning, early implementation and operations are likely to encounter challenges, especially when under tight timelines. Early challenges can be overcome with clear and frequent communication and adequate support structures. Systemwide change also requires continuous feedback, and adjustments throughout the process when necessary. When using time-limited demonstration programs such as the DSRIP program to reform delivery systems, early sustainability planning is also important. States can begin making positive systemwide changes in a relatively short period of time, but to ensure that these reforms are maintained and continue to evolve, careful thought must be given to sustainability and may require multiple approaches for sustaining changes.

It is important to invest in a structure outside of the current delivery system that can focus solely on changing the status-quo and reform efforts.

Changing a health care system with deeply embedded interests and cultures is difficult, especially in a still largely fee-for-service environment that incentivizes volume over value and fragmented delivery of care. A structure and team outside of the current delivery system that focuses solely on systematic improvements through practice redesign and implementation of evidence-based care can be a much more effective change agent than the isolated efforts of individual providers and organizations. The goal is not to create another administrative layer, but to create and invest in a structure that can take on the day-to-day responsibility of driving change and supporting providers to make that change happen. In the case of the New York DSRIP program, PPSs served this role. The PPSs were responsible for building infrastructure and capacity, improving clinical processes, and strengthening and leveraging partnerships in their networks. One of the key successes of the New York DSRIP program was increasing collaborative, team-based care across providers to work towards a shared goal of reducing preventable hospitalizations. Many of the relationships built through the DSRIP program happened because there was a PPS team that could connect partners within their network and align efforts towards a common goal.

Attribution methods should align with the transformation goals. These methods can be complex, and care is needed to think prospectively about data infrastructure requirements. It is critical to strike the right balance between the complexity required for accurate member assignment and the simplicity needed to broadly communicate the methodology to all stakeholders.

Attribution is the method of assigning patients to providers and networks of providers who are accountable for their care. It is a foundational part of delivery system reform, especially when payments are tied to performance. There is no single accepted method for attribution, and all

methods have both strengths and limitations. In developing an attribution method, it is important to align the method of attribution with the overall goals of delivery system transformation. Attribution methods should support both accountability and resource allocation, which can be challenging and result in complex attribution algorithms.

New York attributed Medicaid individuals on the basis of geography, actual use of services, and enrollee-specific needs. New York recognized that some high-needs Medicaid members have close relationships with specialty providers and built that into its attribution algorithm. Therefore, when multiple PPSs were in a geographical area, individuals were attributed to PPSs based on a hierarchy of health care settings/providers where Medicaid members received most of their services. The hierarchy recognized the primacy of important patient-provider relationships such as those with behavioral health providers that were not traditionally recognized in attribution methodologies. By recognizing other providers, the methodology identified providers most accountable for patient care.

Attribution for *performance* in the New York DSRIP program refers to the approach used to assign Medicaid members to providers and their affiliated PPSs for the purpose of performance measurement.¹⁸⁸ Populations for performance measurement were not fixed and could change for several reasons, including patient movement, changes in patient utilization patterns, and network changes. From an evaluation and payment standpoint, shifting attribution may mask observed improvements among PPSs with sudden shifts in their attributed populations. If attribution for performance approaches similar to New York are used, risk adjustment may be necessary to account for differences in case-mix and the social needs of the population used to measure performance. Because of these challenges, states and other entities need to carefully consider the strengths and limitations of prospective and retrospective attribution methods and weigh them against the intended goals of the program.

Embracing meaningful patient-centered care is important, especially for the hardest-to-reach populations.

Patient-centered care is considered a critical aspect of quality and health system transformation. Recognizing the importance of patient-centered care to system transformation, the New York DSRIP program expected all primary care practices to meet 2014 National Committee for Quality Assurance (NCQA) Level 3 PCMH standards by the end of Demonstration Year 3. This was an important step towards building capacity and changing the system from

¹⁸⁸ New York's DSRIP program distinguished between attribution for valuation and attribution for performance. Attribution for valuation was used to assign Medicaid members, and in some cases the uninsured, to a PPS for the purpose of project valuation. It was calculated early in the program and did not change over time. Attribution for performance was used to assign Medicaid members to providers and their affiliated PPSs for the purpose of performance measurement.

provider-centric to patient-centric. New York DSRIP stakeholders also recognized that patient-centered care is more than simply meeting PCMH requirements. It is about embracing true culture change all along the continuum of care, and introducing models of care that reflect that focus. It is particularly important to identify and connect the hardest-to-treat populations with care, such as those with mental health conditions (e.g., schizophrenia, bipolar disorder, depression) and co-occurring chronic physical conditions (e.g., diabetes, heart disease). Ultimately, the goal should be bringing redesigned team-based care to patients and redesigning the care interface so that it's more patient-centric.

Early sustainability planning is necessary, especially if value based payment is meant to be a pathway to sustainability. It takes time for entities to organize in a way that allows them to assume risk and therefore it is also important to engage managed care organizations in population health management efforts.

Value based payment is the cornerstone of most current efforts to transform the delivery system. Recognizing this, New York undertook Medicaid payment reform in parallel to its DSRIP program, guided by its Value Based Payment Roadmap.^{189, 190} However, it takes time and resources for individuals or networks of health and social services providers to develop the understanding, infrastructure, and capacity to allow them to assume financial risk. The New York DSRIP program was important for educating providers and organizations on the fundamentals of value based payment. The upside risk built into the DSRIP program also helped in preparing providers and organizations to accept downside risk in the future.

For most PPS network providers, the DSRIP program was not long enough for them to readily assume downside financial risk by the end of the program. Therefore, it is important to engage managed care organizations early when undertaking system transformation efforts. System transformation may require managed care organizations to continue to hold most of the financial risk in the near term, with providers accepting progressively more risk over time to change the incentive towards outpatient care and avoiding unnecessary hospitalizations. Managed care organizations may be able to create flexible payment mechanisms to fund some of the most promising practices in system transformation and provide timely data to entities implementing them. By involving managed care organizations early in discussions around population health management and its related activities, managed care organizations and providers affiliated with PPSs or similar entities are more likely to see themselves as partners that share a common goal rather than competitors.

¹⁸⁹ New York State Department of Health, Medicaid Redesign Team (2015). A Path toward Value Based Payment: New York State Roadmap for Medicaid Payment Reform. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrp/vbp_reform.htm.

¹⁹⁰ New York's Medicaid payment reform required all Medicaid managed care organizations to shift 80-90% of provider payments from fee-for-service to value based payment arrangements by the end of the DSRIP program.

In moving towards value based payment approaches that align with system transformation efforts, it is also important to consider arrangements that support broad provider networks across the continuum of care, including community-based organizations that address the social determinants of health. Special efforts may be required to prepare and include community-based organizations in value based arrangements. New York's Value Based Payment Roadmap started laying the groundwork for broader networks of care by requiring certain value based payment arrangements to include social determinants of health interventions and contractual agreements with one or more community-based organizations that do not provide Medicaid-billable services.¹⁹¹ Medicaid programs looking to align value based payment arrangements with delivery system transformation should consider ways to engage community-based organizations more directly in value based payment contracting.

A performance-based reward structure that ties payment to both progress towards and attainment of objective performance is necessary to drive change.

In order to drive system change, performance-based reward structures that reward both process and outcomes can be useful for incentivizing change. Performance payments to PPSs in New York's DSRIP program were based on a mixture of Pay for Reporting and Pay for Performance. Pay for Reporting was useful for building early accountability, ensuring that PPSs were making progress towards infrastructure-building, and giving PPSs time to implement projects that would eventually transition to Pay for Performance.

When payments are tied to performance outcomes, it is important to reward both incremental improvement as well as attainment of goals. The New York DSRIP program set annual performance measure improvement targets using a methodology of reducing the gap to goal by 10% to earn the Achievement Value, which determined payment. New York's gap to goal approach did account for smaller gains in subsequent years as performance improved toward the end goal. However, PPSs were only rewarded if they met the annual performance targets; they were not rewarded for if the annual target was not met. This meant that PPSs that made significant annual or even multiple year improvements, but did not quite meet the 10% goal in a single year, were not rewarded for those achievements. Mechanisms to reward both attainment of performance targets and improvements can incentivize providers to continue improvement efforts and prevent providers from focusing only on areas where they are likely to meet performance targets. Additional incentives for sustained meaningful change should also be considered, such as looking at performance over multiple years rather than just annually. Similarly, steps may be necessary to reward providers for maintaining high performance on measures for which performance is already at the upper end of the

¹⁹¹ Specifically, New York required value based contractors (those entering into a value based payment arrangement with a Medicaid managed care organization) entering Level 2 (shared savings and loss) or Level 3 (capitated) arrangements to include at least one Tier 1 community-based organization. New York defines Tier 1 community-based organizations as non-profit, non-Medicaid billing community-based social and human services organizations.

measurement scale or to exclude performance goals where they have been consistently at high levels. Annual changes in performance levels for these measures are more likely to reflect random variation and not changes in actual performance.

Payment systems based on performance may also need to account for differences in case mix to avoid penalizing providers who may be caring for a patient population that is sicker than average or has greater social needs.

Data is central to population health models of care.

Population health models and value based payment arrangements require timely access to clinical, administrative, and financial data and the ability to share data across providers. States pursuing delivery system transformation must address multiple issues that influence providers' ability to obtain, analyze, use, and share data. Although steps taken to strengthen access to and use of data will depend on a state's existing infrastructure and regulatory framework, considerable capacity building efforts are required early on and are likely to evolve over time. Key decisions must be made to determine which data are most important, develop data structures, create data sharing standards and protocols, identify or develop useful data curation platforms, determine ways to integrate clinical and administrative data, and provide technical support to partners when needed. These decisions need to consider the state's regulatory and legal framework for privacy, which may require adaptation to meet evolving delivery system needs while at the same time protecting patient privacy.

Given the important but complex nature of health information technology and data, states also need to be prepared for the unexpected. Even with careful planning, unexpected issues will arise and will need to be addressed along the way. For example, New York recognized the importance of getting data to providers early in the DSRIP program and was able to provide claims and highly curated monthly updated gap to goal reports by performance measure to PPSs. However, during the demonstration period several issues arose in New York unrelated to the DSRIP program that had an impact on data used for the DSRIP program. For example, unforeseen cyber incidents across industries including health care caused New York to require new security safeguards for PPS and state Medicaid data that impacted the ability and extent of data-sharing. Another instance was a change in the Medicaid managed care encounter intake system (EIS) that occurred between the first two measurement years of the DSRIP program. This change affected how emergency department encounters were reported, which subsequently affected results of the potentially preventable emergency department visits measures. This required adjustments to the data to account for the changes and ensure that potentially preventable emergency department visits were calculated accurately.

There is a need for measures to evolve and to be more inclusive of social determinants of health.

Performance measures should align with the specific goals of system transformation. Ideally, measures will reflect the outcomes of care and not just processes of care, which may or may not be directly tied to outcomes. However, this requires additional work to expand the availability of valid and reliable outcome measures. Likewise, if the goal of delivery system transformation is to shift to “whole-person” care, including addressing the social determinants of health, there is a need to measure health and social well-being more broadly.

Recognize the need for local solutions.

Local health care providers and community-based organizations that deliver social and human services are most familiar with the needs of their local populations. Systemwide transformation should therefore recognize the need for local solutions and realize that a “one-size-fits-all” approach is unlikely to be successful. Incentives for local providers to integrate delivery and to engage in shared goals are important.

6. DSRIP Program Interaction with Other State Initiatives

6.1. Overview and Purpose

This section summarizes and examines the relationships between the Delivery System Reform Incentive Payment (DSRIP) program and major statewide health-related initiatives in New York State prior to and during the implementation of its DSRIP program. These include the broader Medicaid Redesign Team (MRT) waiver activities, which the DSRIP program was part of, along with several other programs.

Ten program categories that overlapped with the DSRIP program were identified through a review of the literature including government program documents; Performing Provider System (PPS) key informant interviews and partner surveys collected as part of the implementation and process component of the Independent Evaluation; and informal discussions with New York State experts.

These are:

- 1) Medicaid health homes to promote integrated care for persons with chronic diseases
- 2) Investment in access to providers and facilities, specifically the Vital Access Provider (VAP) grants, the Capital Restructuring Financing Program (CRFP), and the Essential Health Care Providers Support Program (EHCPSP)
- 3) The Value Based Payment Roadmap
- 4) Quality strategy and transitions in Medicaid managed care

- 5) The MRT Supportive Housing Initiative¹⁹²
- 6) The Patient Protection and Affordable Care Act (referred to as the Affordable Care Act) access expansions
- 7) The Affordable Care Act and Medicare Access and CHIP Reauthorization Act (MACRA) value based payment, Quality Payment Program, and alternative payment models
- 8) Programs supporting health information technology, including investments and infrastructure development via the Health Care Efficiency and Affordability Law (HEAL), the Federal-State Health Reform Plan (F-SHRP) Medicaid Section 1115 demonstration waiver, and the State Health Information Network for New York (SHIN-NY).
- 9) The Prevention Agenda 2013-2018, the state's health improvement plan for population health
- 10) The Ending the Epidemic (ETE) initiative to achieve the first-ever reduction in the prevalence of HIV and improve health among persons living with HIV

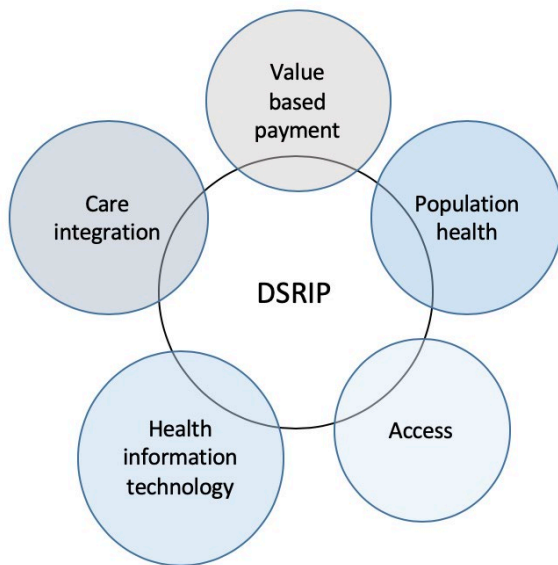
These 10 program categories fit into five key areas focused on the National Quality Strategy's Triple Aim by improving care, improving population health, and reducing costs:¹⁹³

- 1) Population health
- 2) Care integration
- 3) Health information technology
- 4) Value based payment
- 5) Access to care

¹⁹² The Medicaid Redesign Team (MRT) Supportive Housing Initiative is an umbrella program representing multiple housing models. Approaches include rental subsidies, support services and capital projects to develop new housing units. The MRT Supportive Housing Initiative serves different populations through the New York State Department of Health's Office of Health Insurance Programs and AIDS Institute, the New York State Office of Mental Health, the New York State Office of Alcoholism and Substance Abuse Services, the New York State Office for People with Developmental Disabilities, the New York State Office of Temporary and Disability Assistance, and New York State Homes and Community Renewal. A full list of MRT Supportive Housing Initiative programs are available at: https://www.health.ny.gov/health_care/medicaid/redesign/supportive_housing/programs.htm, and additional information is available from: https://www.health.ny.gov/health_care/medicaid/redesign/supportive_housing_initiatives.htm

¹⁹³ Agency for Healthcare Research and Quality (website). About the National Quality Strategy. Retrieved from <https://www.ahrq.gov/workingforquality/about/index.html>.

Exhibit 6.1.i. Diagram of the interaction between key program areas and the DSRIP program

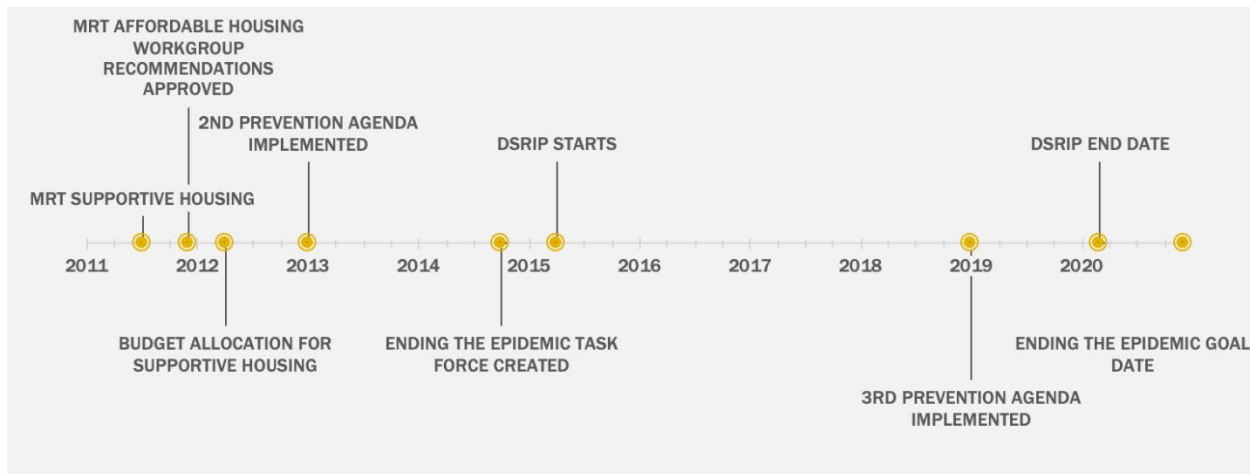


Source: Authors' synthesis of DSRIP program and related program documents, literature, and data collected for the analysis of the DSRIP program's implementation and process.

6.2. Population Health

The state had several initiatives to enhance population health and the social determinants of health (see Exhibit 6.2.i). Visible programs at the time of the DSRIP program's formulation were: The Prevention Agenda 2013-2018, the second version of the state's health improvement plan; the Ending the Epidemic initiative to "bend the curve" and achieve the first-ever reduction in the prevalence of HIV; and the MRT Supportive Housing Initiative. The importance of population health and the social determinants of health were also acknowledged by the MRT, and the DSRIP program's Domain 4 activities were closely aligned with the Prevention Agenda.

Exhibit 6.2.i. Timeline of programs aligned with population health from 2011 to 2020



Source: Authors’ synthesis of program documents, literature, and data collected for the analysis of the DSRIP program’s implementation and process.

6.2.1. Descriptions of Population Health Programs

6.2.1.1. New York State Prevention Agenda

New York has implemented several iterations of its “Prevention Agenda” state health improvement plan for population health. The DSRIP program was implemented during the Prevention Agenda 2013-2018, the second iteration of the blueprint and action plan for promoting health in five areas: preventing chronic illness; promoting a healthy and safe environment; improving health among women, infants, and children; promoting mental health and preventing substance use disorder; and preventing STD, HIV, vaccine-preventable illnesses, and healthcare acquired infections.¹⁹⁴ These action plans were linked to measures for success based on the Prevention Agenda’s core goals. The DSRIP program’s Domain 4 projects and performance measures aligned with the Prevention Agenda 2013-2018, excluding the environmental health area which was not modifiable by DSRIP program activities.

6.2.1.2. Ending the Epidemic Initiative

New York was the first in the nation to undertake an ambitious plan to bend the HIV prevalence curve through the Ending the Epidemic (ETE) initiative, starting at the end of 2014. The ETE included a three-point plan to: (1) identify people with undiagnosed HIV and link them to care; (2) maximize viral suppression among people living with HIV by linking them to and retaining them in care; and (3) facilitate access to pre-exposure prophylaxis (PrEP), a highly effective

¹⁹⁴ New York State Department of Health, Prevention Agenda 2013-2018: New York State’s Health Improvement Plan [website]. Retrieved from https://www.health.ny.gov/prevention/prevention_agenda/2013-2017/index.htm.

biomedical HIV prevention intervention for persons at high risk for infection.¹⁹⁵ Specific goals were to reduce annual new infections from 3,000 to 750, have fewer new infections than deaths (a mathematical definition of lowered prevalence), and reduce progression to AIDS by 50% by the end of 2020. In addition to numerous new and expanded programs in the areas of HIV prevention and care, the ETE Blueprint called for addressing other social, legislative, and structural barriers. At the time of the writing of this *preliminary* Summative Report, the ETE initiative is transitioning towards a new phase of further improvements and sustainability beyond the 2020 targets.¹⁹⁶

6.2.1.3. Medicaid Redesign Team Supportive Housing Initiative

The MRT included state funding to develop and support pilot programs for supportive housing among high-cost, high-need Medicaid members. There were several models employed, including rental subsidies and new construction of housing units. The MRT Supportive Housing Initiative started in 2012 prior to the DSRIP program's implementation, and was later used by health homes to facilitate stable housing for vulnerable, high-cost Medicaid members.¹⁹⁷

Supportive housing helps to address homelessness, complex health needs, substance use disorder, and involvement in the criminal justice system.¹⁹⁸ There is also evidence that housing instability results in poorer health outcomes and higher utilization of emergency room services, inpatient admissions, and health care costs.¹⁹⁹ Homeless populations also use fewer primary

¹⁹⁵ New York State Department of Health. 2015. Ending the Epidemic Blueprint. Retrieved from https://www.health.ny.gov/diseases/aids/ending_the_epidemic/docs/blueprint_summary.pdf.

¹⁹⁶ New York State Department of Health. Ending the AIDS Epidemic in New York State [website]. Retrieved from https://www.health.ny.gov/diseases/aids/ending_the_epidemic/.

¹⁹⁷ New York State Department of Health. Housing is Healthcare: Supportive Housing Evaluation [website]. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/supportive_housing/evaluation.htm.

¹⁹⁸ Culhane D.P., Metraux S., Hadley T. (2002). Public service reductions associated with placement of homeless persons with severe mental illness in supportive housing. *Housing Policy Debate*, 13:228-244; Larimer M.E., Malone D.K., Garner M.D., Atkins D.C., Burlingham B., Lonczak H.S., et al. (2009). Health care and public service use and costs before and after provision of housing for chronically homeless persons with severe alcohol problems. *JAMA*, 301(13):1349-1357; Padgett D.K., Stanhope V., Henwood B.F., Stefancic A. (2011). Substance use outcomes among homeless clients with serious mental illness: Comparing Housing First with Treatment First programs. *Community Mental Health Journal*, 47(2):227-232.

¹⁹⁹ Wright B.J., Vartanian K.B., Li H.F., Royal J., Matson J.K. (2016). Formerly homeless people had lower overall health care expenditures after moving into supportive housing. *Health Affairs*, 35(1): 20-27; Chambers C., Chiu S., Katic M., Kiss A., Redelmeier D.A., Levinson W., et al. (2013). High utilizers of emergency health services in a population-based cohort of homeless adults. *American Journal of Public Health*, 103:S302-S310; Kushel M.B., Perry S., Bangsberg D., Clark R., Moss A.R. (2002). Emergency department use among the homeless and marginally housed: Results from a community-based study. *American Journal of Public Health*, 92(5):778-784; Kushel M.B., Vittinghoff E., Haas J.S. (2001). Factors associated with health care utilization of homeless persons. *JAMA*. 285(2):200-206; Sadowski L.S., Kee R.A., VanderWeele T.J., Buchanan D. (2009). Effect of a housing and case management program on emergency department visits and hospitalizations among chronically ill homeless adults: A randomized trial. *JAMA*, 301(17): 1171-1178.

care services, which are important to managing high-cost, high-need Medicaid members through health home and outpatient practices or clinics within DSRIP program PPS networks.

As of May 2017, an independent evaluation of the MRT Supportive Housing Initiative found a 40% reduction in hospital inpatient days, 26% reduction in emergency department visits, 44% reduction in inpatient rehabilitation admissions, and 27% reduction in inpatient psychiatric admissions. The program was responsible for a 15% reduction in Medicaid costs over one year.²⁰⁰

6.2.2. Interactions Between the DSRIP Program and Population Health Programs

The 2013-2018 Prevention Agenda's measures were adopted by the New York DSRIP program. The Prevention Agenda elements and measures were included as the Domain 4 projects and measures, except for environmental health, which is not modifiable by the DSRIP program. Overall progress on the Prevention Agenda set the stage for DSRIP program progress at the community level and in some cases, the provider level.

The 2019 partner survey asked respondents to identify other health care initiatives they believed affected the DSRIP program and comment on how the initiative affected the DSRIP program. Thirteen partner respondents identified the Prevention Agenda as one such initiative, with the majority of these respondents having a positive perception of the effect of the Prevention Agenda on the DSRIP program. Respondents noted that aligning the population health components of the DSRIP program with the Prevention Agenda provided an opportunity to engage in more prevention oriented public health programming in partnership with community-based organizations. One PPS partner survey respondent mentioned that the DSRIP program facilitated a focus on a collaborative rather than siloed approach. However, this sentiment was not uniform, as another PPS partner survey respondent indicated that the Prevention Agenda objectives were very different from DSRIP program objectives and added another layer of difficulty to performance improvement.

Among respondents to the PPS key informant interviews, several PPSs reported that the Prevention Agenda aligned well with their DSRIP program goals, by providing a blueprint for population health and allowing PPSs to work with local community-based organizations or public health collaborators. One PPS key informant indicated that the Prevention Agenda was aligned with their mission and provided a useful blueprint, but because resources related to the Prevention Agenda and population health generally flow from the state to counties, cities and localities, there was no significant direct benefit for the PPS. It seems that the integration of local health departments varied by PPS, and in some cases meaningful interaction did occur that aligned with DSRIP program and Prevention Agenda goals.

²⁰⁰ McGinnis S., Polvere L., Smith D., Dewar D. (2017). Medicaid Redesign Team Supportive Housing Evaluation: Utilization Report 1. Center for Human Services Research, University at Albany, State University of New York. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/2017/docs/2017-05_utilization_rpt.pdf.

The hospitals and providers engaged in the ETE initiative overlapped with PPS networks and the DSRIP program's Domain 3 clinical improvement metrics of engagement in HIV care and viral load suppression also focused on HIV/AIDS in a way that aligns with the ETE initiative, although only one PPS selected the HIV/AIDS project. That PPS, New York-Presbyterian, was able to leverage the DSRIP program to strengthen its current HIV/AIDS programs and make substantial progress related to the ETE and DSRIP program goals.²⁰¹

Special Needs Health Plans in Medicaid that focused on HIV/AIDS were able to support ETE by working with DSRIP program PPSs to coordinate care with Designated AIDS Centers and support investments to meet Domain 3 goals and broader population health goals related to HIV/AIDS by engaging with patients to link existing patients to appropriate care and improve viral suppression.

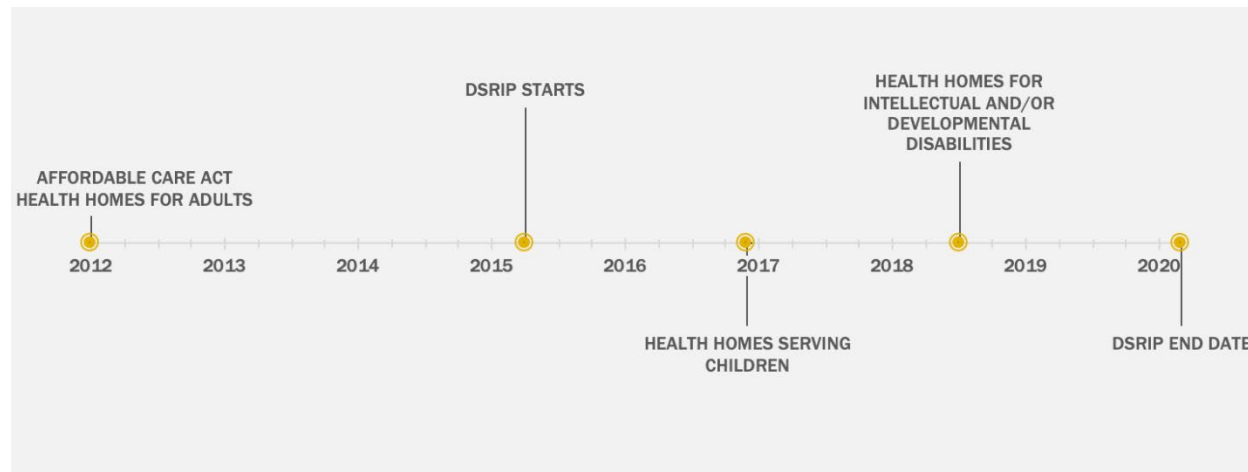
Partner survey respondents and PPS key informants did not mention the MRT Supportive Housing Initiative explicitly. However, PPSs were very aware of the Medicaid health homes initiative which worked closely with the supportive housing initiatives. Health homes that were part of PPS networks, appeared to be an entry-point for chronically ill, high-risk, high-need individuals, which facilitated connections to components of the larger Medicaid program like supportive housing resources. More discussion follows in Section 6.3.

6.3. Care Integration

Care integration was a significant component of health reforms in New York over the past decade, both from the MRT and other state programs (see Exhibit 6.3.i).

²⁰¹ Myers N., Burke G.C., Sharp M., Gilman M., Shearer C. (2019). DSRIP Promising Practices: Strategies for Meaningful Change for New York Medicaid. United Hospital Fund: New York, NY. Retrieved from https://uhfnyc.org/media/filer_public/42/39/4239177f-a7a8-4444-885b-5116be998f33/dsrp_promisingpractices_20190716_web.pdf.

Exhibit 6.3.i. Timeline of programs aligned with care integration from 2012 to 2020



Source: Authors' synthesis of program documents, literature, and data collected for the analysis of the DSRIP program's implementation and process.

6.3.1. Descriptions of Care Integration Programs

6.3.1.1. Health Homes

Several health home programs were ongoing in New York between 2012 and 2020, which overlapped with the timing of the DSRIP program (2015-2020). The Medicaid Health Homes Initiative (Section 2703 of the Affordable Care Act) provided additional matching funds for health home-related activities.²⁰² This program was adopted in New York as a State Plan Amendment in 2012, rather than as part of the MRT waiver activities. The Medicaid health home model focused on adults with two or more chronic conditions, or a single qualifying chronic condition (for adults the qualifying conditions were HIV/AIDS or serious mental illness). This Affordable Care Act-based approach is more focused on comprehensive care management for a subset of the population and provides additional services to support health home models. The Affordable Care Act does not require Medicaid health homes to be certified or accredited as National Committee for Quality Assurance (NCQA) Patient-Centered Medical Homes (PCMH), but New York supported its own customized PCMH program to support providers' efforts to become NCQA recognized, separate from the Affordable Care Act's Medicaid health homes initiative.²⁰³ In addition, Federally Qualified Health Centers (FQHC) in New York were active in the Advanced Primary Care Practice initiative run by the Center for Medicare and Medicaid

²⁰² Ormond B., Richardson E., Spillman B., Feder J. (2014). Health Homes in Medicaid: The Promise and the Challenge. Urban Institute: Washington, DC. Retrieved from <https://www.urban.org/sites/default/files/publication/32541/413032-Health-Homes-in-Medicaid-The-Promise-and-the-Challenge.PDF>.

²⁰³ New York State Patient-Centered Medical Home (NYS PCMH) Recognition Program [website]. <https://www.ncqa.org/programs/health-care-providers-practices/state-and-government-recognition/nys-patient-centered-medical-home/>.

Services (CMS) Innovation Center.²⁰⁴ Federally Qualified Health Centers in New York and seven other states provided reimbursement to support PCMH activities among Medicare beneficiaries and to become NCQA certified. Primary care providers who participated in the DSRIP program were required to obtain Level 3 NCQA PCMH recognition by the end of DY3 (March 31, 2018). However, the proportion of FQHC patients in New York state who have Medicare (13.07%) is substantially lower than the share with Medicaid or CHIP coverage (58.37%).²⁰⁵ This suggests that Medicaid members receiving care through FQHCs could benefit from the investments made by Medicare to support FQHC PCMH certification.

In 2016, New York's health home initiative added sites that were child-focused and health homes for persons with intellectual or developmental disabilities were added in 2018. These were designed to address specific populations, unlike the Affordable Care Act's Medicaid health homes program, and was aligned with the DSRIP program's support for specific populations. Overall, New York has invested substantially in care management. This investment is likely to have improved patient experiences and quality of life, but any resulting reductions in hospital admissions may not have been enough to offset the investment.

6.3.1.2. Joint Committee Efforts to Integrate Primary Care and Behavioral Health

The New York State Public Health and Health Planning Council convened joint meetings of two separate committees during 2016 to promote integration of primary care and behavioral health. The two committees were the Health Planning Committee and Public Health Committee. They were tasked with providing an overview, documenting progress, and making recommendations to "facilitate the integration of primary care and behavioral health services and promote local collaboration of primary care providers, public health leaders and other stakeholders to act on broad determinants of health in their communities."²⁰⁶ The joint committee identified a need to align the mental health and substance use disorder priorities in the Prevention Agenda, behavioral health PPS projects in the DSRIP program, and the core measures around behavioral health in the State Innovation Model's Advanced Primary Care model.²⁰⁷ The joint committee found that several existing state programs and initiatives focused on prevention, and that facilitating their continued supportive services within

²⁰⁴ Centers for Medicare and Medicaid Services (CMS). Multi-Payer Advanced Primary Care Practice [website]. Retrieved from <https://innovation.cms.gov/innovation-models/multi-payer-advanced-primary-care-practice>.

²⁰⁵ U.S. Health Resources and Services Administration. (2019). Health Center Program Data. Retrieved from <https://data.hrsa.gov/tools/data-reporting/program-data?type=AWARDEE>.

²⁰⁶ New York State Department of Health. (2016). Working to Achieve the Triple Aim: New York State Health Reform Activities to Promote Integration of Primary Care and Behavioral Health and Action by Primary Care and Public Health to Address Broad Determinants of Health [slide deck]. Retrieved from https://www.health.ny.gov/facilities/public_health_and_health_planning_council/meetings/2016-12-08/docs/tripple_aim.pdf.

²⁰⁷ New York State Department of Health. (2015). New York State's Advanced Primary Care Model Frequently Asked Questions. Retrieved from https://www.health.ny.gov/technology/innovation_plan_initiative/docs/advanced_primary_care_faqs.pdf.

communities could support the integration of behavioral health and primary care. They also found that new community partnerships between PPSs and Population Health Improvement Programs played a role in addressing the social determinants of health.

The joint committee made recommendations to the NYS DOH, the NYS Office of Mental Health, and the NYS Office of Alcoholism and Substance Abuse Services to help with integration of activities. Meetings began in July 2016, and recommendations were issued in December 2016. The recommendations focused on areas where the DSRIP program aligned and could be integrated with other programs and initiatives, although the DSRIP program's development and PPS implementation pre-dated the meetings and recommendations. The recommendations were: (1) promote partnerships among a broad range of community stakeholders to address the determinants of health; (2) issue additional guidance on information sharing in dually licensed sites due to federal record-keeping requirements; (3) seek additional opportunities to make population health data available to providers and entities participating in community partnerships; (4) Make data available in real time for smaller geographic areas; (5) consider options for expansion of telehealth parity and reimbursement of telehealth services; (6) work to align regulations to promote consistency and use of telehealth to address access barriers; (7) look for opportunities to promote integration of behavioral and physical health care, or incorporate services that address social determinants into primary care; (8) recognize that implementation of value based payment and DSRIP program goals requires addressing social determinants of health in collaboration with community-based organizations; and (9) reimbursement to connect patients with social support services and programs to address their social needs outside of the clinical setting.¹⁶ These recommendations were based on a set of broader goals and needs, but aligned with the DSRIP program's focus on integrating primary care, behavioral health, and addressing the social determinants of health to achieve the Triple Aim.

6.3.2. Interactions Between the DSRIP Program and Care Integration Programs

Health homes were one of the most relevant existing initiatives to the DSRIP program and its goals of care integration, as the health home efforts to coordinate care dating back to 2012 were aligned with PPSs' interests in reducing avoidable hospitalizations and emergency room visits, and ensuring continuity of care.²⁰⁸ Health home partners in PPS networks were also able to leverage relationships and knowledge of other resources, such as the MRT Supportive Housing Initiative and local community-based organizations. While some PPS key informants stated that health homes were closely linked with and integrated into PPS networks, others noted there were a lack of formal incentives for health homes to work with PPSs, creating further silos. As a result, some PPSs were able to successfully partner with health homes and coordinate health home services for their patients, while others had a harder time due to the

²⁰⁸ Myers N., Burke G.C., Sharp M., Gilman M., Shearer C. (2019). DSRIP Promising Practices: Strategies for Meaningful Change for New York Medicaid. United Hospital Fund: New York, NY. Retrieved from https://uhfnyc.org/media/filer_public/42/39/4239177f-a7a8-4444-885b-5116be998f33/dsrrip_promisingpractices_20190716_web.pdf.

lack of incentives for health homes to partner with PPSs. Due to the efforts around PCMH implementation, there were positive spillover effects that impacted FQHC partners and health home partners who were part of a PPS.

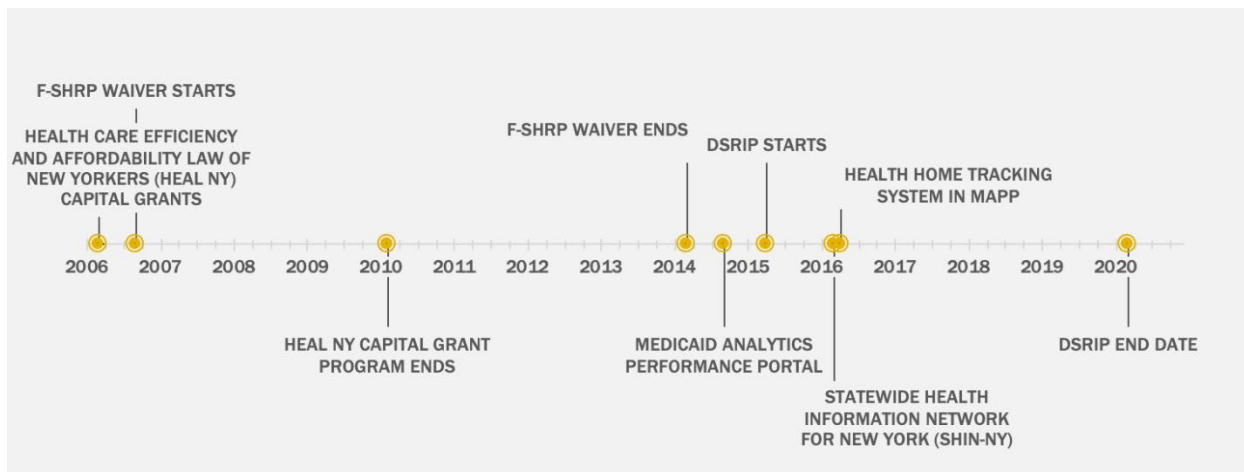
The health home programs were able to leverage the MRT Supportive Housing Initiative. The PPSs that closely collaborated with health homes also benefitted from housing referrals and linkages. Because the MRT Supportive Housing Initiative and Medicaid health homes initiative began in 2012, an early effort to coordinate care and leverage housing supports to address behavioral health and chronic illness had begun even before the DSRIP program was implemented. This is an area where the population health and care integration efforts in the DSRIP program overlapped and aligned with both MRT (Supportive Housing Initiative) and non-MRT (health homes) efforts.

A significant proportion of partner surveys indicated overlap between the DSRIP program and health homes. They indicated that the coordination between health homes and PPSs allowed for the provision of a broader set of services. The care management services provided by health homes paralleled the outcomes associated with DSRIP program projects, and provided additional resources and reimbursement for critical navigation services. However, some PPS partner survey respondents were less positive, suggesting that health homes had long waiting lists, and provided less support as the program was stretched to capacity. Another partner survey respondent felt that the health home and DSRIP programs were redundant.

6.4. Programs Supporting Health Information Technology

Several health information technology investments made by New York in the years before the DSRIP program was developed supported implementation of the DSRIP program by: (1) facilitating quality and performance measurement, and (2) providing data to providers within PPS networks to better manage their patients' health care needs (see Exhibit 6.4.i). These investments pre-dated the DSRIP program and the MRT waiver by almost a decade – with initial investments occurring through the Health Care Efficiency and Affordability Law (HEAL) Capital Grants and the Federal-State Health Reform Plan (F-SHRP) waiver in 2006.

Exhibit 6.4.i. Timeline of programs aligned with health information technology from 2006 to 2020



Source: Authors' synthesis of program documents, literature, and data collected for the analysis of the DSRIP program's implementation and process.

6.4.1. Description of Health Information Technology (HIT) Connectivity and the State Health Information Network for New York (SHIN-NY)

Early investments in health information technology in New York from HEAL capital grants and F-SHRP waiver funds facilitated the creation of Qualified Entities (previously known as Regional Health Information Organizations) to conduct health information exchange. The State Health Information Network for New York (SHIN-NY)'s development in 2016 was supported through a decade of policy changes (e.g., Health Information Technology for Economic and Clinical Health (HITECH) Act), regulations, and investments to support electronic health record adoption and data sharing. The HEAL and F-SHRP funds were the building blocks for current health information technology capacity. The New York DSRIP program was predicated on having strong health information technology infrastructure to support PPSs' relationships with network providers, stakeholders, Medicaid managed care plans, and public health entities. The PPSs facilitated opportunities for community providers (e.g., primary care physicians, skilled nursing facilities) to obtain electronic health records and meaningful use incentives funded by the HITECH Act. In addition, the creation of the Medicaid Analytics Performance Portal (MAPP) in 2014, initially developed to support health homes, was fundamental to the implementation of the DSRIP program and the ability of PPS partners to share data, coordinate with their attributed members' health plans, and participate in performance improvement and quality reporting activities.

6.4.2. Interactions Between the DSRIP Program and Health Information Technology Activities

The SHIN-NY set up Qualified Entities to enable data sharing and integration among New York providers. This was leveraged by PPSs and their partners. The MAPP pre-dates the SHIN-NY and was originally developed to support the health homes and then the DSRIP program. It allowed PPSs and health homes to engage in patient-centered coordination and care integration across providers via data sharing, monitoring, and reporting. The MAPP supported both PPSs and health home program operations and efforts to coordinate care. The MAPP relies on the Medicaid Data Warehouse and other data systems to generate information for use by the PPSs and health homes. In June of 2015 when PPSs obtained access to the MAPP, they were able to obtain information on their provider networks, member rosters, attribution for valuation and performance, and later gained access to the performance dashboard and other features. The MAPP provided online tools to support the ability of PPSs and health homes to deliver care management functions, and support data management and analytics.²⁰⁹ In 2016, the PPS dashboards allowed views of their members who were in health homes, managed care plans, and assigned primary care physicians. This information sharing enabled them to help improve provider performance. Similarly, the New York State Office of Mental Health facilitates quality improvement and clinical decision-making by PPS providers via access to administrative data on Medicaid members with a mental health service, diagnosis, or psychotropic medication through the Psychiatric Services and Clinical Knowledge Enhancement System (PSYCKES).²¹⁰

The SHIN-NY is expected to continue to support performance-based contracting, patient-centered care, value based payment, patient engagement, and population health.²¹¹

6.5. Value Based Payment

The DSRIP program was well-aligned with initiatives around value based payment, given the focus on data capacity, measurement, and payment reform (see Exhibit 6.5.i). New York's Value Based Payment Roadmap²¹² attempted to align the MRT activities with the broader changes occurring in the health care system related to health reform, alternative payment models, and Medicare payment for physicians. Value based payment, guided by the Value Based Roadmap, was meant as one of the pathways to sustain the New York DSRIP program's delivery system transformation efforts. While PPSs were not value based payment contractors, state value

²⁰⁹ Medicaid Analytics Performance Portal (MAPP) 101 Webinar. (June 2015). Retrieved from <https://www.youtube.com/watch?v=sZJ8JSIn80&feature=youtu.be>.

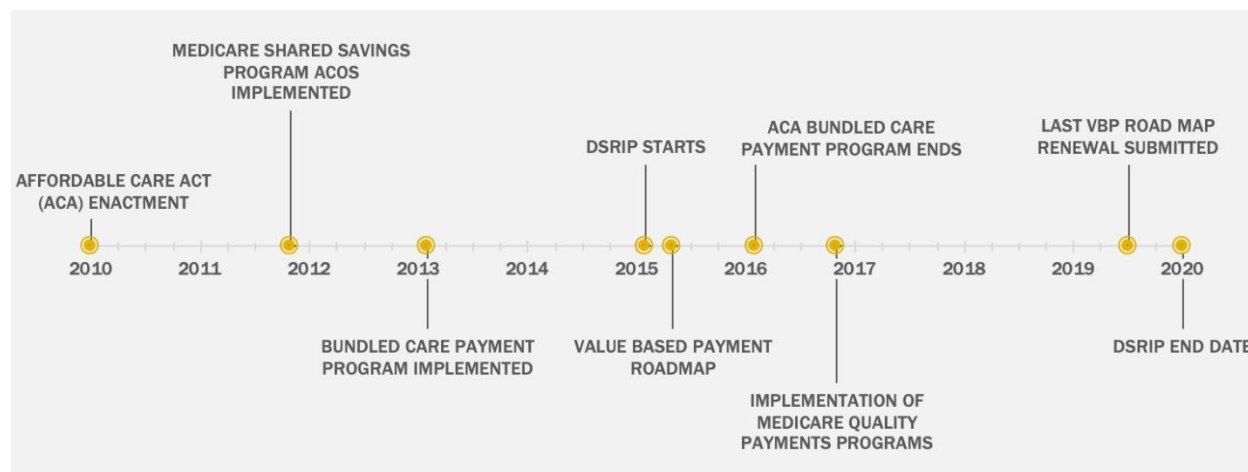
²¹⁰ About the Psychiatric Services and Clinical Knowledge Enhancement System (PSYCKES). Retrieved from https://omh.ny.gov/omhweb/psyckes_medicaid/about/.

²¹¹ New York eHealth Collaborative. (2020). 2020 Roadmap: Improving Health in our Communities. Retrieved from https://www.nyehealth.org/nyec16/wp-content/uploads/2017/07/SHIN-NY-2020-Roadmap_July-2017.pdf.

²¹² New York State Department of Health. A Path toward Value Based Payment: Annual Update (June 2018: Year 4). Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrrip/vbp_library/2018/docs/2018-06_final_vbp_roadmap.pdf.

based payment reforms were aligned with PPS provider incentives around Pay for Performance. Many PPSs encouraged providers in their networks to participate in value based payment trainings and provided additional education and resources to help prepare providers for value based payment.²¹³

Exhibit 6.5.i. Timeline of programs aligned with value based payment from 2010 to 2020



Source: Authors’ synthesis of program documents, literature, and data collected for the analysis of the DSRIP program’s implementation and process.

6.5.1. Descriptions of Value Based Payment Programs

6.5.1.1. Value Based Payment Roadmap

The Value Based Payment Roadmap was created in mid-2015 as the DSRIP program was being implemented. The Value Based Payment Roadmap was a required component of the DSRIP program to “ensure the long term sustainability of the DSRIP investments in the waiver.”²¹⁴ The multi-year roadmap was designed to support DSRIP program system transformation efforts and New York’s goal that 80% of Medicaid managed care payments would be value based by the end of the DSRIP program, while aligning payment reform in New York with federal efforts. The state’s value based payment efforts included comprehensive training workshops and other educational materials to help providers develop a better understanding of topics such as shared savings and risk-based contracting, and how value based payment would align with their interests to deliver value based care for multiple payers.²¹⁵

²¹³ WMCHHealth. Value Based Payment Reform. Retrieved from <http://www.crho-ny.org/center-for-regional-healthcare-innovation/vbp>; Staten Island PPS Value Based Payments Resource Center. Retrieved from <https://www.statenislandpps.org/value-based-payment/>.

²¹⁴ New York State Department of Health. DSRIP – Value Based Payment Reform (VBP) [website]. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrp/vbp_reform.htm.

²¹⁵ New York State Department of Health. (2018). A Path toward Value Based Payment: Annual Update June 2018 Year 4. New York State Roadmap for Medicaid Payment Reform. Retrieved from

6.5.1.2. Quality Strategy and Transitions in Medicaid Managed Care

Over the past 20 years, New York State has transitioned multiple populations including children, adults, adults with significant behavioral health needs, disabilities, and other subpopulations into managed care plans. These transitions included Health and Recovery Plans for members with substance use disorders, Managed Long-term Care plans, Medicaid Advantage, Medicare and Medicaid Dual-Eligible Special Needs Plans, and Intellectual and Developmental Disabilities Managed Care.

The various managed care options in certain New York counties aligned with the DSRIP program's attribution logic. The DSRIP program used an attribution algorithm based on historical claims and "swim lanes" for specific populations (behavioral health, development disability and long-term care) to match members with a specific PPS.

6.5.1.3. Affordable Care Act and Medicare Access and CHIP Reauthorization Act

Several payment reforms for physicians and hospitals were encouraged or required by commercial payers and Medicare through the Affordable Care Act and the Medicare Access and CHIP Reauthorization Act (MACRA). These reforms occurred in parallel with the DSRIP program and could have had spillover effects on safety net providers and Medicaid members. The Affordable Care Act included provisions to engage in value based payment with hospitals and other facilities via Accountable Care Organization arrangements, implementation of hospital readmission penalties, and payment incentives based on hospital quality indicators.²¹⁶ These programs were implemented from 2011 to 2014 prior to the Affordable Care Act's insurance expansions. However, physician payment in Medicare was not included in the Affordable Care Act and was addressed later in 2015 via MACRA.²¹⁷ The Quality Payments Program included in MACRA altered Medicare physician reimbursement and encouraged performance improvement by fee-for-service providers or alignment with alternative payment models in Medicare. Accountable Care Organization arrangements have been adopted broadly in commercial insurance and Medicare to integrate care and use risk-based contracting, while less movement toward Accountable Care Organizations has occurred in the Medicaid program.²¹⁸

https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/vbp_library/2018/docs/2018-06_final_vbp_roadmap.pdf.

²¹⁶ Seshamani M., Sen A.P. (2018). Moving Toward High-Value Health Care: Integrating Delivery System Reform into 2020 Policy Proposals. Commonwealth Fund: New York, NY. Retrieved from <https://www.commonwealthfund.org/publications/issue-briefs/2018/nov/high-value-care-delivery-system-reform-2020>.

²¹⁷ Centers for Medicare and Medicaid Services (CMS). MACRA [website]. Retrieved from <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-MIPS-and-APMs>.

²¹⁸ Muhlestein D., Bleser W.K., Saunders R.S., Richards R., Singletary E., McClellan M.B. (2019). Spread of ACOs and Value-Based Payment Models in 2019: Gauging the Impact of Pathways to Success. *Health Affairs Blog*. Retrieved from <https://www.healthaffairs.org/doi/10.1377/hblog20191020.962600/full/>.

6.5.2. Interactions between the DSRIP Program and Value Based Payment Activities

There are concerns that public hospitals, non-profit safety net providers, Medicaid contracted providers, and physicians located in underserved areas are “left out” of movements toward value based payment in Medicare and commercial insurance.²¹⁹ Initiatives in the Affordable Care Act (such as Medicare Shared Savings Program Accountable Care Organizations and Bundled Payments for Care Improvement) and the MACRA’s Quality Payment Program focus on Medicare, rather than on Medicaid. The Value Based Payment Roadmap and the approach in the New York State Medicaid program were developed to ensure Medicaid providers, including those participating in the DSRIP program, were incentivized and prepared to move toward value based payment. The DSRIP program used incentives that were aligned with broader national goals to move toward value based payment to achieve the Triple Aim. In addition, the New York DSRIP program aligned goals and measures with broader national value based payment goals and tried to adopt consistent measure reporting, which differed from other state DSRIP program waivers.²²⁰ However, there are still struggles for hospitals and practices that continue to be paid on a fee-for-service basis by commercial plans in their area and most PPS affiliated providers are not yet ready to assume downside risk. The New York DSRIP program focused on supporting the capacity to engage in these value based payment activities and preparing for downside risk, but the prevailing fee-for-service incentive structure in the Medicare and commercial insurance market in much of the state continues to act as a headwind against many of the DSRIP program’s goals.

The broader increase in managed care penetration aligns with New York’s long-term goal of value based payment representing 80% to 90% of Medicaid services as stated in the Value Based Payment Roadmap. Efforts by the DSRIP program to educate and prepare providers for value based payment could enable safety net providers’ success and readiness to engage in Medicare Alternative Payment Models and risk-based contracting in the commercial market.

6.6. Access to Care

6.6.1. Descriptions of Access to Care Programs

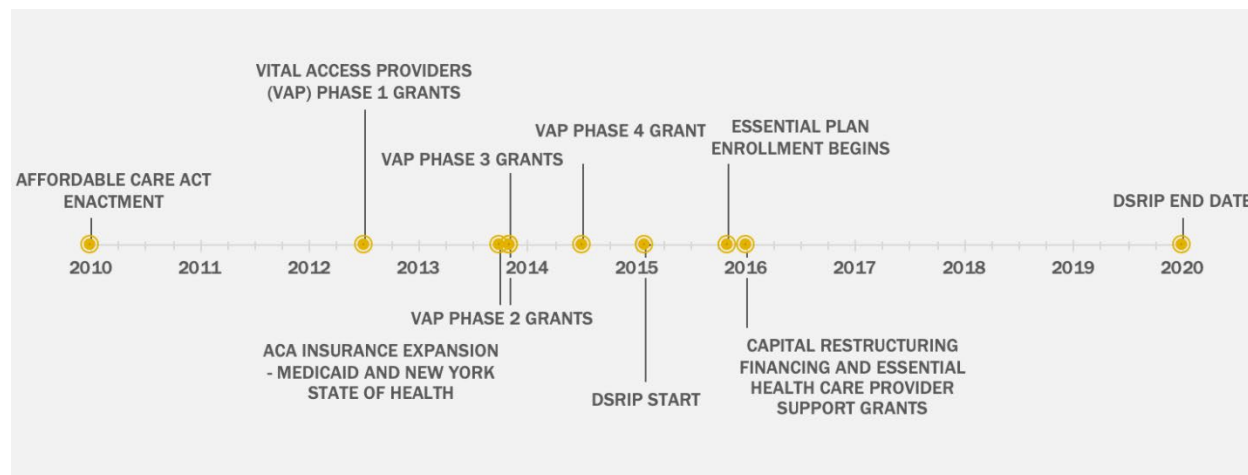
The DSRIP program’s implementation coincided with the early implementation of Affordable Care Act-related insurance coverage expansions, investments in safety net providers, and other

²¹⁹ Peiris D., Phipps-Taylor M.C., Stachowski C.A., Lee-Sien K., Shortell S.M., Lewis V.A., Rosenthal M.B., Colla C.H. (2016). ACOs Holding Commercial Contracts are Larger and More Efficient than Noncommercial ACOs. *Health Affairs*, 35(10):1849-1856. Retrieved from <https://doi.org/10.1377/hlthaff.2016.0387>; McCullough J.M., Coult N., Genau M., Raikhelkar A., Love K., Riley W. (2019). Safety Net Representation in Federal Payment and Care Delivery Reform Initiatives. *American Journal of Accountable Care*. Retrieved from <https://www.ajmc.com/journals/ajac/2019/2019-vol7-n1/safety-net-representation-in-federal-payment-and-care-delivery-reform-initiatives>.

²²⁰ Roby D.H., Louis C.J., Johnson Cole M.M., Chau N., Wiefeling B., Salsberry D.C., King E., Miller A. (2018). Supporting Transformation through Delivery System Reform Incentive Payment Programs: Lessons from New York State. *Journal of Health Politics, Policy and Law*, 43(2):305-323.

capital financing and grants to support transformational changes among providers that serve Medicaid members and uninsured individuals (see Exhibit 6.6.1.i).

Exhibit 6.6.1.i. Timeline of programs aligned with access to care from 2010 to 2020



Source: Authors’ synthesis of program documents, literature, and data collected for the analysis of the DSRIP program’s implementation and process.

6.6.1.1. Affordable Care Act Expansion of Coverage

The Affordable Care Act increased health insurance coverage in New York through the expansion of Medicaid to low-income childless adults, the creation of the state health insurance marketplace (the New York State of Health), the provision of tax credits and cost sharing reductions to subsidize people earning between 138% and 400% of the federal poverty level, and the flexibility to create a Basic Health Program (in New York it is called the Essential Plan). By 2016, the percentage of uninsured New York residents decreased by 42.9% to 1.2 million people. Approximately 753,000 individuals were added to Medicaid between 2013 and 2016 through the Affordable Care Act’s Medicaid expansion, resulting in a total of 6.4 million Medicaid enrollees statewide.²²¹

6.6.1.2. Early Investments in Access to Providers and Facilities

New York’s MRT program, which pre-dated its DSRIP program, included the Vital Access Provider Program (VAP). This program provided funding from 2012 to 2015 to support Article

²²¹ Department of Health and Human Services, Centers for Medicare and Medicaid Services. (2016). Medicaid & CHIP: January 2016 Monthly Applications, Eligibility Determinations and Enrollment Report. Retrieved from <https://www.medicaid.gov/medicaid/downloads/january-2016-enrollment-report.pdf>.

28 hospitals,²²² nursing homes, home health agencies, and diagnostic and treatment centers that were vital to the safety net and needed support to maintain financial viability, address community needs, improve quality, or improve health equity.²²³ The VAP funds did not include funding for capital costs. Across the four VAP phases, \$324 million was invested in safety net providers who served Medicaid members and uninsured individuals.²²⁴ There were overlaps between the providers who received VAP funding from 2013 to 2014 and those who later joined PPS networks that were developed in 2015.

6.6.1.3. State Capital Investments to Support DSRIP Goals of Access and Transformation

Part of the delivery system transformation was to decrease inpatient capacity no longer needed and increase ambulatory and community capacity. Capital funding had not been available in the state for several years and the federal DSRIP funds were not allowed for capital projects. To further support the DSRIP goals, the state dedicated a capital funding stream that targeted capital projects for safety net providers to expand ambulatory care and community-based services with priority to PPS partners. The state funds were available via the Capital Restructuring Financing Program (CRFP) and the Essential Health Care Provider Support Program (EHCPSP). Capital grants were previously not available through VAP. The CRFP was coupled with the DSRIP program and specifically dedicated to building capacity needed to engage in DSRIP projects and build PPSs.²²⁵ The second grant program, the EHCPSP which included some non-DSRIP providers, provided broader support to the safety net system including non-capital and capital projects. Similar to the former VAP, these funds supported innovative changes for providers and facilities, and encouraged collaboration to continue serving specific underserved areas.²²⁶

6.6.2. Interactions between the DSRIP Program and Access Programs

The timing of the Affordable Care Act's 2014 insurance coverage expansion, with an additional 753,000 New York Medicaid members by January 2016, coincided with the launch of PPSs within their communities. The PPSs were able to work with newly-enrolled Medicaid members to address their social determinants of health, manage high-cost and high-need patients, and

²²²Article 28 of the New York State Public Health law recognizes and regulates accreditation of public health facilities including hospitals, nursing homes, diagnostic and treatment centers, free-standing ambulatory surgery centers, and acute care clinics.

²²³ New York State Department of Health. (2015). Vital Access Provider Program [website]. Retrieved from <https://www.health.ny.gov/facilities/vap/>.

²²⁴ New York State. Governor Cuomo Announces Additional \$106 Million to Improve Community Healthcare [press release]. Retrieved from <https://www.governor.ny.gov/news/governor-cuomo-announces-additional-106-million-improve-community-healthcare>.

²²⁵ New York State Department of Health. (2016). Capital Restructuring Financing Program. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrp/capital_restructuring_financing_program.htm.

²²⁶ New York State Department of Health. (2016). Essential Health Care Provider Support Program [website]. Retrieved from https://www.health.ny.gov/facilities/essential_hcp_support_program/.

coordinate care across providers. However, data on these new members' historical use of health care services was not available upon enrollment, making it difficult to measure change and potentially biasing measures against PPSs.

Partner survey respondents and PPS key informants indicated that the Affordable Care Act resulted in increased Medicaid enrollment, thereby expanding the number of New Yorkers eligible for the DSRIP program. Both sets of respondents indicated that the Affordable Care Act increased the number of insured patients who presented for care, thus potentially improving health outcomes. There were also more patients coming into the PPS networks with coverage and having medical needs addressed, thereby avoiding emergency department visits and inpatient hospitalizations. Many PPS key informants indicated that these newly insured members were benefiting from the structures put in place through the DSRIP program. However, many of these newly insured members may not have benefited from the full duration of the DSRIP program if they enrolled in Medicaid after the DSRIP program was well underway. New members were included in PPS performance measurement immediately upon enrollment and attribution, but may not have been previously linked to care. While new members were now obtaining needed care for previously undiagnosed or unmanaged conditions, the performance measures did not necessarily reflect the benefits of the care provided to the newly enrolled members.

The investments made via the VAP, CRFP, and EHCPs programs to support capital investments, restructure provider operations, develop and execute innovative strategies, and improve financial viability ensured that safety net providers had the ability to actively engage in the DSRIP program. By supporting providers and facilities via these financing mechanisms and grants, New York was able to ensure that its providers were positioned to be accessible and stable PPS partners and, in some cases, PPS leads.

6.7. Conclusion – Progress and Opportunities

New York's poor rankings in the 2009 Commonwealth Fund's State Scorecard on Health System Performance were frequently cited as a call to action to establish the state's Medicaid Redesign Team (MRT).^{227,228} The MRT set out to "transform the state's health care system, bend the Medicaid cost curve, and ensure access to quality care for all Medicaid members."²²⁹ Since then, New York has notably moved up in the 2020 Commonwealth Fund's State Scorecard

²²⁷ Commonwealth Fund. (2009, October). Aiming higher: results from a state scorecard on health system performance, 2009. Retrieved from https://www.commonwealthfund.org/publications/fund-reports/2009/oct/aiming-higher-results-state-scorecard-health-system-performance?redirect_source=/publications/fund-reports/2009/oct/2009-state-scorecard

²²⁸ Cuomo, A.M. (2011, January 5). No. 5: Establishing the Medicaid Redesign Team [executive order]. Retrieved from <https://www.governor.ny.gov/news/no-5-establishing-medicare-redesign-team>

²²⁹ New York State Department of Health. (n.d.). Redesigning the Medicaid program. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/

rankings to 28th in avoidable hospital use, from ranking 50th in 2009, and to 10th in overall health system quality, from ranking 21st in 2009.^{230, 231}

While the DSRIP program was the primary method through which the MRT Waiver Amendment was implemented, several MRT programs and other state initiatives aligned with the DSRIP program's implementation and successes. The state and federal investments in health information technology, capital financing for providers, funding to support restructuring and financial stability, insurance expansions, and health homes were vital to DSRIP activities. Investments in health information technology ensured the availability of data and the ability to launch the MAPP. Efforts around transformational change and health homes facilitated PPS-partner relationships and the ability to coordinate care for high-risk, high-need Medicaid members. As health homes were already leveraging the MRT Supportive Housing Initiative and other community-based programs, some PPSs were able to utilize established relationships and capacity (some others reported struggles working with health homes due to the lack of incentives to collaborate). Additionally, the DSRIP program aligned with national value based payment transition efforts with the Value Based Payment Roadmap and efforts to report data across DSRIP program domains to monitor population health, quality, and provider performance.

While the DSRIP program benefitted from other state and federal government investments, it also served to accelerate and further the goals of many of these programs, as well as the overarching goals of the MRT, the Triple Aim:

- To **improve care** – The DSRIP program demonstrated a 26.1% decline in Potentially Preventable Admissions and an 18.1% reduction in potentially preventable hospital readmissions over the five years of implementation. New York passed waiver-mandated Statewide Accountability Milestone tests by demonstrating improvement or maintenance over time in avoidable utilization, access to appropriate care, and meaningful use. All measures of primary care, timely access, care transitions, and system integration improved. The majority of the DSRIP program measures of health care service delivery integration and health care coordination improved, with substantial progress demonstrated in health information technology integration (as evidenced through increases in participating agreements and bidirectional exchange) and by the nearly 30% increase PCMH achievement.
- To **improve health** and reduce disparities in health outcomes – Improvement in care processes and quality was reflected in PPS performance on several measures of clinical quality improvement related to chronic disease projects undertaken by PPSs, and over

²³⁰ Commonwealth Fund. (2009, October). Aiming higher: results from a state scorecard on health system performance, 2009. Retrieved from https://www.commonwealthfund.org/publications/fund-reports/2009/oct/aiming-higher-results-state-scorecard-health-system-performance?redirect_source=/publications/fund-reports/2009/oct/2009-state-scorecard

²³¹ Commonwealth Fund (2020, September). Scorecard on state health system performance, 2020 (New York). Retrieved from <https://2020scorecard.commonwealthfund.org/state/new-york>

half of the DSRIP program population health measures improved (13 of 22 measures). Performing Provider Systems implementing the diabetes and asthma management projects demonstrated improvement among their populations in diabetes control (percentage of diabetic adults whose Hemoglobin A1c value was >9.0%, decreased from 47.5% to 32.1%)²³² and asthma care processes (asthma medication management improved from 32.1 to 36.8% and medication ratio improved from 60.5% to 69.6%) respectively. There was a notable increase in the percentage of adults who received a flu shot (from 35.0% to 47.8%). Several DSRIP program population health measures aligned with the NYS Prevention Agenda improved, including: the newly diagnosed HIV cases, adolescent pregnancy rate, percentage of unintended pregnancies, maternal mortality rate, Black-to-White and Hispanic-to-White disparities in the adolescent pregnancy rate, and Black-to-White disparities in the percentage of infants breastfed exclusively, with some exceeding the state targets.

- To **reduce costs** –Inpatient and emergency department expenditures per member per month for Medicaid members eligible for the DSRIP program decreased by 11.9% and 8.4%, respectively, from MY0 to MY5. Primary care and behavioral health expenditures per member per month increased in the later years of the DSRIP program, in line with expectations that expenditures for these services would increase given the DSRIP program’s emphasis on expanding primary care and behavior health care service use. New York succeeded in meeting the statewide milestone of having at least 80 percent of managed care payments being value based by the end of the five-year DSRIP program period.²³³

While these indicators represent significant progress and impact, through the DSRIP program implementation and evaluation, continued opportunities for investment, implementation, and improvement in population health outcomes can be identified and addressed through ongoing and future State and MRT investments. Given the enormity of the undertaking to redesign New York’s Medicaid delivery system, it is perhaps not surprising that insufficient time to make substantial changes, or sufficient time for the changes to demonstrate improvement, was raised as a challenge by DSRIP program key informants. Based on the findings of successes, promising practices and lessons learned from the DSRIP program, continued efforts could impact:

- **Continued improvement in utilization:** With additional time, and capitalizing off from lessons learned to date, further improvements may be demonstrated in areas where performance was trending towards improvement but, as of MY5, may have missed the established targets. Such opportunities present, for example, in the DSRIP program’s

²³² For the diabetes control measure, data were only available for MY2 through MY5, no pre-DSRIP initiation period data were available.

²³³ This refers to Statewide Accountability Milestone 4, which reflected achieving goals from New York’s Value Based Payment Roadmap related to value based payment.

behavioral health utilization measures, where improvement was demonstrated, but performance varied across measures and across PPSs.

- **Maintenance and expansion of access to care:** Access to care measures for adults and children began with high performance and maintained high performing throughout the DSRIP program. While questions remain around the value of resourcing already high performing measures, sustaining current efforts and capacity that are demonstrating success, and further diversifying avenues for accessing services through new or expanded innovative approaches, could contribute to continued success plus address disparities in access to care.
- **Reduction of disparities through addressing the social determinants of health:** The development of new relationships between community-based organizations and health care providers under the DSRIP program afforded a greater ability to address a wider range of patient needs. That said, input gathered through the qualitative study included concern that community-based organizations were not always adequately resourced to meet the needs of the population and may be challenged in demonstrating their business case to meet value based payment requirements. Directly resourcing community-based organizations could build their capacity for population health management and to address the social determinants of health. Additionally, explicit investment in addressing the social determinants of health for New York’s Medicaid population, and the development and implementation of measures that are sensitive to “whole person” care, could further efforts to improve care and reduce health disparities.
- **Continued value based payment transition:** Value based payment is the cornerstone of most current efforts to transform the delivery system. Recognizing this, New York undertook Medicaid payment reform in parallel to its DSRIP program, guided by its Value Based Payment Roadmap.^{234, 235} However, it takes time and resources for individuals or networks of health and social services providers, to develop the understanding, infrastructure, and capacity to allow them to assume collective financial risk. The DSRIP program was important for educating providers and organizations on the fundamentals of value based payment. The upside risk built into the DSRIP program helped in preparing providers and organizations to accept downside risk in the future. Limited engagement with managed care organizations was identified as a challenge in progressing DSRIP program efforts; engaging managed care organizations directly in reform-oriented payment arrangements could assist in further advancing value based payment transitions. It will also be important to consider arrangements that

²³⁴ New York State Department of Health, Medicaid Redesign Team (2015). A Path toward Value Based Payment: New York State Roadmap for Medicaid Payment Reform. Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/dsrp/vbp_reform.htm.

²³⁵ New York’s Medicaid payment reform required all Medicaid managed care organizations to shift 80-90% of provider payments from fee-for-service to value based payment arrangements by the end of the DSRIP program.

support broad provider networks across the continuum of care, including community-based organizations that address the social determinants of health.

New York's DSRIP program succeeded in demonstrating progress towards both the MRT and DSRIP program stated goals and laid the foundation and pathways for successful and promising practices to continue. Overall performance represents an average of a range of individual PPS performance, and the majority of PPSs reduced measures of preventable hospital utilization, with a subset having surpassed the 25% improvement targets, providing the opportunity to identify best practices for further spread of implementation. While all program goals were not fully achieved in the five-year timeframe, the performance improvements demonstrated, the system capacity built, the promising practices identified, and the lessons learned along the way will prove valuable to inform the design and guide the implementation of continued improvement efforts. Through application of the findings of this study, as well as attention paid to the continuously evolving healthcare and social service landscape, responsive, strategic investments in the delivery system that reward value will further progress New York Medicaid in achieving the Triple Aim.

Appendices

Appendix 1. Projects Selected by Each Performing Provider System

Exhibit A1.i. List of projects by Performing Provider System

PPS and Number of Projects	Projects Selected
<p>Adirondack Health Institute (11 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.a.ii Primary Care Certification (PCMH/APC Models) 3. 2.a.iv Medical Village (Hospital) 4. 2.b.viii Hospital-Home Care Collaboration Solutions 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.ii Behavioral Health Community Crisis Stabilization Services 3. 3.a.iv Development of Withdrawal Management and Enhanced Abstinence Services in Community-Based Addiction Treatment Programs 4. 3.g.i Integration of Palliative Care into the PCMH Model <p><u>Domain 4</u></p> <ol style="list-style-type: none"> 1. 4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems 2. 4.b.ii Increase Access to Chronic Disease Preventive Care and Management
<p>Alliance for Better Health (11 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.b.iii ED Care Triage for At-Risk Populations 3. 2.b.iv Care Transitions Intervention for Chronic Health Conditions 4. 2.b.viii Hospital-Home Care Collaboration Solutions 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services

PPS and Number of Projects	Projects Selected
	<ul style="list-style-type: none"> 2. 3.a.iv Development of Withdrawal Management and Enhanced Abstinence Services in Community-Based Addiction Treatment Programs 3. 3.d.ii Asthma Home-Based Self-Management Program Expansion 4. 3.g.i Integration of Palliative Care into the PCMH Model <p><u>Domain 4:</u></p> <ul style="list-style-type: none"> 1. 4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems 2. 4.b.i Promote Tobacco Use Cessation
<p>Better Health for Northeast New York (11 projects)</p>	<p><u>Domain 2:</u></p> <ul style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.a.iii Health Home At-Risk Intervention Program 3. 2.a.v. Medical Village (Nursing Home) 4. 2.b.iii ED Care Triage for At-Risk Populations 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care <p><u>Domain 3:</u></p> <ul style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.ii Behavioral Health Community Crisis Stabilization Services 3. 3.b.i Cardiovascular Disease Clinical Management 4. 3.d.iii Evidence-Based Asthma Management <p><u>Domain 4:</u></p> <ul style="list-style-type: none"> 1. 4.b.i Promote Tobacco Use Cessation 2. 4.b.ii Increase Access to Chronic Disease Preventive Care and Management
<p>Bronx Health Access (10 projects)</p>	<p><u>Domain 2:</u></p> <ul style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.a.iii Health Home At-Risk Intervention Program 3. 2.b.i. Ambulatory ICUs 4. 2.b.iv Care Transitions Intervention for Chronic Health Conditions <p><u>Domain 3:</u></p> <ul style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.c.i Diabetes Disease Clinical Management 3. 3.d.ii Asthma Home-Based Self-Management Program Expansion

PPS and Number of Projects	Projects Selected
	<p>4. 3.f.i Maternal and Child Health Support Programs</p> <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.a.iii. Strengthen Mental Health and Substance Abuse Infrastructure Across Systems 2. 4.c.ii Increase Early Access to and Retention in HIV Care
<p>Bronx Partners for Healthy Communities (10 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.a.iii Health Home At-Risk Intervention Program 3. 2.b.iii ED Care Triage for At-Risk Populations 4. 2.b.iv Care Transitions Intervention for SNF Residents <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.b.i Cardiovascular Disease Clinical Management 3. 3.c.i Diabetes Disease Clinical Management 4. 3.d.ii Asthma Home-Based Self-Management Program Expansion <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems 2. 4.c.ii. Increase Early Access to and Retention in HIV Care
<p>Care Compass Network (11 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.b.iv Care Transitions Intervention for Chronic Health Conditions 3. 2.b.vii INTERACT: Inpatient Transfer Avoidance Program for SNF 4. 2.c.i Development of Community-Based Health Navigation Services 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.ii Behavioral Health Community Crisis Stabilization Services 3. 3.b.i Cardiovascular Disease Clinical Management 4. 3.g.i Integration of Palliative Care into the PCMH Model <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems

PPS and Number of Projects	Projects Selected
	<ol style="list-style-type: none"> 2. 4.b.ii. Increase Access to Chronic Disease Preventive Care and Management
<p>Central New York Care Collaborative (11 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.a.iii Health Home At-Risk Intervention Program 3. 2.b.iii ED Care Triage for At-Risk Populations 4. 2.b.iv Care Transitions Intervention for Chronic Health Conditions 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.ii Behavioral Health Community Crisis Stabilization Services 3. 3.b.i Cardiovascular Disease Clinical Management 4. 3.g.i Integration of Palliative Care into the PCMH Model <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems 2. 4.d.i Reduce Premature Births
<p>Community Care of Brooklyn (10 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.a.iii Health Home At-Risk Intervention Program 3. 2.b.iii ED Care Triage for At-Risk Populations 4. 2.b.iv Care Transitions Intervention for Chronic Health Conditions <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.b.i Cardiovascular Disease Clinical Management 3. 3.d.ii Asthma Home-Based Self-Management Program Expansion 4. 3.g.i Integration of palliative care into the PCMH Model <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems 2. 4.c.ii. Increase Early Access to and Retention in HIV Care
<p>Community Partners of Western New York</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems

PPS and Number of Projects	Projects Selected
(10 projects)	<ul style="list-style-type: none"> 2. 2.b.iii ED Care Triage for At-Risk Populations 3. 2.b.iv Care Transitions Intervention for Chronic Health Conditions 4. 2.c.ii Expansion of Telemedicine in Underserved Areas <p><u>Domain 3:</u></p> <ul style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.b.i Cardiovascular Disease Clinical Management 3. 3.f.i Maternal and Child Health Support Programs 4. 3.g.i Integration of Palliative Care into the PCMH Model <p><u>Domain 4:</u></p> <ul style="list-style-type: none"> 1. 4.a.i Promote Mental, Emotional and Behavioral Well-being in Communities 2. 4.b.i Promote Tobacco Use Cessation
Finger Lakes PPS (11 projects)	<p><u>Domain 2:</u></p> <ul style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.b.iii ED Care Triage for At-Risk Populations 3. 2.b.iv Care Transitions Intervention for Chronic Health Conditions 4. 2.b.vi Transitional Supportive Housing Services 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care <p><u>Domain 3:</u></p> <ul style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.ii Behavioral Health Community Crisis Stabilization Services 3. 3.a.v Behavioral Interventions Paradigm (BIP) in Nursing Homes 4. 3.f.i Maternal and Child Health Support Programs <p><u>Domain 4:</u></p> <ul style="list-style-type: none"> 1. 4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems 2. 4.b.ii. Increase Access to Chronic Disease Preventive Care and Management
Leatherstocking Collaborative Health Partners (11 projects)	<p><u>Domain 2:</u></p> <ul style="list-style-type: none"> 1. 2.a.ii Primary Care Certification (PCMH/APC Models) 2. 2.b.vii INTERACT: Inpatient Transfer Avoidance Program for SNF 3. 2.b.viii Hospital-Home Care Collaboration Solutions 4. 2.c.i Development of Community-Based Health Navigation Services

PPS and Number of Projects	Projects Selected
	<p>5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care</p> <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.iv Development of Withdrawal Management and Enhanced Abstinence Services in Community-Based Addiction Treatment Programs 3. 3.d.iii Evidence-Based Asthma Management 4. 3.g.i Integration of Palliative Care into the PCMH Model <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems 2. 4.b.i Promote Tobacco Use Cessation
<p>Millennium Collaborative Care (11 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.b.iii ED Care Triage for At-Risk Populations 3. 2.b.vii INTERACT: Inpatient Transfer Avoidance Program for SNF 4. 2.b.viii Hospital-Home Care Collaboration Solutions 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.ii Behavioral Health Community Crisis Stabilization Services 3. 3.b.i Cardiovascular Disease Clinical Management 4. 3.f.i Maternal and Child Health Support Programs <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.a.i Promote Mental, Emotional and Behavioral Well-being in Communities 2. 4.d.i Reduce Premature Births
<p>Montefiore Hudson Valley Collaborative (10 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.a.iii Health Home At-Risk Intervention Program 3. 2.a.iv Medical Village (Hospital) 4. 2.b.iii ED Care Triage for At-Risk Populations <p><u>Domain 3:</u></p>

PPS and Number of Projects	Projects Selected
	<ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.ii Behavioral Health Community Crisis Stabilization Services 3. 3.b.i Cardiovascular Disease Clinical Management 4. 3.d.iii Evidence-Based Asthma Management <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.b.i Promote Tobacco Use Cessation 2. 4.b.ii. Increase Access to Chronic Disease Preventive Care and Management
Mount Sinai PPS (10 projects)	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.b.iv Care Transitions Intervention for Chronic Health Conditions 3. 2.b.viii Hospital-Home Care Collaboration Solutions 4. 2.c.i Development of Community-Based Health Navigation Services <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.iii Medication Adherence Programs in Community-Based Sites for Behavioral Health Medication Compliance 3. 3.b.i Cardiovascular Disease Clinical Management 4. 3.c.i Diabetes Disease Clinical Management <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.b.ii Increase Access to Chronic Disease Preventive Care and Management 2. 4.c.ii Increase Early Access to and Retention in HIV Care
Nassau Queens PPS (11 projects)	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.b.ii Primary Care Co-Location in ED 3. 2.b.iv Care Transitions Intervention for Chronic Health Conditions 4. 2.b.vii INTERACT: Inpatient Transfer Avoidance Program for SNF 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.ii Behavioral Health Community Crisis Stabilization Services

PPS and Number of Projects	Projects Selected
	<ul style="list-style-type: none"> 3. 3.b.i Cardiovascular Disease Clinical Management 4. 3.c.i Diabetes Disease Clinical Management <p><u>Domain 4:</u></p> <ul style="list-style-type: none"> 1. 4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems 2. 4.b.i Promote Tobacco Use Cessation
<p>New York- Presbyterian PPS (10 projects)</p>	<p><u>Domain 2:</u></p> <ul style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.b.i Ambulatory ICUs 3. 2.b.iii ED Care Triage for At-Risk Populations 4. 2.b.iv Care Transitions Intervention for Chronic Health Conditions <p><u>Domain 3:</u></p> <ul style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.ii Behavioral Health Community Crisis Stabilization Services 3. 3.e.i HIV Prevention 4. 3.g.i Integration of Palliative Care into the PCMH Model <p><u>Domain 4:</u></p> <ul style="list-style-type: none"> 1. 4.b.i. Promote Tobacco Use Cessation 2. 4.c.i. Decrease HIV Morbidity
<p>New York- Presbyterian Queens PPS (9 projects)</p>	<p><u>Domain 2:</u></p> <ul style="list-style-type: none"> 1. 2.a.ii Primary Care Certification (PCMH/APC Models) 2. 2.b.v Care Transitions Intervention for SNF Residents 3. 2.b.vii INTERACT: Inpatient Transfer Avoidance Program for SNF 4. 2.b.viii Hospital-Home Care Collaboration Solutions <p><u>Domain 3:</u></p> <ul style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.b.i Cardiovascular Disease Clinical Management 3. 3.d.ii. Asthma Home-Based Self-Management Program Expansion 4. 3.g.ii Integration of Palliative Care into Nursing Homes <p><u>Domain 4:</u></p> <ul style="list-style-type: none"> 1. 4.c.ii Increase Early Access to and Retention in HIV Care
<p>North Country Initiative (11 projects)</p>	<p><u>Domain 2:</u></p> <ul style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.a.ii Primary Care Certification (PCMH/APC Models)

PPS and Number of Projects	Projects Selected
	<ul style="list-style-type: none"> 3. 2.a.iv Medical Village (Hospital) 4. 2.b.iv Care Transitions Intervention for Chronic Health Conditions 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care <p><u>Domain 3:</u></p> <ul style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.b.i Cardiovascular Disease Clinical Management 3. 3.c.i Diabetes Disease Clinical Management 4. 3.c.ii Diabetes Disease Self-Management and Community Prevention <p><u>Domain 4:</u></p> <ul style="list-style-type: none"> 1. 4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems 2. 4.b.ii Increase Access to Chronic Disease Preventive Care and Management
<p>NYU Langone Brooklyn</p> <p>(9 projects)</p>	<p><u>Domain 2:</u></p> <ul style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.b.iii ED Care Triage for At-Risk Populations 3. 2.b.ix Implementation of Observational Programs in Hospitals 4. 2.c.i Development of Community-Based Health Navigation Services <p><u>Domain 3:</u></p> <ul style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.c.i Diabetes Disease Clinical Management 3. 3.d.ii Asthma Home-Based Self-Management Program Expansion <p><u>Domain 4:</u></p> <ul style="list-style-type: none"> 1. 4.b.i. Promote Tobacco Use Cessation 2. 4.c.ii Increase early access to, and retention in, HIV care
<p>OneCity Health</p> <p>(11 projects)</p>	<p><u>Domain 2:</u></p> <ul style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.a.iii Health Home At-Risk Intervention Program 3. 2.b.iii ED Care Triage for At-Risk Populations 4. 2.b.iv Care Transitions Intervention for Chronic Health Conditions 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care

PPS and Number of Projects	Projects Selected
	<p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.b.i Cardiovascular Disease Clinical Management 3. 3.d.ii Asthma Home-Based Self-Management Program Expansion 4. 3.g.i Integration of Palliative Care into the PCMH Model <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems 2. 4.c.ii Increase Early Access to and Retention in HIV Care
<p>Refuah Community Health Collaborative (7 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.a.ii Primary Care Certification (PCMH/APC Models) 3. 2.c.i Development of Community-Based Health Navigation Services <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.ii Behavioral Health Community Crisis Stabilization Services 3. 3.a.iii Medication Adherence Programs in Community-Based Sites for Behavioral Health Medication Compliance <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.b.i Promote Tobacco Use Cessation
<p>SOMOS (10 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.a.iii Health Home At-Risk Intervention Program 3. 2.b.iii ED Care Triage for At-Risk Populations 4. 2.b.iv Care Transitions Intervention for Chronic Health Conditions <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.b.i Cardiovascular Disease Clinical Management 3. 3.c.i Diabetes Disease Clinical Management 4. 3.d.iii Evidence-Based Asthma Management <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.b.i Promote Tobacco Use Cessation 2. 4.b.ii Increase Access to Chronic Disease Preventive Care and Management

PPS and Number of Projects	Projects Selected
<p>Staten Island PPS (11 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.iii Health Home At-Risk Intervention Program 2. 2.b.iv Care Transitions Intervention for Chronic Health Conditions 3. 2.b.vii INTERACT: Inpatient Transfer Avoidance Program for SNF 4. 2.b.viii Hospital-Home Care Collaboration Solutions 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.iv Development of Withdrawal Management and Enhanced Abstinence Services in Community-Based Addiction Treatment Programs 3. 3.c.i Diabetes Disease Clinical Management 4. 3.g.ii Integration of Palliative Care into Nursing Homes <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.a.iii Strengthen Mental Health and Substance Abuse Infrastructure Across Systems 2. 4.b.ii Increase Access to Chronic Disease Preventive Care and Management
<p>Suffolk Care Collaborative (11 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.b.iv Care Transitions Intervention for Chronic Health Conditions 3. 2.b.vii INTERACT: Inpatient Transfer Avoidance Program for SNF 4. 2.b.ix Implementation of Observational Programs in Hospitals 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.b.i Cardiovascular Disease Clinical Management 3. 3.c.i Diabetes Disease Clinical Management 4. 3.d.ii Asthma Home-Based Self-Management Program Expansion <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.a.ii Prevent Substance Abuse and Other Mental Emotional Behavioral Disorders

PPS and Number of Projects	Projects Selected
	<ol style="list-style-type: none"> 2. 4.b.ii Increase Access to Chronic Disease Preventive Care and Management
<p>WMCHHealth (11 projects)</p>	<p><u>Domain 2:</u></p> <ol style="list-style-type: none"> 1. 2.a.i Evidence-based, Population Health Focused Integrated Delivery Systems 2. 2.a.iii Health Home At-Risk Intervention Program 3. 2.a.iv Medical Village (Hospital) 4. 2.b.iv Care Transitions Intervention for Chronic Health Conditions 5. 2.d.i Patient Activation to Integrate Uninsured and Low-Utilizing Medicaid Populations into Community-Based Care <p><u>Domain 3:</u></p> <ol style="list-style-type: none"> 1. 3.a.i Integration of Primary Care and Behavioral Health Services 2. 3.a.ii Behavioral Health Community Crisis Stabilization Services 3. 3.c.i Diabetes Disease Clinical Management 4. 3.d.iii Evidence-Based Asthma Management <p><u>Domain 4:</u></p> <ol style="list-style-type: none"> 1. 4.b.i Promote Tobacco Use Cessation 2. 4.b.ii. Increase Access to Chronic Disease Preventive Care and Management

Source: Authors' compilation of NYS DOH documents.²³⁶

²³⁶ New York State Department of Health. (n.d.). DSRIP Performing Provider Systems (PPS) [interactive webpage]. Retrieved October 18, 2018 from https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/pps_map/index.htm

*Appendix 2. Algorithm to Attribute Members for Valuation and Performance*²³⁷

New York's Delivery System Reform Incentive Payment (DSRIP) program attributed Medicaid members and uninsured populations to the 25 Performing Provider Systems (PPSs) based upon geography, actual use of services, and enrollee-specific needs (developmental disability, long-term care, behavioral health, and "other"). Each Medicaid member was attributed to one, and only one PPS, with a separate attribution for the initial valuation and thereafter the performance periods. This attribution process was instrumental to calculating total project valuation, ongoing payments, and DSRIP measures.

Attribution for Valuation

The attribution for valuation was based on membership on December 1, 2014; it represented the maximum funding that a PPS could receive in regular performance payments over its DSRIP program duration. These fixed amounts did not change if PPSs dropped or added partners over time.

If there was a single PPS in a region, the attribution for valuation logic was fairly straightforward. All Medicaid enrollees in the region were attributed to the single PPS via the PPS partners in that area, regardless of their actual use of Medicaid services or projects selected (i.e., low utilizing and non-utilizing Medicaid members were attributed to the single PPS in the region). Uninsured persons in the region were attributed to the single PPS if the PPS added the "11th project" (project 2.d.i, patient activation activities). For regions with single PPS providers, the hierarchical attribution logic was not applicable.

In regions with more than one PPS, the attribution for utilizing Medicaid members²³⁸ was based upon the attribution logic summarized in Exhibit A2.i. The attribution logic for utilizing Medicaid members was based upon two principles: hierarchy of health care needs ("swim lanes"), and hierarchy of the health care settings and the PPS partners where patients received most of their services ("loyalty").

The first step examined the plurality of the care. If utilizing Medicaid members received more than 50% of their qualifying services within a non-PPS participating service, they were removed from DSRIP program eligibility.

The second step was hierarchical population selection, whereby Medicaid members were placed into one of four swim lanes. On the diagram, these are represented by the arrows in the top row moving from left to right. Developmental disability was the highest priority on the

²³⁷ Appendix 2 is adapted from New York DSRIP program STC, Attachment I retrieved from https://www.health.ny.gov/health_care/managed_care/appextension/2017-07-20_rev_att1.htm

²³⁸ Utilizing Medicaid members are defined as those having more than three interactions with the health care system in the past year, and connectivity with a primary care physician or health home.

hierarchy, followed by long-term care and behavioral health. Beneficiaries not assigned to these groups were defined in a residual “all others” swim lane.

In the third step, a hierarchical member service loyalty logic was used to attribute individuals to specific PPSs. The loyalty logic is illustrated in Exhibit A2.i by a movement from the top row downwards. Each swim lane considered different health care settings for the loyalty attribution. For Medicaid members with developmental disabilities, PPS attribution was first assigned based on the where they receive their residential services. If those services were not used, PPS attribution was subsequently assigned by their use of care management services, followed by Article 16 clinics, and finally other waiver services from the New York State Office of Persons with Developmental Disabilities. For individuals assigned to the “all other” swim lane (i.e., they were not identified as members of the developmental disability, long-term care, or behavioral health patient populations), the loyalty logic first considered the PPS in the region that contains their health home. If they were not using health homes, their assigned primary care providers were subsequently used to attribute them to a PPS. Subsequent considerations in the loyalty hierarchy were other primary care providers or outpatient clinics, emergency departments, or hospitals where they received the majority of their inpatient services.

For the purposes of attribution for valuation, low- and non-utilizing Medicaid members (defined as having three or fewer interactions with the health care system in the past year, and no connectivity with a primary care physician or health home) were attributed similarly to the uninsured population. Attribution of the uninsured and low- utilizing and non-utilizing Medicaid members was dependent on the types of PPSs in the region and selection of the “11th project” (project 2.d.i, patient activation activities). In regions with more than one PPS, including a PPS that was led by or involved a public hospital (public hospital PPSs) approved to do the 11th project, the uninsured and low-utilizing and non-utilizing members in the region were attributed to the public hospital PPS. As described in Section 2.2.4, non-public hospital PPSs were allowed to pursue the 11th project in certain circumstances. In regions with multiple PPSs, including non-public hospital PPSs with approval for the 11th project, the uninsured and low-utilizing and non-utilizing Medicaid members were attributed based on the percentage of Medicaid members assigned to PPSs in the region (e.g., if a non-public hospital PPS had 60% of the region’s Medicaid members they were assigned 60% of the uninsured and low-utilizing and non-utilizing members).

Exhibit A2.i. Hierarchical Attribution Logic



Source: Reproduced from the New York DSRIP program Special Terms and Conditions (STC), Attachment I.²³⁹

²³⁹ Retrieved from https://www.health.ny.gov/health_care/medicaid/redesign/docs/program_funding_and_mechanics.pdf

Attribution for Performance

The method for attributing Medicaid members for performance was similar to attribution for valuation, with a few differences. Attribution for performance did not treat low-utilizing members differently. For the purposes of performance, all utilizing Medicaid members, including low-utilizing members, were attributed based on the hierarchical logic presented in Exhibit A2.1 and described above in the attribution for valuation section. Non-utilizing Medicaid members were captured separately. Non-utilizing Medicaid members with a plan-assigned primary care provider (PCP) in a PPS network were included in the attribution counts for that PCP's PPS. If a non-utilizing Medicaid member was not assigned a PCP or else a PCP tie existed, the member was attributed to the PPS with the largest presence in the member's zip code. The uninsured were attributed to PPSs for performance using the same methodology as attribution for valuation.

Attribution for performance was determined monthly through the matching of the available Medicaid utilization data stemming from claims and encounter reporting to the providers in a PPS network. Members of one PPS network who subsequently increased their utilization of a particular provider in another PPS network, may have later shifted into the second PPS's attributed population for performance following to the hierarchical loyalty algorithm. The final performance measurement was based on the attributed population for performance of the final month of the measurement year.

Appendix 3. Additional Details on Research Questions and Hypotheses

The research questions (RQs) and hypotheses used in the Preliminary Summative Report were edited and reordered from the original text in the CMS-approved Independent Evaluation plan (March 9, 2018 version, sections B.1 and B.2, pp. 5-9) for improved flow and presentation. These editorial changes were discussed with and approved by NYS DOH.

Exhibit A3.i provides a crosswalk of the RQs listed in the CMS-approved Independent Evaluation plan and Interim Report. Key changes were:

- Reordering to match the presentation of findings in Section 4; the RQs in the Preliminary Summative Report were relabeled as A through G to avoid confusion with the numbering of the CMS RQs
- Sub-questions from the expanded CMS-approved Independent Evaluation plan were added to RQ-E and RQ-F
- Stylistic edits for consistency throughout the Interim Report

Exhibit A3.i Crosswalk of CMS research questions from the approved expanded evaluation plan

Summative Report Research Questions	CMS Research Questions
RQ-A. Was avoidable hospital utilization reduced as a result of the DSRIP program?	RQ5. Was avoidable hospital utilization reduced as a result of the DSRIP program?
RQ-B. Did utilization of behavioral health care services increase as a result of the DSRIP program?	RQ4. Did utilization of behavioral health care services increase as a result of DSRIP?
RQ-C. Did health care quality improve as a result of clinical improvements in the treatment of selected diseases and conditions?	RQ2. Did health care quality improve as a result of clinical improvements in the treatment of selected diseases and conditions?
RQ-D. To what extent did PPSs achieve health care system transformation, including increasing the availability of behavioral health care?	RQ1. To what extent did PPSs achieve health care system transformation?
RQ-E. Did population health improve as a result of implementation of New York’s DSRIP initiative? (Sub-question: Were racial and ethnic disparities on specific population measures reduced following the DSRIP program?)	RQ3. Did population health improve as a result of implementation of the DSRIP initiative?
RQ-F. Did the DSRIP program reduce health care costs? (Sub-question: Was the DSRIP program cost effective in terms of New York and federal governments receiving adequate value for their investments?)	RQ6. Did DSRIP reduce health care costs?

Summative Report Research Questions	CMS Research Questions
RQ-G. What were the successes and challenges with respect to PPS planning, implementation, operation and plans for program sustainability from the perspectives of DSRIP planners, administrators and providers, and why were they successful and challenging?	RQ7. What were the successes and challenges with respect to PPS planning, implementation, operation and plans for program sustainability from the perspectives of DSRIP planners, administrators and providers, and why were they successful and challenging?

Exhibit A3.ii provides a crosswalk of the hypotheses listed in the CMS-approved Independent Evaluation plan and Interim Report. Key changes were:

- Reordering to be consistent with their corresponding RQs (see Section 3.1 for the description of the RQs and hypotheses)
- Additional hypothesis related to supplemental sub-question RQ-E
- Stylistic edits for consistent wording and language
- Adjusted the terminology from “expenditure” to “costs,” to reflect the data available for analysis
- Consistent language to clarify that all increases or decreases are in relation to the baseline trend; this is clarified in more detail in the main text (see Section 3.1)
- Two-part hypotheses (CMS H5 and CMS H7) were split into separate hypotheses
- The two CMS hypotheses related to expenditures and costs for emergency department and inpatient services (CMS H6, CMS H11) were reorganized into one hypothesis related to emergency department costs (H11) and one hypothesis related to inpatient services costs (H12)

Exhibit A3.ii. Crosswalk of CMS hypotheses from the approved expanded evaluation plan

Summative Report Hypotheses	CMS Hypotheses
H1. Avoidable hospital utilizations will decrease.	CMS H10. Avoidable hospital use will be reduced
H2. Primary care utilization will increase.	CMS H3: Primary care utilization will show a greater upward trend
H3. Behavioral health care service utilization will increase.	CMS H5: Utilization of, and expenditures for, behavioral health care service will increase
H4. Health care quality will increase in the following areas: (a) behavioral health, (b) cardiovascular health, (c) diabetes care, (d) asthma, (e) HIV/AIDS, (f) perinatal care, (g) palliative care, and (h) renal care.	CMS H8: Through clinical improvements implemented under DSRIP, health care quality in each of the following areas will increase: a) behavioral health, b) cardiovascular health, c) diabetes care, d) asthma, e) HIV/AIDS, f) perinatal care, g) palliative care, h) renal care
H5. Health care service delivery integration will increase.	CMS H1. Health care service delivery will show greater integration

Summative Report Hypotheses	CMS Hypotheses
H6. Health care coordination will increase.	CMS H2. Health care coordination will improve
H7a. Primary care, behavioral health, and dental service utilization among the uninsured, non-utilizing, and low-utilizing populations will increase.	CMS H7. Primary care, behavioral health, and dental service utilization will increase among the uninsured, non-utilizing, and low-utilizing populations, while emergency department use will decrease
H7b. Emergency department utilization among the uninsured, non-utilizing, and low-utilizing populations will decrease.	CMS H7. Primary care, behavioral health, and dental service utilization will increase among the uninsured, non-utilizing, and low-utilizing populations, while emergency department use will decrease
H8a. Population health measures will improve in the following areas: (a) mental health and substance abuse, (b) prevention of chronic diseases, (c) prevention of HIV and STDs, and (d) health of women, infants, and children.	CMS H9: Population health measures will show improvements in the following 4 areas: a) mental health and substance abuse, b) prevention of chronic diseases, c) prevention of HIV and STDs, d) health of women, infants, and children
H8b. Racial and ethnic disparities in premature deaths, newly diagnosed cases of HIV, preterm births, adolescent pregnancy rates, percentage of unintended pregnancy among live births, and infants exclusively breastfed in the hospital will decrease.	None listed; related to the RQ-C sub-question that was added in the expanded Evaluation Plan
H9. Costs for primary care services will increase.	CMS H4. Expenditures for primary care services will increase
H10. Costs for behavioral health care services will increase.	CMS H5. Utilization of, and expenditures for, behavioral health care service will increase
H11. Costs for emergency department services will decrease.	CMS H6: Expenditures for emergency department and inpatient services will decrease; CMS H11: Costs associated with hospital inpatient and ED services will show reductions or slowed growth
H12. Costs for hospital inpatient services will decrease.	CMS H6: Expenditures for emergency department and inpatient services will decrease; CMS H11: Costs associated with hospital inpatient and ED services will show reductions or slowed growth
H13. Total cost of care will decrease.	CMS H12. Total cost of care will show reductions or slowed growth

Appendix 4: Documentation of PQI/PDI Exclusion

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop S2-01-16
Baltimore, Maryland 21244-1850



State Demonstrations Group

JAN 13 2010

Jason Helgeson
Director, Office of Health Insurance Programs
New York State Department of Health
Empire State Plaza
Corning Tower (OCP – 1211)
Albany, NY 12237

Dear Mr. Helgeson:

This letter is to inform you of the Centers for Medicare & Medicaid Services (CMS) decisions regarding New York's request for changes to *Attachments I: DSRIP Program Funding and Mechanics Protocol* and *Attachment J: DSRIP Strategies Menu and Metrics Protocol* for the 1115 Medicaid Redesign Team Demonstration (Project No. 11-W-00114/2). CMS carefully considered each of these requests in making a determination. Below we outline our decisions.

Request to allow for partial payments for "Partial Achievement Values (AV)" when determining incentive awards

CMS understands the potential benefits to allowing performing provider systems (PPS) to receive payments for partially meeting performance goals. However, we require a more complete set of measures than is available at this time to fully evaluate the request. We look forward to continuing conversations to address New York's request.

Request to delay the conversion of several Preventive Quality Indicators (PQI) and Pediatric Quality Indicators (PDI) performance measures from pay for reporting (P4R) to pay for performance (P4P) for one additional demonstration year

Several of New York's measures were affected by the national conversion of International Classification of Diseases (ICD) version 9 to ICD-10. Specifically, DSRIP Demonstration Year 2 (DY2) spanned ICD-9 and 10. CMS agrees with New York's concerns about trending across ICD versions and approves the request to delay the conversion of PQI and PDI measures to allow the baseline to be based on ICD-10 only. These changes are included in the revised *Attachment J: DSRIP Strategies Menu and Metrics Protocol*, included as an attachment to this letter.

(Helgerson, page 2)

Request to convert quality measures related to the Clinician and Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS) for the uninsured population (project 2.d.i) to P4R for the programs remaining three demonstration years

While CMS appreciates the challenges of data collection for the CG-CAHPS for the uninsured measure, we deem this survey data to be important to hold PPSs accountable for achieving the project 2.d.i. goals. At this time, we cannot accommodate New York's request to convert the measure to P4R for the remainder of the demonstration.

Request to adjust the methodology used to determine pay for performance AV awards across CG-CAHPS measures

CMS understands the difficulty of improving on measures for which there is already a high performance. However, we suggest that a preferred approach may be to retire or replace measures for which there is little or no room for improvement. Therefore, we cannot approve this request at this time.

We look forward to continuing to work with you and your staff on the demonstration. If you have questions or concerns, please contact your project officer, Adam Goldman at (410) 786-2242, or by e-mail at Adam.Goldman@cms.hhs.gov.

Sincerely,



Angela D. Garner

Director, Division of System Reform Demonstrations

cc:

Michael Melendez, Associate Regional Administrator, CMS New York Region

Appendix 5: Descriptive Statistics for Performing Provider System Characteristics

This appendix provides descriptive statistics for the PPS characteristics examined in the seven comparative analysis regressions corresponding to the preventable hospitalization (Section 4.1.2.3) and behavioral health (Section 4.2.2.3) performance measures.

The following characteristics were identified for inclusion in consultation with the NYS DOH, and selected based on conceptual considerations (e.g., PPSs with members who are older and with more chronic conditions are likely to have worse performance outcomes), insights from the implementation and process study (e.g., PPSs that were NewCos versus pre-existing entities might have been able to start working on projects sooner), and data availability (e.g., the percent of members who reported Hispanic ethnicity was omitted due to missing data and the composition of providers in PPS networks was excluded because the provider network data were unable to be repurposed for the comparative regressions).

There were two types of PPS characteristics, summarized in exhibits A5.i and A5.ii and described in more detail below.

Exhibit A5.i presents time-invariant characteristics that remained constant throughout the DSRIP program period. For the regression models, the regional data was collapsed into three broader categories: (1) New York City (NYC)(five boroughs), (2) NYC Metro (Long Island and Mid-Hudson), and (3) Upstate (Capital Region, Central New York, Finger Lakes, Mohawk Valley, North Country, Southern Tier, Tug Hill Seaway, and Western New York). The lead entity type was collapsed into “hospital system” versus “other” to simplify the analysis; exploratory analyses revealed that the main difference in outcomes was between the hospital systems versus other types, hospital systems were identified in preliminary Implementation and Process data as being an important distinguishing PPS characteristic, and the model fits and key findings were similar in models with and without the aggregation of other lead entity types into a single “other” category. All classifications were developed in consultation with the NYS DOH.

Exhibit A5.ii presents time-varying characteristics that varied slightly across the time period. These are based on the attributed members. For the comparative regression, the member-level characteristics were aggregated to the PPS-month level; for example, the percentage of members reporting Black race in MY0 Month 01. There are 1,525 observations for each member characteristic, corresponding to the 25 PPSs x 61-month study period (MY0 Month 12 through MY5 Month 12). In Exhibit A5.ii, the values in each cell are based on the mean and standard deviation of the PPS-month level aggregated values within each PPS, for the 61 time periods. The raw data contain nine 3M Clinical Risk Group (CRG) categories. In consultation with the NYS DOH and after review of literature on how this information could be used to measure differences in members’ health status across PPSs, this was classified into a three-level measure: (1) Healthy/Acute (CRG categories 1 and 2), (2) Minor Needs (CRG categories 3-5), and (6) Chronic Needs (CRG categories 6-9). In exploratory analyses, a small portion of members were in the Minor Needs category and key findings were similar when using a more

detailed specification (two measures for the percentage of members with Minor Needs and the percentage of members with Chronic Needs) versus a simplified measure of the percentage of members in the Healthy/Acute categories. The simpler one-variable version was used in the comparative regressions and presented here descriptively.

Exhibit A5.i. Organizational characteristics of 25 Performing Provider Systems

Preferred name	Region	NewCo vs pre-existing entity	Lead entity type
Adirondack Health Institute	Upstate	Pre-existing	Multiple Unaffiliated Providers
Alliance for Better Health	Upstate	Pre-existing	Multiple Unaffiliated Hospitals
Better Health for Northeast New York	Upstate	Pre-existing	Single Hospital
Bronx Health Access	NYCity	NewCo	Single Hospital
Bronx Partners for Healthy Communities	NYCity	NewCo	Multiple Unaffiliated Providers
Care Compass Network	Upstate	NewCo	Multiple Unaffiliated Hospitals
Central New York Care Collaborative	Upstate	NewCo	Multiple Unaffiliated Hospitals
Community Care of Brooklyn	NYCity	Pre-existing	Multiple Unaffiliated Hospitals
Community Partners of Western New York	Upstate	Pre-existing	Hospital System
Finger Lakes PPS	Upstate	NewCo	Multiple Unaffiliated Hospitals
Leatherstocking Collaborative Health Partners	Upstate	Pre-existing	Single Hospital
Millennium Collaborative Care	Upstate	Pre-existing	Single Hospital
Montefiore Hudson Valley Collaborative	NYC Metro	Pre-existing	Hospital System
Mount Sinai PPS	NYC	NewCo	Hospital System
Nassau Queens PPS	NYC Metro	NewCo	Multiple Unaffiliated Hospitals
NewYork-Presbyterian PPS	NYC	Pre-existing	Hospital System
NewYork-Presbyterian Queens PPS	NYC	Pre-existing	Single Hospital
North Country Initiative	Upstate	Pre-existing	Multiple Unaffiliated Providers
NYU Langone Brooklyn	NYC	Pre-existing	Single Hospital
OneCity Health	NYC	Pre-existing	Hospital System
Refuah Community Health Collaborative	NYC Metro	Pre-existing	Non-Hospital
SOMOS	NYC	NewCo	Non-Hospital
Staten Island PPS	NYC	NewCo	Multiple Unaffiliated Hospitals
Suffolk Care Collaborative	NYC Metro	NewCo	Multiple Unaffiliated Hospitals
WMCHHealth	NYC Metro	Pre-existing	Hospital System

Abbreviations: New York City (NYC), New Corporation (NewCo)

Exhibit A5.ii. Member characteristics of 25 Performing Provider Systems

Preferred name	Number of members	% members with healthy/acute CRG	% members reporting Black race	Mean age of members
Adirondack Health Institute	71,604.3 (5,617.5)	10.3 (0.3)	2.2 (0.2)	25.8 (0.5)
Alliance for Better Health	112,706.7 (7,261.6)	8.0 (0.3)	27.5 (1.8)	24.6 (0.3)
Better Health for Northeast New York	64,569.1 (8,467.8)	9.7 (0.3)	16.7 (1.2)	25.8 (0.4)
Bronx Health Access	129,443.6 (13,304.2)	6.4 (0.5)	54.2 (1.1)	27.8 (1.0)
Bronx Partners for Healthy Communities	304,317.3 (14,348.1)	6.5 (0.2)	51.1 (1.0)	25.9 (0.1)
Care Compass Network	89,964.1 (5,276.6)	9.6 (0.2)	10.8 (0.7)	24.2 (0.3)
Central New York Care Collaborative	193,879.8 (17,460.7)	9.1 (0.3)	21.5 (0.7)	25.5 (0.4)
Community Care of Brooklyn	525,256.3 (61,241.2)	8.5 (0.6)	29.4 (2.1)	25.0 (0.4)
Community Partners of Western New York	78,113.5 (2,545.9)	10.6 (0.3)	15.5 (1.1)	27.0 (0.7)
Finger Lakes PPS	286,167.2 (20,388.5)	10.0 (0.4)	26.8 (0.5)	24.5 (0.3)
Leatherstocking Collaborative Health Partners	37,206.3 (1,443.6)	10.7 (0.1)	3.1 (0.1)	25.5 (0.3)
Millennium Collaborative Care	232,310.7 (9,220.1)	8.1 (0.3)	31.7 (0.8)	24.1 (0.2)
Montefiore Hudson Valley Collaborative	198,062.9 (17,580.8)	7.2 (0.2)	31.4 (1.7)	25.0 (0.4)
Mount Sinai PPS	287,584.5 (26,322.1)	7.6 (0.3)	44.8 (1.5)	30.3 (0.3)
Nassau Queens PPS	374,517.2 (21,342.1)	7.9 (0.3)	30.3 (0.7)	28.0 (0.2)
NewYork-Presbyterian PPS	74,461.4 (5,614.8)	8.8 (0.5)	31.1 (0.7)	25.6 (0.3)
NewYork-Presbyterian Queens PPS	24,402.0 (1,160.5)	8.9 (0.7)	17.8 (0.4)	26.0 (0.6)
North Country Initiative	35,154.5 (1,960.6)	9.2 (0.4)	3.9 (0.1)	23.9 (0.7)
NYU Langone Brooklyn	109,237.0 (11,078.5)	10.4 (0.8)	13.4 (1.9)	20.9 (0.9)
OneCity Health	613,095.3 (32,232.1)	6.4 (0.3)	50.8 (1.0)	26.8 (0.3)
Refuah Community Health Collaborative	46,850.1 (3,167.9)	12.2 (0.7)	3.0 (0.5)	19.3 (0.2)
SOMOS	581,451.9 (23,480.1)	8.8 (0.2)	21.6 (0.7)	27.8 (0.3)
Staten Island PPS	68,501.3 (3,221.3)	7.3 (0.4)	27.9 (1.2)	27.3 (0.6)
Suffolk Care Collaborative	191,409.2 (11,795.1)	7.4 (0.3)	21.8 (1.0)	24.2 (0.4)
WMCHHealth	160,027.5 (15,974.0)	7.9 (0.2)	21.2 (0.8)	23.3 (0.4)

Notes: For the comparative regression analysis, member-level characteristics were aggregated to the PPS-month level, for a total of 1,525 observations (61 months x 25 PPSs). The values in this table represent the mean and standard deviation of the 61 aggregate-level observations, by PPS.

Appendix 6: Key Informant Interview Guides

Appendix 6 includes the guides used for the key informant interviews in 2017, 2018, and 2019. Key informant interviews were conducted by telephone and lasted between 60 and 90 minutes.

PPS Executive Team Key Informant Interview Guide 2017

Introductory Script (to be read to all informants prior to the interview):

Thank you for taking the time to speak with me today. My name is _____, and I am a member of the NY DSRIP Independent Evaluation team. As you know from the email and the webinar materials, I have been asked to interview PPS administrators to discuss the history of the PPS formation as well as the successes, and challenges with the initiative.

We know your PPS has extensive reporting requirements to DOH. To that end, from publicly facing sources like your website, the PPS applications, and Independent Assessor posted quarterly reports we have collected a summary of your existing projects and would like to just quickly go over them so you can confirm the information we have is accurate and up-to-date. *[Insert detailed PPS projects summary and other relevant information (geographic areas serving, major changes to projects, other known issues)].*

Before I pose any questions, I want to go over a few guidelines that will help us complete the discussion:

- Please keep in mind that that there are no right or wrong answers. We are seeking your candid feedback on the initiative so far.
- Because we are on the phone, please state your name before you answer a question for the first time. This may feel awkward, but it will be easier as we proceed.
- I am having our discussion recorded. As a backup to the tape, I am having a research assistant, Melissa, listen in with me and take notes.

Now let's begin with introductions so I know who is here. Can all of you provide your names and your titles with a short description of what you do at the PPS?

Have I missed anything about your PPS that I should know before we get started?

Great, now I will go through the questions we have prepared.

- 1. How was your PPS initially formed? (If knowledgeable about PPS development)**
 - a. Probe: Who were the key champions (people, organizations) of the PPS in the early stages of formation?
 - b. Probe: Who developed or contributed to the DSRIP application process (e.g., staff, consultants, community partners)?
 - c. Probe: What worked well about the formation?
 - d. Probe: What about project selection?

OR

- 1. How did you get involved with DSRIP teams or projects? (If not knowledgeable about PPS development)**
 - a. Probe: Please tell us about your involvement in any board, clinical, project workgroups, regional community partner committees, etc.
 - b. Probe: Who are the champions and key members/member organizations of these committees?

- 2. What are some of the biggest challenges your PPS experienced during the early phases (e.g., years 0-2) of project implementation?**
 - a. Probe: Specific project workflows, engagement with community partners, communication approaches, staff buy-in, etc.
 - b. Probe: Did project(s) start dates get delayed or hit major road blocks along the way? If so, please describe them.
 - c. Probe: Are projects not meeting speed and scale targets? If not, why?
 - d. Probe: In your view, which projects require more resources to operate?
 - i. Why do you think it's these projects in particular?
 - e. Probe: What type of resources are the projects lacking?
 - i. e.g., Staffing, Leadership, Community Networks, IT, Physical Infrastructure, Clinical Knowledge, Patient-related needs

- 3. What are some of the biggest successes that you have experienced during the early phases (e.g., years 0-2) of project implementation?**
 - a. Probe: Community needs assessment and the application process?
 - b. Probe: Specific project workflows, engagement with community partners, communication approaches, etc.
 - c. Probe: Project innovations? If yes, please describe them.
 - d. Probe: Projects are meeting or exceeding speed and scale targets? If so, why?

- 4. Please tell us about PPS committees that are related to its governance and about the effectiveness of your PPS's committees in meetings its goals and objectives.**
 - a. Probe: Have you restructured your committees since formation? From project workgroup to performance focused workflow?
 - b. How are these committees used to communicate important information about the PPS or projects?
 - c. Probe: Who are the champions and key members/member organizations of these committees?
 - d. Probe: What has been challenging with regards to the committees?
 - e. Probe: What is the relationship between the PPS and external committees, such as associated hospitals?

5. **What data are being collected by your PPS and/or NYS DOH that you believe to be the most important to understanding overall DSRIP program success?**
 - a. Probe: What are the least important aspects of data collection?
 - b. Probe: How is performance communicated to PPS staff? Community providers?
 - c. Probe: What about reporting: Partner to PPS reporting, PPS to state reporting?

6. **From your perspective, how valuable is the account support provided by NYS and its consultants? How valuable is the project implementation support?**
 - a. Probe: What are the most effective types of TA provided to your PPS?
 - b. Probe: What are the least effective types of TA provided to your PPS?
 - c. Probe: Who is included in regional and/or statewide DSRIP meetings from your PPS?

7. **In your view, has DSRIP changed the health care system??**
 - a. Probe: If yes, for whom? How?
 - b. Probe: If no, why do you think it has remained the same?

8. **Is there anything you would like to comment on regarding DSRIP in general?**
 - a. Probe: What would you ask another PPS if you could?
 - b. Probe: Suggestions for improvement
 - c. Probe: Anything we have not touched on in this interview

Should you have any questions about this interview or evaluation, please feel free to contact Diane Dewar, Principal Investigator for this study at ddewar@albany.edu.

Project Leader Key Informant Guide 2018

Introductory Script (to be read to all informants prior to the interview):

Thank you for taking the time to speak with me today. My name is _____, and I am a member of the NYS DSRIP Independent Evaluation team at the University at Albany. I am here with my colleague(s) _____ who will be assisting me today. As you know from the emails and FAQ sheet, we have been asked to interview PPS project leaders to discuss the planning, implementation and operations of DSRIP projects as well as the successes and challenges with the initiative.

Thank you to those of you who completed the pre-survey we sent out. Your responses were very helpful in getting to know you all a little bit better and providing us with project-specific information for [insert PPS name]. Today's interview is going to build off of the questions that were asked in the survey.

Before I pose any questions, I want to go over a few guidelines that will help us complete our discussion:

- Our interview consists of a series of open-ended questions that are very broad in nature, and this is intentional to elicit a wider response. Please free to answer these questions based on your knowledge, feelings, understanding and experience.
- Please keep in mind that that there are no right or wrong answers. We understand that each of you may have different perspectives. We are seeking your candid feedback on the initiative so far. What we learn from this interview will be included in reports submitted to NYS DOH and your responses will be de-identified.
- Because we are on the phone, please state your name before you answer a question for the first time. This will help us accurately record your responses.
- We are having our discussion recorded and as a backup to the tape, _____ is taking notes.
- We've built in some time (through our last question) to capture any of your final thoughts or anything we may have missed, so feel free to share at that time.

Now let's begin with introductions so we know who is here. Can all of you provide your names and your titles with a short description of what you do at the PPS?

Great, now I will go through the questions we have prepared.

- 1. What are some of the biggest challenges your PPS experienced (during years 0-present) of project implementation?**
 - a. Probe: Specific project workflows, engagement with community partners, communication approaches, funding and contracting challenges, staff buy-in, etc.
 - b. Probe: Did project(s) start dates get delayed or hit major road blocks along the way? If so, please describe them.
 - c. Probe: Are projects meeting speed and scale targets? If not, why?
 - i. Did attribution shifts affect this?
 - d. Probe: In your view, which projects require more resources to operate?
 - i. Why do you think it's these projects in particular?
 - e. Probe: What type of resources were the projects lacking?
 - i. e.g., Staffing, Leadership, Community Networks, IT, Physical Infrastructure, Clinical Knowledge, Patient-related needs
 - f. Probe: Overlap with other PPS entities in your counties
- 2. What are some of the biggest successes that you experienced during project implementation?**
 - a. Probe: Specific project workflows, engagement with community partners, communication approaches, etc.
 - b. Probe: Project innovations? If yes, please describe them.
 - c. Probe: Projects are meeting or exceeding speed and scale targets? If so, why?

3. **What data are being collected by your PPS and/or NYS DOH that you believe to be the most important to understanding overall DSRIP project success?**
 - a. Probe: What data do you wish you had access to?
 - b. Probe: How is performance communicated to PPS staff? Community providers?
 - c. Probe: What about reporting: Partner to PPS reporting, PPS to state reporting?

4. **From your perspective, how valuable is the support provided by NYS DOH and its consultants (i.e. KPMG, PCG- IA, ASTs)?**
 - a. Probe: How valuable is the project implementation support?
 - i. Specific symposiums/meetings? MAX series? PPS meetings?
 - b. Probe: What are the most effective types of TA provided to your PPS?
 - c. Probe: What are the least effective types of TA provided to your PPS?

5. **What have you done to prepare for the shift to value based payment?**
 - a. Probe: Are projects sustainable beyond DSRIP? Will VBP support them? If not, what else is needed to support them (regulatory changes, billing changes, practice/professional scope, etc.)

6. **In your view, have DSRIP projects changed the health care system?**
 - a. Probe: If yes, for whom? How?
 - b. Probe: If no, why do you think it has remained the same?
 - c. Probe: Has care changed for patients?

7. **Is there anything you would like to comment on regarding DSRIP in general?**

Thank you all for your time and feedback, it's been very helpful to get all of your perspectives!

PPS Executive Team Key Informant Interview Guide 2019

Introductory Script (to be read to all informants prior to the interview):

Thank you for taking the time to speak with me today. My name is _____, and I am a member of the NYS DSRIP Independent Evaluation team at the University at Albany. I am here with my colleague(s) _____ who will be assisting me today. As you know from the e-mails and FAQ sheet, we have been asked to interview the PPS executive team to discuss the successes and challenges of the DSRIP program. [Could mention: "In 2017, we interviewed your PPS's leadership to hear about process factors and implementation successes and challenges during DSRIP years 0-2, so we're now looking to pick up where we left off and hear your stories related to DSRIP years 3-present."]

Before I pose any questions, I want to go over a few guidelines that will help us complete our discussion:

- Our interview consists of a series of open-ended questions that are very broad in nature. Please feel free to answer these questions based on your knowledge, feelings, understanding, and experience.

- Please keep in mind that that there are no right or wrong answers. We understand that each of you may have different perspectives. We are seeking your candid feedback. What we learn from this interview will be included in reports submitted to NYS DOH, but your responses will be de-identified.
- We are having our discussion recorded and as a back up to the tape, _____ is taking notes.
- We've built in some time (through our last question) to capture any of your final thoughts or anything we may have missed, so feel free to share them at that time.

Now let's begin with introductions so I know who is here. Can all of you provide your names and your titles with a short description of what you do at the PPS?

Great, now I will go through the questions we have prepared.

- 1. What are some of the biggest challenges your PPS experienced in years 3-5 of DSRIP implementation?**
 - a. Probe: What do you think led to those challenges?
 - b. Probe: Workflows, engagement with community partners, communication approaches, funding and contracting challenges, staff buy-in, etc.
 - c. Probe: Did your PPS hit major road blocks along the way? If so, please describe them.
 - d. Probe: What type of resources has DSRIP implementation lacked? e.g. staffing, leadership, community networks, clinical knowledge, patient-related needs
 - e. Probe: Overlap with other PPSs in your counties
- 2. What are some of the biggest successes that your PPS experienced in years 3-5 of DSRIP implementation [and what do you think led to those successes]?**
 - a. Probe: What do you think led to those successes?
 - b. Probe: Specific project workflows, engagement with community partners, communication approaches, etc.
 - c. Probe: Project innovations? If yes, please describe them.
- 3. Could you please discuss facilitators and barriers to your PPS's achievement specifically related to:**
 - a. Progress with meeting P4P metrics, specifically related to closing the "gap to goal."
 - b. Progress with reducing avoidable emergency department usage, specifically related to Potentially Preventable Visits (PPV) and Potentially Preventable Readmissions (PPR)
 - c. Progress/effectiveness of system transformation initiatives
 - d. Progress/effectiveness of clinical improvement (particularly behavioral health) initiatives
 - e. Progress/effectiveness of population health initiatives

4. **The DSRIP program included a lot of data reporting and investment in data infrastructure. Do you think this will help providers work better within a value based payment environment?**
 - a. Probe: In what ways?
 - b. Probe: What data-related investments do you expect to be retained long term?
 - c. Probe: What data-related investments do you expect to be most useful long term?
 - d. Probe: How have community-based organizations been included in this process

5. **What else have you done to prepare for the shift to value based payment?**
 - a. Probe: Is the work partners are doing sustainable beyond DSRIP? Will VBP support them? If not, what else is needed to support them (regulatory changes, billing changes, practice/professional scope, etc.)
 - b. Probe: Can you tell us where your partners currently are in the process of developing contracts to provide sustainability?
 - c. Probe: What about community-based organizations? Do you think they will receive funding in a value based payment environment?

6. **What will happen to your PPS's organizational structure at the end of the DSRIP program?**
 - a. Probe: Will other entities take on its roles? Which ones?
 - b. Probe: What are the challenges with this transition process?

7. **There are a number of ongoing health care initiatives taking place in New York, and we are interested in knowing how they have affected the DSRIP program's implementation and operation.**
 - a. Have you found that other New York State Medicaid initiatives [including other MRT initiatives] have affected the DSRIP program's implementation and operation?
 - Probe: Which ones?
 - Probe: Have they overlapped? Conflicted? Facilitated both programs?

 - b. Have you found that other non-Medicaid New York State initiatives, such as the Prevention Agenda, have affected the DSRIP program's implementation and operation?
 - Probe: Which ones?
 - Probe: Have they overlapped? Conflicted? Facilitated both programs?

 - c. Have you found that federal initiatives, such as the Affordable care Act, have affected the DSRIP program's implementation and operation?
 - Probe: Which ones?
 - Probe: Have they overlapped? Conflicted? Facilitated both programs?

8. In your view, has the DSRIP program changed the health care system?

- a. Probe: If yes, for whom? How?
- b. Probe: If no, why do you think it has remained the same?
- c. Probe: Has care changed for patients?

9. Is there anything you would like to comment on regarding DSRIP in general?

Thank you all for your time and feedback, it's been very helpful to get all of your perspectives!

Appendix 7: Focus Group Guide

Appendix 7 provides the template used for partner focus groups conducted in 2017, 2018, and 2019. The focus group guide was tailored to the specific categories of providers that attended a given focus group. Questions that were only asked of certain categories of providers and/or only in certain years are indicated in the template below.

Focus Group Guide

Welcome, everyone. Thank you for taking time out of your busy schedule to attend today's focus group. My name is [name], and this is [colleague name(s)]. I will conduct the discussion, and [colleague name(s)] will observe and take notes. We are from University at Albany, and we are conducting these focus groups as part of an independent evaluation of DSRIP. The evaluation is also collecting feedback and data from surveys.

The purpose of today's focus group is to gather information that will contribute to our understanding of how the Delivery System Reform Incentive Payment (DSRIP) transformation is affecting [PROVIDER CATEGORY] in New York State. In today's focus group, I will ask you several questions. Your personal opinions and views are very important for us to understand. There are no right or wrong answers. Please feel welcome to express yourself freely during the discussion – we appreciate your candor and your willingness to participate.

There are a few practical issues I would like to discuss before we get started. The focus group today will last for 90 minutes. We understand that you are busy health care professionals, so we fully understand if you are paged or need to step outside to take a phone call or respond to a message.

We value the opinion of each and every one of you here, and we would like to give everyone the chance to express their opinions during the conversation. We are only talking to a limited number of [provider types] so feel free to express your opinion, even if it differs from everyone in the group, as your perceptions may represent many others across New York State. We will be tape recording today's session to ensure that we accurately capture everything that is discussed. We want to be as attentive as possible to what is shared today because we value your time and your participation. The recording will help us expand upon the handwritten notes and catch any important details that are missed in the notetaking process. What we learn from our focus groups will be included in reports submitted to New York State Department of Health, but none of what we record or write down today will be attributed to any individuals or identified by name or organization (your responses will be de-identified). Tapes will be destroyed as soon as they are transcribed. If something comes up that you do not want recorded, we can turn off the recorder at that point.

1. Tell us your name and your organization and briefly how your engagement with DSRIP began.

2. How has the DSRIP transformation affected your responsibilities at the organization you work for?
3. What services does your organization provide? Do you bill Medicaid for those services? [only for focus groups with mental health and substance use professionals]
4. What type of services does your organization provide? [only for focus groups with community-based organizations]
5. Looking back to when DSRIP began, how would you characterize implementation and operation of DSRIP?
6. Looking back over the first few years, what has worked well with DSRIP? [2019 wording was “What has worked well with DSRIP?”]
7. What has worked less well over the first few years? [2019 wording was “What has worked less well with DSRIP?”]
8. Have you formed any new connections with other practitioners [clinical groups/organizations]?

Prompt: If so, why?

Prompt: Self-initiated vs PPS project initiated?

9. How has the dynamic changed between primary care physicians and specialists? [only for focus groups with primary care physicians, clinic managers, health home organizations, specialists]
10. The PPS you are involved with has selected certain projects to implement from the DSRIP project toolkit. Some of those projects may directly or indirectly impact your areas of work. Could you share a little about the impacts of these DSRIP projects?

Prompt: How are these projects influencing your work, if at all?

11. How has the population you serve changed since launching DSRIP? [only for focus groups with community-based organizations and mental health and substance abuse professionals]
12. What have you done to prepare for the change to value based payment? [asked each year for all focus groups except community-based organizations]
13. Are you engaging contractually in any value based payment projects? [asked for focus groups with community-based organizations in 2019]

- a. If yes, could you please share more with us?
- b. If no, what are the barriers?

14. What have you done to prepare for the shift to value based payment? [community based organization focus groups were asked this question in 2019 but not in the previous years]

Prompt: Have you attended a PPS sponsored information session? State training?

15. What are the barriers to achieving progress on value based performance?

Prompt: What support or resources do you need to overcome these barriers?

16. How has DSRIP's focus on avoidable emergency department utilization affected your work? [for all focus groups except community-based organizations]

17. As a behavioral health or substance abuse provider, how has the focus on integration with primary care impacted your work with patients? [only for focus groups with mental health and substance use professionals]

18. How have the efforts to improve population health and integrate delivery systems impacted your daily work? [only for focus groups with hospitals, nursing homes, hospice, and home care professionals and community-based organizations]

19. What's one thing you would change right now?

Prompt: Why did you choose that aspect specifically?

20. Our discussion today was to help us understand how [insert category of provider here] are managing the DSRIP transformation. Have we missed anything?

Thank you so much for your participation today. Getting your feedback on DSRIP is essential to our evaluation process, and we appreciate everyone's willingness to discuss it with us today. If you have any questions after today about the independent evaluation, please don't hesitate to contact us at the University at Albany.

Appendix 8: Statewide Partner Survey Instruments

Appendix 8 includes the web-based partner survey instruments used in 2017, 2018, and 2019.

Statewide Partner Survey Instrument 2017

1. What is your name?
2. What is the name of your organization?
3. What is your position?
4. How many PPS-selected DSRIP projects are you involved with and knowledgeable about?

If you are involved with more than 3 DSRIP related projects at your organization, please think of the 3 projects with which you are most involved. The project(s) may be within one PPS or several projects across multiple PPSs depending on your service area and involvement.

5. Using the drop-down menu below, please indicate the first project you are involved with and the corresponding PPS.

PPS:

Project:

6. Please indicate your level of satisfaction with <Project> implementation as related to working with <PPS>.

Very satisfied (1)

Satisfied (2)

Neither satisfied nor dissatisfied (3)

Dissatisfied (4)

Very dissatisfied (5)

Not applicable (6)

I don't know (7)

7. Please indicate your level of satisfaction with the current operation of <Project> as related to working with <PPS>.

Very satisfied (1)

Satisfied (2)

Neither satisfied nor dissatisfied (3)

Dissatisfied (4)

Very dissatisfied (5)

Not applicable (6)

I don't know (7)

8. How satisfied were you with <Project> operations at your organization overall during Demonstration Years 0-2 (2014-2017)?

Very satisfied (1)

- Satisfied (2)
- Neither satisfied nor dissatisfied (3)
- Very dissatisfied (4)
- Not applicable (5)
- I don't know (6)

9. What would you change about current operation of the project within <PPS>?

10. What would you change about the current operation of the project within your organization?

11. Please indicate the degree of change to which you perceive the project is changing patient care.

- Very positive change (1)
- Positive change (2)
- No change (3)
- Negative change (4)
- Very negative change (5)

12. How effective do you perceive the project to be at meeting its intended goals currently?

- Extremely effective (1)
- Very effective (2)
- Moderately effective (3)
- Slightly effective (4)
- Not effective at all (5)
- I don't know (6)

13. Why do you feel this way?

<Items 5 through 13 were repeated up to three times for respondents participating in more than one project.>

14. One focus of DSRIP was to integrate primary, specialty, and behavioral health care. Has the clinical care at your organization changed since DSRIP was initiated?

- Yes, very positive change (1)
- Yes, positive change (2)
- No change (3)
- No, negative change (4)
- No, very negative change (5)
- I don't know (6)
- Not applicable, my organization does not provide clinical services (7)

15. Have you observed any of the following benefits to primary care and behavioral health services integration? (Please select all that apply).

- Improved communication leading to more coordinated care (1)
- Improved recognition of mental health disorders (2)
- Increased primary care providers (PCPs) use of behavioral health intervention (3)
- Decreased stigma of mental health conditions (4)
- Improved understanding of patient needs (5)
- Improved patient and provider satisfaction (6)
- Improved clinical outcomes (7)
- Reduced avoidable hospital utilization (8)
- Increased productive capacity (9)
- Reduced medical costs (10)
- Other (please specify): (11) _____
- N/A (12)

16. In your view, are patients experiencing better care since the launch of DSRIP?

- Yes, very positive change (1)
- Yes, positive change (2)
- No change (3)
- No, negative change (4)
- No, very negative change (5)
- I don't know (6)

17. Another focus of DSRIP was population health interventions. Do you believe DSRIP has changed any aspect of population health within your service area?

- Yes, very positive change (1)
- Yes, positive change (2)
- No change (3)
- No, negative change (4)
- No, very negative change (5)
- I don't know (6)

18. Has DSRIP changed the way your organization provides services?

- Yes (1)
- No (2)
- I don't know (3)

19. If yes, in what ways has DSRIP changed the way your organization provides services?

20. How do you characterize your understanding of value based payment?

- Very knowledgeable (1)
- Somewhat knowledgeable (2)
- Only at a little knowledgeable (3)
- Not at all knowledgeable (4)

21. Have you made changes to your practice or organization to prepare for value based payment?

- Yes (1)
- No (2)
- I don't know (3)

22. Do you require more resources/knowledge for the shift to value based payment?

- Yes (1)
- No (2)
- I don't know (3)

23. How effective do you perceive DSRIP to be overall?

- Extremely effective (1)
- Very effective (2)
- Moderately effective (3)
- Slightly effective (4)
- Not effective at all (5)

24. In what ways is it effective or ineffective?

25. Please share any suggestions you may have for state-level changes or program improvements for DSRIP as a whole.

Statewide Partner Survey Instrument 2018

The Independent Evaluator of the New York State Delivery System Reform Incentive Payment (DSRIP) program is conducting a survey of project partners. The survey includes questions about your perceptions of DSRIP and how DSRIP has affected organizations and patients.

Your feedback will help improve programs by letting the Department of Health and your PPS know which aspects of DSRIP have been effective and which have not. Evaluating these changes each year helps determine whether improvements are taking place over time.

1. What type of organization do you work for?²⁴⁰

- Community-based organization
- Primary care provider
- Non-primary care practitioner
- Clinic
- Hospital
- Behavioral health organization
- Substance use treatment organization

²⁴⁰ This is a partner self-selected category type.

Skilled nursing facility/ nursing home
Hospice/ palliative care center
Home care agency
Government office
Pharmacy
Health home/ care management program
Other (specify)

The next items ask about your perceptions of DSRIP overall. The survey will ask about your specific projects in a later section.

2. How have the services or clinical care at your organization changed since DSRIP was initiated?
Very positive change
Some positive change
No change
Some negative change
Very negative change

3. Have you observed any of the following benefits from DSRIP? (Please select all that apply).
More coordinated care
Improved recognition of mental health disorders
Increased primary care provider use of behavioral health intervention
Improved understanding of patient needs
Improved patient satisfaction
Improved clinical outcomes
Reduced avoidable hospital utilization
Reduced medical costs
None of the above

4. [Skip if 3= none of the above] Do you expect these benefits to continue after DSRIP funding ends?

[List each benefit respondent selected above with yes/no/ I don't know options for each]

5. In your view, are patients experiencing better care since the launch of DSRIP?
Yes, very positive change
Yes, some positive change
No change
No, some negative change
No, very negative change
I don't know

6. Do you believe DSRIP has changed any aspect of population health within your service area?
 - Very positive change
 - Some positive change
 - No change
 - Some negative change
 - Very negative change
 - I don't know
7. How effective do you perceive DSRIP to be overall?
 - Extremely effective
 - Very effective
 - Moderately effective
 - Slightly effective
 - Not at all effective
8. In what ways do you feel that DSRIP is working well?
9. Please share any suggestions you have for program improvements for DSRIP.

The next set of questions will ask about value based payment.

10. How do you characterize your understanding of value based payment?
 - Very knowledgeable
 - Somewhat knowledgeable
 - A little knowledgeable
 - Not at all knowledgeable
11. Has your practice or organization made changes to prepare for value based payment?
 - Yes
 - No
12. Do you require more resources to facilitate the shift to value based payment?
 - Yes
 - No
13. [If 12=yes] What types of resources would help your organization shift to value based payment?
 - Additional training (specify training topics: _____)
 - One-on-one consulting
 - Additional funding for infrastructure changes
 - Peer training and support
 - Improved access to performance data (specify data types: _____)

Other (specify: _____)

14. [If any responses selected in 13] Which of these resources would be MOST helpful to your organization's shift to value based payment? [List all selected in 10]

The following section will ask for your perceptions of DSRIP projects.²⁴¹

15. Please select each PPS you work with on projects.
16. Below is a list of [PPS] projects. Please select each project with which you are actively involved. [List customized by PPS] [Repeat per PPS]
17. Please indicate your level of satisfaction with the past 12 months of operation of <Project> at <PPS>.
- Very satisfied
 - Somewhat satisfied
 - Neither satisfied nor dissatisfied
 - Somewhat dissatisfied
 - Very dissatisfied
 - Not applicable
18. Please indicate the degree to which you perceive the project is changing patient care.
- Very positive change
 - Some positive change
 - No change
 - Some negative change
 - Very negative change
19. How effective do you currently perceive the project to be at meeting its intended goals?
- Extremely effective
 - Very effective
 - Moderately effective
 - Slightly effective
 - Not at all effective

[#17,18, 19 repeated for each PPS's projects]

20. [After all projects] Is there anything else you would like to share about DSRIP?

²⁴¹ Partner responses were limited to up to 3 projects in the 2017 survey. There were no such limitations in the 2018 survey; partners could provide responses about all projects with which they participated.

Statewide Partner Survey Instrument 2019

The Independent Evaluator of the New York State Delivery System Reform Incentive Payment (DSRIP) program is conducting a survey of project partners. The survey includes questions about your perceptions of DSRIP and how DSRIP has affected organizations and patients.

Your feedback will help improve programs by letting the Department of Health and your PPS know which aspects of DSRIP have been effective and which have not. Evaluating these changes each year helps determine whether improvements are taking place over time.

1. What type of organization do you work for?
Community-based organization [please specify the types of services provided: _____]
Primary care provider
Non-primary care practitioner
Clinic
Hospital
Behavioral health organization
Substance use treatment organization
Skilled nursing facility/ nursing home
Hospice/ palliative care center
Home care agency
Federally Qualified Health Center
Government office
Pharmacy
Health home/ care management program
Other (specify)

2. [If selected CBO] Is your organization a Tier 1, Tier 2, or Tier 3 community-based organization?

Tier 1—Non-profit, non-Medicaid billing, community based social and human service organizations (e.g. housing, social services, religious organizations, food banks)

Tier 2—Non-profit, Medicaid billing, non-clinical service providers (e.g. transportation, care coordination)

Tier 3—Non-profit, Medicaid billing, clinical and clinical support service providers (licensed by the NYS Department of Health, NYS Office of Mental Health, NYS Office for Persons with Developmental Disabilities, or NYS Office of Alcoholism and Substance Abuse Services)
Don't know

The next items ask about your perceptions of DSRIP overall. The survey will ask about your specific projects in a later section.

3. How have the services or clinical care at your organization changed since DSRIP was initiated?
 - Very positive change
 - Some positive change
 - No change
 - Some negative change
 - Very negative change

4. Have you observed any of the following benefits from DSRIP? (Please select all that apply).
 - More coordinated care
 - Improved recognition of mental health disorders
 - Increased primary care provider use of behavioral health intervention
 - Improved understanding of patient needs
 - Improved patient satisfaction
 - Improved clinical outcomes
 - Reduced avoidable hospital utilization
 - Reduced medical costs
 - None of the above

5. *[Skip if 4= none of the above]* Do you expect these benefits to continue after DSRIP funding ends?

[List each benefit respondent selected above with yes/no/ I don't know options for each]

6. In your view, are patients experiencing better care since the launch of the DSRIP program?
 - Yes, very positive change
 - Yes, some positive change
 - No change
 - No, some negative change
 - No, very negative change
 - I don't know

7. Which patients seem to be benefitting the most from the DSRIP program?

8. Which patients seem to be benefitting the least from the DSRIP program?

9. Does the DSRIP program connect with other services received by participants? In what ways?

10. Have other health care initiatives affected the DSRIP program?
 - Yes
 - No

11. *[If yes to 10]* Which health care initiatives have affected the DSRIP program? How?

12. Do you believe the DSRIP program has changed any aspect of population health within your service area?
Very positive change
Some positive change
No change
Some negative change
Very negative change
I don't know

13. How effective do you perceive DSRIP to be overall?
Extremely effective
Very effective
Moderately effective
Slightly effective
Not at all effective

14. In what ways do you feel that DSRIP is working well?

15. Please share any suggestions you have for program improvements for DSRIP.

The next set of questions will ask about value based payment.

16. How do you characterize your understanding of value based payment?
Very knowledgeable
Somewhat knowledgeable
A little knowledgeable
Not at all knowledgeable

17. Have you attended value based payment training sessions:

Provided by NYS DOH? [yes/no]
Provided by a PPS? [yes/no]
Provided by OMH? [yes/no]
Provided by another organization? [yes/no]

18. Has your practice or organization made changes to prepare for value based payment?
Yes
No

19. Do you require more resources to facilitate the shift to value based payment?
Yes
No

The next two questions ask about the types of value based payment contracts your organization is part of.

20. Has your organization entered into any value based payment contracts directly with a managed care organization?

- Yes
- No
- Don't know

21. Has your organization entered into any value based payment subcontracts with a lead value based payment contractor (such as a hospital, IPA, or ACO)?

- Yes
- No
- Don't know

22. [If "yes" to 21 or 22] How helpful was your participation in the DSRIP program in entering VBP contracts or subcontracts?

- Very helpful
- Somewhat helpful
- A little helpful
- Not at all helpful because these VBP contracts began prior to the DSRIP program and were not affected by the DSRIP program
- Not at all helpful because these VBP contracts would have occurred without the DSRIP program

The following section will ask for your perceptions of DSRIP projects.

23. Please select each PPS you work with on projects.

24. Below is a list of [PPS] projects. Please select each project with which you are actively involved. [List customized by PPS] [Repeat per PPS]

25. Please indicate your level of satisfaction with the past 12 months of operation of <Project> at <PPS>, even if the project has concluded.

- Very satisfied
- Somewhat satisfied
- Neither satisfied nor dissatisfied
- Somewhat dissatisfied
- Very dissatisfied

26. Please indicate the degree to which you perceive the project changed patient care.

- Very positive change
- Some positive change
- No change
- Some negative change
- Very negative change

27. How effective do you perceive the project was at meeting its intended goals?

- Extremely effective
- Very effective
- Moderately effective
- Slightly effective
- Not at all effective

28. Was this project implemented as it was originally designed?

- Yes, the project was implemented as designed
- No, minor changes were made to the project's design
- No, major changes were made to the project's design

29. Please list the components of the project that were most critical to its success.

[23-27 repeated for each PPS's projects]

30. Is there anything else you would like to share about DSRIP?



Department of Health



Medicaid Satisfaction Survey

2017 Adult Medicaid Clinician and Group CAHPS Survey

All the answers you provide will be kept private. The New York State Department of Health will not share your answers with anyone. By filling out the survey, you will help to improve health care for people in New York. In no way will this survey affect your Medicaid benefits.

You may notice a barcode number on the front of this survey. This number is ONLY used to let us know if you returned your survey so we don't have to send you reminders.

Once you complete the survey, place it in the envelope that was provided, seal the envelope, and return the envelope to DataStat.

If you want to know more about this study, please call 1-877-455-9240 (TTY 888-631-2097).

SURVEY INSTRUCTIONS

- Please be sure to fill the response circle completely. Use only black or blue ink or dark pencil to complete the survey.

Correct Mark



Incorrect Marks



- You are sometimes told to skip over some questions in the survey. When this happens you will see an arrow with a note that tells you what question to answer next, like this:

- Yes → Go to Question 1
- No

↓ START HERE ↓

Your Provider

1. Our records show that you got care from the provider named below in the last 6 months.

[PROVIDER NAME]

Is that right?

- Yes
- No → Go to Question 28



176-01



01

DBXE



The questions in this survey will refer to the provider named in Question 1 as "this provider." Please think of that person as you answer the survey.

2. Is this the provider you usually see if you need a check-up, want advice about a health problem, or get sick or hurt?
- Yes
 - No
3. How long have you been going to this provider?
- Less than 6 months
 - At least 6 months but less than 1 year
 - At least 1 year but less than 3 years
 - At least 3 years but less than 5 years
 - 5 years or more

**Your Care From This Provider
in the Last 6 Months**

These questions ask about your own health care. Do not include care you got when you stayed overnight in a hospital. Do not include the times you went for dental care visits.

4. In the last 6 months, how many times did you visit this provider to get care for yourself?
- None → *Go to Question 28*
 - 1 time
 - 2
 - 3
 - 4
 - 5 to 9
 - 10 or more times

5. In the last 6 months, did you contact this provider's office to get an appointment for an illness, injury or condition that needed care right away?
- Yes
 - No → *Go to Question 7*
6. In the last 6 months, when you contacted this provider's office to get an appointment for care you needed right away, how often did you get an appointment as soon as you needed?
- Never
 - Sometimes
 - Usually
 - Always
7. In the last 6 months, did you make any appointments for a check-up or routine care with this provider?
- Yes
 - No → *Go to Question 9*
8. In the last 6 months, when you made an appointment for a check-up or routine care with this provider, how often did you get an appointment as soon as you needed?
- Never
 - Sometimes
 - Usually
 - Always
9. In the last 6 months, did you contact this provider's office with a medical question during regular office hours?
- Yes
 - No → *Go to Question 11*



10. In the last 6 months, when you contacted this provider's office during regular office hours, how often did you get an answer to your medical question that same day?

- Never
- Sometimes
- Usually
- Always

11. In the last 6 months, how often did this provider explain things in a way that was easy to understand?

- Never
- Sometimes
- Usually
- Always

12. In the last 6 months, how often did this provider listen carefully to you?

- Never
- Sometimes
- Usually
- Always

13. In the last 6 months, how often did this provider seem to know the important information about your medical history?

- Never
- Sometimes
- Usually
- Always

14. In the last 6 months, how often did this provider show respect for what you had to say?

- Never
- Sometimes
- Usually
- Always

15. In the last 6 months, how often did this provider spend enough time with you?

- Never
- Sometimes
- Usually
- Always

16. In the last 6 months, did you see this provider for a specific illness or for any health condition?

- Yes
- No → *Go to Question 21*

17. In the last 6 months, did this provider give you instructions about what to do to take care of this illness or health condition?

- Yes
- No → *Go to Question 20*

18. In the last 6 months, how often were these instructions easy to understand?

- Never
- Sometimes
- Usually
- Always

19. In the last 6 months, how often did this provider ask you to describe how you were going to follow these instructions?

- Never
- Sometimes
- Usually
- Always

20. In the last 6 months, how often did this provider explain what to do if this illness or health condition got worse or came back?

- Never
- Sometimes
- Usually
- Always



- 21. In the last 6 months, did this provider order a blood test, x-ray, or other test for you?
 - Yes
 - No → *Go to Question 23*

- 22. In the last 6 months, when this provider ordered a blood test, x-ray or other test for you, how often did someone from this provider's office follow up to give you those results?
 - Never
 - Sometimes
 - Usually
 - Always

- 23. In the last 6 months, did you take any prescription medicine?
 - Yes
 - No → *Go to Question 25*

- 24. In the last 6 months, how often did you and someone from this provider's office talk about all the prescription medicines you were taking?
 - Never
 - Sometimes
 - Usually
 - Always

- 25. Using any number from 0 to 10, where 0 is the worst provider possible and 10 is the best provider possible, what number would you use to rate this provider?

<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
0 1 2 3 4 5 6 7 8 9 10
Worst Provider Possible
Best Provider Possible

Clerks and Receptionists at This Provider's Office

- 26. In the last 6 months, how often were clerks and receptionists at this provider's office as helpful as you thought they should be?
 - Never
 - Sometimes
 - Usually
 - Always

- 27. In the last 6 months, how often did clerks and receptionists at this provider's office treat you with courtesy and respect?
 - Never
 - Sometimes
 - Usually
 - Always

About You

- 28. In general, how would you rate your overall health?
 - Excellent
 - Very good
 - Good
 - Fair
 - Poor

- 29. In general, how would you rate your overall mental or emotional health?
 - Excellent
 - Very good
 - Good
 - Fair
 - Poor

- 30. Have you had a flu shot or flu spray in the nose since September 1, 2016?
 - Yes
 - No
 - Don't know



◆ **31. Do you now smoke cigarettes or use tobacco every day, some days, or not at all?**

- Every day
- Some days
- Not at all → **Go to Question 35**
- Don't know → **Go to Question 35**

32. In the last 6 months, how often were you advised to quit smoking or using tobacco by a doctor or other health provider?

- Never
- Sometimes
- Usually
- Always

33. In the last 6 months, how often was medication recommended or discussed by a doctor or health provider to assist you with quitting smoking or using tobacco? Examples of medication are: nicotine gum, patch, nasal spray, inhaler or prescription medication.

- Never
- Sometimes
- Usually
- Always

34. In the last 6 months, how often did your doctor or health provider discuss or provide methods and strategies other than medication to assist you with quitting smoking or using tobacco? Examples of methods and strategies are: telephone helpline, individual or group counseling, or cessation program.

- Never
- Sometimes
- Usually
- Always

◆ **35. Do you take aspirin daily or every other day?**

- Yes
- No
- Don't know

36. Do you have a health problem or take medication that makes taking aspirin unsafe for you?

- Yes
- No
- Don't know

37. Has a doctor or health provider ever discussed with you the risks and benefits of aspirin to prevent heart attack or stroke?

- Yes
- No

38. Are you aware that you have any of the following conditions? Mark one or more.

- High cholesterol
- High blood pressure
- Parent or sibling with a heart attack before the age of 60

39. Has a doctor ever told you that you have any of the following conditions? Mark one or more.

- A heart attack
- Angina or coronary heart disease
- A stroke
- Any kind of diabetes or high blood sugar

40. What is your age?

- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 to 74
- 75 or older



- ◆
- 41. Are you male or female?
 - Male
 - Female
- 42. What is the highest grade or level of school that you have completed?
 - 8th grade or less
 - Some high school, but did not graduate
 - High school graduate or GED
 - Some college or 2-year degree
 - 4-year college graduate
 - More than 4-year college degree
- 43. Are you of Hispanic or Latino origin or descent?
 - Yes, Hispanic or Latino
 - No, not Hispanic or Latino
- 44. What is your race? Mark one or more.
 - White
 - Black or African American
 - Asian
 - Native Hawaiian or Other Pacific Islander
 - American Indian or Alaska Native
 - Other
- 45. How well do you speak English?
 - Very well
 - Well
 - Not well
 - Not at all
- 46. Do you speak a language other than English at home?
 - Yes → *Go to Question 47*
 - No → *Thank you. Please return the completed survey in the postage-paid envelope.*
- 47. What is this language spoken at home?
 - Spanish
 - Other
- ◆

Thank you.

Please use the enclosed prepaid envelope to mail the survey to:

DataStat
3975 Research Park Drive
Ann Arbor, MI 48108

