DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop S2-25-26
Baltimore, Maryland 21244-1850

State Demonstrations Group

May 22, 2023

Ms. Deidre Gifford
Commissioner, Office of the Commissioner
Connecticut Department of Social Services
55 Farmington Avenue Hartford, CT 06105

Dear Ms. Gifford,

The Centers for Medicare & Medicaid Services (CMS) has completed its review of the Connecticut Substance Use Disorder (SUD) Evaluation Design, which is required by the Special Terms and Conditions (STCs), specifically STC #36, of Connecticut's section 1115 demonstration, Connecticut Substance Use Disorder Demonstration" (Project No: 11-W-00372/1 and 21-W-00069/1). CMS has determined that the Evaluation Design, which was submitted on February 11, 2023 and revised on May 10, 2023 meets the requirements set forth in the STCs and our evaluation design guidance, and therefore approves the state's SUD Evaluation Design.

CMS has added the approved SUD Evaluation Design to the demonstration's STCs as Attachment E. A copy of the STCs, which includes the new attachment, is enclosed with this letter. In accordance with 42 CFR 431.424, the approved Evaluation Design may now be posted to the state's Medicaid website within 30 days. CMS will also post the approved Evaluation Design as a standalone document, separate from the STCs, on Medicaid.gov.

Please note that an Interim Evaluation Report, consistent with the approved Evaluation Design, is due to CMS one year prior to the expiration of the demonstration, or at the time of the extension application, if the state chooses to extend the demonstration. Likewise, a Summative Evaluation Report, consistent with this approved design, is due to CMS within 18 months of the end of the demonstration period. In accordance with 42 CFR 431.428 and the STCs, we look forward to receiving updates on evaluation activities in the demonstration monitoring reports.

We appreciate our continued partnership on the Connecticut SUD 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: 2023.05.22 12:33:11 -04'00'

Danielle Daly
Director
Division of Demonstration
Monitoring and Evaluation

cc: Marie DiMartino, State Monitoring Lead, CMS Medicaid and CHIP Operations Group

Mercer

Government Human Services Consulting

Substance Use Disorder 1115 Waiver

Evaluation Design

State of Connecticut

May 10, 2023

Contents

Section 1
General Background Information

History and Overview

Modernizing the State of Connecticut's (Connecticut's or State's) Medicaid system of delivering Substance Use Disorder (SUD) treatment services has been an ongoing and sequential process beginning with the contracting for a Behavioral Health (BH) administrative services organization (ASO) in 2006 to better manage the continuum of BH services. In keeping with the goal of modernization, Connecticut Department of Social Services (DSS), in collaboration with its sister State agencies, the Connecticut Department of Mental Health and Addiction Services (DMHAS) and the Connecticut Department of Children and Families (DCF), has implemented a comprehensive SUD benefit package of services provided by a statewide network of SUD treatment service providers that will be financed by Medicaid for Medicaid beneficiaries. Except as otherwise specified, references to Medicaid throughout this Evaluation Design also include the Children's Health Insurance Program (CHIP).

The 1115 SUD Waiver Demonstration (Demonstration) will address Connecticut's opioid crisis and support the State's effort to implement an enhanced comprehensive and lasting response to this epidemic as well as similar challenges with use of substances other than opioids. Connecticut is experiencing one of the most significant public health crises in its history. The striking escalation of opioid use and misuse over the last five years is impacting individuals, families, and communities throughout the State.

From calendar year 2012 through 2018, the rate of unintentional drug-related overdose deaths in Connecticut grew from 12.2 per 100,000 to 29.9 per 100,000.[1] Connecticut's overdose deaths continue to climb with no sign of relenting. In calendar years 2019 and 2020, fatal drug overdose deaths in Connecticut rose 16.7% and 14.3% respectively from the previous year. The majority (82%) of overdose deaths in 2019 were related to fentanyl or fentanyl analogs.[2]

Recent Context for Connecticut's Medicaid Program

In 2006, DCF, which oversees BH for children in the State and DSS, in conjunction with a legislatively mandated oversight council, formed the Connecticut Behavioral Health Partnership (CT BHP), authorized pursuant to State statute (section 17a-22h of the Connecticut General Statutes), with ValueOptions[3] serving as the ASO.

In 2010, DMHAS, which oversees BH for adults in the State, joined the CT BHP (and the authorizing statute was amended accordingly) and, collectively, a request for proposal for an ASO vendor for the expanded CT BHP was issued. ValueOptions bid on, and was awarded, the contract to be the ASO for the expanded CT BHP. The new contract went live on April 1, 2011,

[1] Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999–2018 on CDC WONDER Online Database, released in 2020.Data are from the Multiple Cause of Death Files, 1999-2018, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Available at: http://wonder.cdc.gov/ucd-icd10.html on May 13, 2020.

[2] Connecticut Office of the Chief Medical Examiner, per CDC-SUDORS grant guidelines (April 19, 2021) as published in the CT Department of Public Health Drug Overdose Monthly Report, March 2021.

[3] As a result of the 2014 merger between ValueOptions, Inc. and Beacon Health Strategies, LLC, ValueOptions, Inc. officially changed its name to Beacon Health Options on December 9, 2015.

when more than 200,000 additional Medicaid members, primarily adults, but also a small number of youth, were added. That change brought the total membership included under the CT BHP to more than 600,000 members at that time.

While the goals of the original CT BHP described above remained in place, ValueOptions as the ASO was described in the new contract as being “the primary vehicle for organizing and integrating clinical management processes across the payer streams, supporting access to community-based services, assuring the delivery of quality services and preventing unnecessary institutional care.” Additionally, ValueOptions was expected to enhance communication and collaboration within the BH delivery system, assess network adequacy on an ongoing basis, improve the overall delivery system and provide integrated services supporting health and recovery by working with the Departments (DSS, DCF, and DMHAS) to recruit and retain both traditional and non-traditional providers.

Effective January 1, 2012, DSS transitioned from three managed care organizations (MCOs) managing the physical health care of a large portion of the State’s Medicaid population to a managed fee-for-service (FFS) structure with a single ASO for physical health, similar to the model in place for BH with ValueOptions. ValueOptions partnered with the MCO that ultimately won the bid for this contract, Community Health Network of Connecticut (CHNCT). While this contract did not increase membership, it did result in increased responsibility for ValueOptions to coordinate care provided to Medicaid members. The new contract, which went live in 2012, embedded ValueOptions clinical care managers in the CHNCT office and leveraged McKesson technology to identify the most at-risk members to ultimately impact health outcomes.

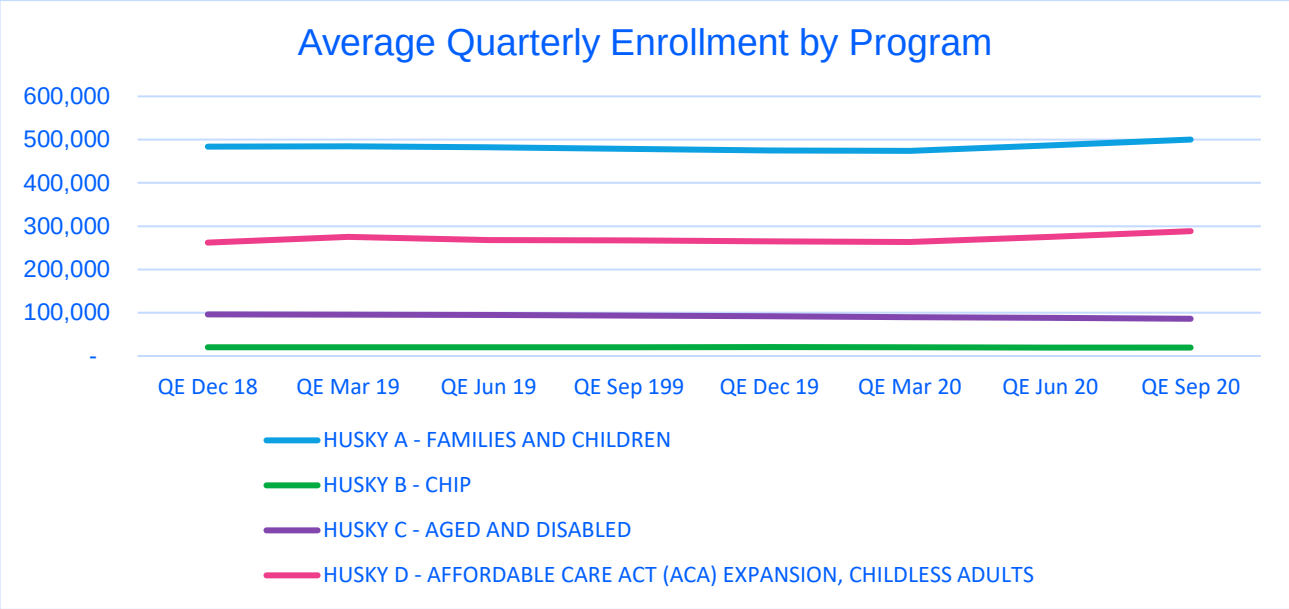
As of September 2020, Connecticut Medicaid and CHIP had approximately 895,000 enrollees, including almost 20,000 CHIP enrollees (HUSKY B) and approximately 289,000 Medicaid adult expansion enrollees (HUSKY D) who receive the Alternative Benefit Plan (ABP) covered services as required under federal law. HUSKY A enrollees include approximately 500,000 low-income Medicaid members parents/caregiver relatives and children. HUSKY C enrollees include over 86,000 older adults and people with disabilities.

The HUSKY D benefits under the ABP were aligned with the underlying Medicaid State Plan benefits. Although Connecticut Medicaid did not reimburse for residential SUD services, there was a State-funded benefit for HUSKY D Medicaid beneficiaries using a former edition of the American Society of Addiction Medicine (ASAM) Criteria for utilization management (UM).

Today, the CT BHP is composed of DSS, DMHAS, and DCF. CT BHP contracts with Beacon Health Options, the BH ASO, to authorize and coordinate Medicaid BH services (mental health and SUD services) for HUSKY Health members in Connecticut. Covered benefits and services administered by the CT BHP are available to members who are enrolled in HUSKY A, HUSKY B, HUSKY C, and HUSKY D. (Separate from its HUSKY Health/Medicaid responsibilities, the BH ASO also provides administrative support to a small set of services for the non-Medicaid DCF limited benefit group.) See below for a chart reflecting the relative size of each HUSKY population.

Under the Demonstration, a full continuum of SUD care for HUSKY A, HUSKY B, HUSKY C, and HUSKY D will be financed by Medicaid subject under a new Medicaid Rehabilitative State Plan. In addition, the Judicial Branch Court Support Services Division (JB-CSSD) and the Department of Corrections (DOC) have joined with the CT BHP sister agencies to ensure that Medicaid eligible members receive SUD treatment when they are on probation, parole, inpatient, or otherwise eligible for services.

Relative Size of Each Medicaid Population[4]



Substance Use Disorder Treatment in Connecticut

The following services were the covered Medicaid SUD behavioral benefits and services prior to the Demonstration:

- Screening, Brief Intervention and Referral to Treatment (SBIRT) Services
- Outpatient Services
- Methadone Maintenance
- Medication for Addiction Treatment (MAT)
- Intensive Outpatient Services (IOP)
- Partial Hospitalization Program (PHP)
- Ambulatory Withdrawal Management
- Inpatient Hospital Substance Use Withdrawal Management
- Residential Treatment Center for Children through DCF

[4] Source: DSS January 8, 2021 presentation to MAPOC, Financial Trends in the Connecticut HUSKY Health Program Transparency, Sustainability and COVID Impacts. Available at: https://www.cga.ct.gov/ph/med/related/20190106_Council%20Meetings%20&%20Presentations/20210108/HUSKY%20Financial%20Trends%20January%202021%20.pdf

- Targeted Case Management (TCM) for Ages 19 and under
- TCM for Adults with Serious Mental Illness and Co-Occurring SUD.

Connecticut requested the Demonstration to enable Federal Financial Participation (FFP) under Medicaid and CHIP for SUD residential treatment and other health care services provided in accordance with the latest edition of ASAM criteria for people residing in Institutions for Mental Disease (IMDs). The Demonstration builds upon the State's successful implementation of the CT BHP and leverages this strong foundation to ensure Connecticut's Medicaid beneficiaries have access to the entire continuum of SUD services as defined by ASAM Levels of Care (LOCs).

There are no residential services for adolescent girls in Connecticut. All residential services must be provided out of State, which reduces the ability of the facility to provide family therapy. The State would like to recruit providers within the State's border to provide these services to improve care for adolescent girls. In order to meet demonstration requirements accessibility to ASAM residential services for all Medicaid eligible populations, the Demonstration contains a specific focus on treatment for adolescent girls.

Demonstration Approval

On April 14, 2022, Connecticut received approval for its application for a section 1115(a) demonstration titled "Connecticut Substance Use Disorder Demonstration" (Project Number 11-W-00372/1 and 21-W-00069/1) effective April 14, 2022 through March 31, 2027.

Description of the Demonstration

The objective of this Demonstration is to provide access to a full array of SUD treatment services for Connecticut Medicaid enrollees and improve the delivery system for these services to provide more coordinated and comprehensive SUD treatment for these individuals.

This Demonstration seeks to improve outcomes for Medicaid members diagnosed with SUD by providing critical access to SUD treatment services, including inpatient and residential SUD treatment in IMDs, as part of a full continuum of treatment services that follow ASAM LOCs. Under a new SUD State Plan Amendment (SPA), which will be associated with this Demonstration, Connecticut will implement a comprehensive, integrated SUD benefit that includes residential treatment settings. However, existing IMD limitations in FFS create barriers to ensuring members are able to access SUD treatment at a LOC appropriate to their needs using the ASAM criteria. Connecticut seeks Demonstration authority to remove Federal Medicaid restrictions on IMDs as SUD treatment settings in FFS. The new Medicaid SUD treatment continuum will enhance critical access to the full ASAM SUD treatment continuum. Mercer Government Human Services Consulting (Mercer) anticipate that this demonstration will accomplish the following goals, which make up our demonstration hypothesis. This waiver Demonstration will:

1. Increase rates of identification, initiation, and engagement in treatment for Opioid Use Disorder (OUD) and other SUDs.
2. Increase adherence to and retention in treatment for OUD and other SUDs.
3. Reduce overdose deaths, particularly those due to opioids.

4. Reduce utilization of emergency departments (EDs) and inpatient hospital settings for OUD and other SUD treatment where the utilization is preventable or medically inappropriate through improved access to other continuum of care services.
5. Lead to fewer readmissions to the same or higher LOC where readmissions is preventable or medically inappropriate for OUD and other SUDs.
6. Improve access to care for physical health conditions among beneficiaries with OUD or other SUDs.

The Demonstration Implementation Plan addresses system reforms and activities needed to achieve the Milestones:

1. Access to critical LOCs for OUD and other SUDs
2. Widespread use of evidence-based, SUD-specific patient placement criteria
3. Use of nationally recognized, evidence-based, SUD program standards to set residential treatment provider qualifications
4. Sufficient provider capacity at each LOC, including MAT
5. Implementation of comprehensive treatment and prevention strategies to address opioid misuse and Connecticut Substance Use Disorder Section 1115(a) Medicaid Demonstration OUD
6. Improved care coordination and transitions between LOCs

Milestone 1: Access to Critical LOCs for SUDs

Connecticut's pre-Demonstration SUD Medicaid treatment system included coverage of the following:

- Outpatient
- Intensive Outpatient
- Partial Hospitalization
- MAT (medications, as well as counseling and other services, with sufficient provider capacity to meet the needs of Medicaid beneficiaries in the State)
- Intensive LOCs in inpatient hospital settings
- Medically-supervised withdrawal management in limited settings

Under the Demonstration, the State will submit a SPA to provide a more complete continuum of care using ASAM criteria and standards including intensive LOCs in residential settings and withdrawal management.

Milestone 2: Use of ASAM Placement Criteria

Connecticut contracts with two entities for review of SUD admissions and placements using prior authorization and UM standards in the FFS Medicaid, block grant, and State-funded SUD

delivery systems. The State requires both the DSS-contracted Medicaid BH ASO for UM (currently Beacon Health Options) and DMHAS' contractor for quality management (QM) (currently Advanced Behavioral Health, Inc.) that is funded with State general funds and federal Substance Abuse and Mental Health Services Administration (SAMHSA) block grant dollars to utilize ASAM principles to ensure provider quality. Pre-Demonstration, the BH ASO utilized the ASAM placement criteria third edition and the DMHAS UM contractor utilized the ASAM placement criteria second edition. Prior to the Demonstration, Connecticut had not trained nor required treatment providers to create individualized treatment plans for individuals using multi-dimensional assessments based on the six dimensions of care as outlined in ASAM.

Under the Demonstration, SUD treatment services provided in the Medicaid FFS delivery system will comply with the current ASAM criteria for all prior authorization and utilization review decisions resulting in continuity across the Medicaid delivery systems. Connecticut will train all providers to utilize multi-dimensional assessments based on the six dimensions of care as outlined in ASAM to create individualized treatment plans. DSS, or its designee, will ensure appropriate UM is in place for SUD services for all LOCs, including prior authorization for SUD residential treatment services for individuals enrolled in the FFS delivery system. DSS will ensure Medicaid members have access to interventions at the SUD LOC appropriate for each person's diagnosis and individual circumstances. DSS will update any provider agreements necessary to emphasize the required use of the most current edition of ASAM placement criteria for providers of SUD treatment services. The State also intends to implement provider training on this requirement for ASAM placement criteria and its application to all SUD treatment services.

Milestone 3: Use of ASAM Program Standards for Residential Provider Qualifications

Connecticut Medicaid did not previously cover adult SUD residential services. Under the Demonstration, Connecticut will submit a SPA to cover residential treatment delivered by providers whose qualifications are consistent with the most current version of ASAM. Currently, requirements for State-funded and federal SAMHSA block grant-funded residential SUD treatment, residential withdrawal management, and inpatient SUD treatment services require general compliance with ASAM second edition standards.

Under the Demonstration and SPA, Medicaid policy manuals will be modified to reflect the current ASAM criteria for residential programs, including requirements for specific services, hours of clinical care, and credentials of staff for residential treatment. The amended policies will include a requirement that residential treatment providers offer MAT either onsite or by facilitating access offsite with a MAT provider. Connecticut will also implement a process for initial certification and ongoing monitoring of residential treatment providers to ensure compliance with the ASAM requirements under the Demonstration.

Milestone 4: Provider Capacity of SUD Treatment including MAT

Connecticut currently contracts for 948 adult SUD residential treatment beds across 19 providers and 12 adolescent beds in one provider, using non-Medicaid funds. All but three of these certified SUD residential, withdrawal management, and inpatient SUD treatment service providers have 17 or more beds and meet the definition of an IMD.

The State will develop an assessment of the availability of the ambulatory providers enrolled in Medicaid and whether they are accepting new patients for each of the SUD ambulatory ASAM LOCs. This assessment will indicate whether facilities are currently accepting Medicaid members.

DSS will work with its partner agencies in the State to ensure the SUD provider network is adequate and distributed geographically to meet the demands for these services. If services are unavailable within a specific geographic region, DSS will recruit qualified providers within the region or seek expansion from existing providers, including those that may be outside the defined geographical boundaries in need.

Milestone 5: Implementation of Opioid Use Disorder (OUD) Comprehensive Treatment and Prevention Strategies — Opioid Prescribing Guidelines and Other Interventions to Prevent Opioid Misuse

To address the opioid and prescription medication crisis, the Connecticut Department of Public Health (DPH) has implemented prescribing guidelines to prevent opioid over-use through updates to Connecticut policy and law affecting the prescribing of controlled substances and opioid medications.[5] The relevant State agencies have also collaborated with legislators and various professional groups to enhance the Connecticut Prescription Monitoring and Reporting System (CPMRS), sometimes known as the Prescription Drug Monitoring Program (PDMP).

Effective October 1, 2019, Connecticut amended the Medicaid State Plan to reflect new Drug Utilization Review provisions required in Federal law (Section 1004 of the Substance Use Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act [SUPPORT Act; P.L. 115-271]). These provisions are designed to reduce opioid-related overprescribing and misuse. The required provisions include: 136 separate opioid prescription claim reviews at the point of sale as well as retrospective reviews, monitoring, and management of antipsychotic medication in children, and identification of processes to detect fraud and abuse.

Connecticut's Expanded Coverage of, and Access to, Naloxone for Overdose Reversal

Connecticut has taken steps over the past decade to make naloxone more widely available. Legislation was first introduced in 2011 in the Connecticut General Assembly and subsequent legislative sessions have included new pieces of legislation that have made naloxone more accessible over the years. A "Good Samaritan" law passed in 2011 that protects people who call 911 seeking emergency medical services for an overdose from arrest for possession of drugs/paraphernalia. State legislation enacted in 2012, which allowed prescribers (e.g., physicians, surgeons, physicians' assistants, advanced practice registered nurses, dentists and podiatrists) to prescribe, dispense or administer naloxone to any person to prevent or treat a drug overdose, protects the prescriber from civil liability and criminal prosecution. The protection from civil liability and criminal prosecution was extended to the person administering the naloxone in response to an overdose in 2014. Legislation enacted in 2015 allows

[5] Rodrick Marriott, PharmD, Director, Drug Control Division, Connecticut Department of Consumer Protection, Connecticut Laws Impacting Prescribing and Practice, 2019. Available at: https://portal.ct.gov/-/media/DCP/drug_control/PMP/Educational-Materials/Prescribing-Laws-2019-CM.pdf

pharmacists, who have been trained and certified, to prescribe and dispense naloxone directly to customers requesting it. Most recently, Public Act (PA) 18-166 allows prescribers to develop agreements with organizations wishing to train and distribute naloxone. This legislation established new reporting requirements, established a framework for expanding distribution and availability of naloxone, enacted limitations on prescribing controlled substances, and commissioned a feasibility study for opioid intervention courts. All these changes have made naloxone more readily available.

In addition, as outlined in the State's Implementation Plan, Connecticut has established other initiatives addressing OUD, including expanding availability of naloxone using federal grant funds, such as the federal State Opioid Response grant. A total of 12,000 naloxone kits were made available for distribution in State Fiscal Year (SFY) 2019 through DMHAS, DOC, DPH, the Connecticut Hospital Association and the Regional Behavioral Health Action Organizations.

Increasing Utilization and Improving Functionality of PDMPs

Connecticut first mandated prescriber use of the CPMRS, the State's PDMP, in 2015, with additional provisions added in 2016. CPMRS is a tool to track the dispensing of controlled prescription drugs to patients. CPMRS is designed to monitor this information for suspected misuse or diversion (i.e., channeling drugs into illegal use), and can give a prescriber or pharmacist critical information regarding a patient's controlled substance prescription history. This information has helped prescribers and pharmacists identify high-risk patients who would benefit from early interventions.

Since implementation, the use of CPMRS has grown. In 2018, CPMRS reported 1.9 million annual requests from law enforcement, pharmacists, and prescribers. This is nearly double the annual law enforcement, pharmacist, and prescriber requests from four years earlier when there were approximately one million requests.

Connecticut plans to continue to leverage opportunities described in State Medicaid Director Letter (SMDL) 16-003 to help professionals and hospitals eligible for the Medicaid Promoting Interoperability Program, formerly known as the Medicaid Electronic Health Record (EHR) Incentive Program, connect to other Medicaid providers through the integration of CPMRS into EHRs and pharmacy management systems.

Milestone 6: Improved Care Coordination and Transitions between LOCs

Connecticut has multiple interventions for coordinating the care of individuals with SUD and transitioning between LOCs including, but not limited to, facility credentialing, discharge, referral and transition requirements, and care management initiatives at DSS, DCF, and DMHAS.

Under the Demonstration, Connecticut will examine all of the service definitions and existing care management models and strengthen the transition management component for SUD populations between LOCs. DSS, DCF, and DMHAS will create a clear delineation of responsibility for improved coordination and transitions between LOCs to ensure individuals receive appropriate follow-up care following residential treatment.

In addition, to ensure improved care coordination and transitions between LOCs under the Demonstration, Connecticut will also monitor access and health care outcome measures by demographic information, including race and ethnicity. In addition, Connecticut intends to

implement coverage of enhanced individualized care coordination for individuals with SUD that is designed to identify, prevent, and address health inequities and challenges related to social determinants of health.

Population Impacted

This Demonstration will not change the current delivery system structure. All Medicaid services will continue to be delivered through a FFS delivery system. However, as the State will make various improvements to the SUD service system statewide, including aligning with ASAM third edition criteria, analyzing care management initiatives that are available and improving coordination of care, and improving transitions of care. Overall, while continuing to use a FFS delivery system structure, the Demonstration will streamline, clarify, and improve the content of each LOC and improve transitions in the care management system.

Medicaid eligibility requirements will not differ from the approved Medicaid State Plan and all Medicaid members with an assessed SUD treatment need will be impacted by the Demonstration.

Demonstration Evaluation

This Evaluation Design intends to produce a comprehensive and independent evaluation of the original Connecticut 1115 SUD Waiver Demonstration, as described above, that complies fully with Standard Terms and Conditions (STCs) 34 through 45. The Demonstration will evaluate whether the Connecticut Medicaid SUD treatment system is more effective through a provision of a complete coordinated continuum of care using ASAM placement criteria and standards, including SUD residential treatment services. The delivery system reforms are particularly important to address the needs of the Medicaid expansion population, which has historically been underserved.

Connecticut's independent evaluation will measure and monitor the outcomes of the SUD Demonstration. The evaluation will focus on the key goals and milestones of the Demonstration. The researchers will assess the impact of providing the full continuum of SUD treatment services, particularly residential treatment, on hospital ED utilization, inpatient hospital utilization, and readmission rates. Both a midpoint assessment and an interim evaluation at the end of the five-year waiver period will be completed. The evaluation will be designed to demonstrate achievement of the Demonstration's goals, objectives, and metrics. As required by the Centers for Medicare & Medicaid Services (CMS), the Evaluation Design will include the following elements:

- General background information
- Evaluation questions and hypotheses
- Methodology
- Methodological limitations
- Attachments

Section 2

Evaluation Questions and Hypotheses

Evaluation questions and hypotheses to be addressed were derived from and organized based on the Driver Diagrams below. The overall Connecticut Goals of the project are to: 1) Increase enrollee access to and use of appropriate SUD treatment services based on ASAM criteria, 2) Improve quality of care and population health outcomes for Medicaid enrollees with SUD, 3) Improve care coordination and care transitions for Medicaid enrollees with SUD, and 4) Maintain or reduce Medicaid cost of individuals with SUD.

To accomplish these Connecticut Goals, the Demonstration includes several key activities, organized by **primary drivers** of change as they occur in the driver diagrams below:

- Improved access to the most beneficial LOC via a full continuum of available SUD services
- Improved rates of initiation, engagement, and retention in treatment
- Reduced utilization of EDs and inpatient hospital settings for treatment where the utilization is preventable or medically inappropriate
- Reduce readmissions to the same or higher LOC where the readmission is preventable or medically inappropriate
- Improved access to care coordination among beneficiaries, including improved discharge planning and transitions
- Maintained or reduced costs, where possible

The specific evaluation questions to be addressed were selected based on the following criteria:

1. Potential for improvement, consistent with the key milestones of the Demonstration listed above.
2. Potential for measurement, including (where possible and relevant) baseline measures that can help to isolate the effects of Demonstration initiatives and activities over time.
3. Potential to coordinate with ongoing performance evaluation and monitoring efforts.

Questions were selected to address the Demonstration's major program goals, to be accomplished by Demonstration activities associated with each of the primary drivers. Specific hypotheses regarding the Demonstration's impact are posed for each of these evaluation questions. These are linked to the primary drivers in the diagrams and tables beginning in Section 2 "Driver Diagrams, Research Questions, and Hypotheses," directly following the next section "Targets for Improvement".

Targets for Improvement

The table below outlines the targets for improvement of the SUD waiver, organized by Primary Drivers of change.

Primary Drivers	Targets
Improved access to the most beneficial LOC via a full continuum of available SUD services	• Increased use of evidence-based treatment criteria. • Ensure sufficient provider capacity.
Increase rates of identification, initiation, engagement, and retention in treatment	• Increased access to critical LOCs for OUD and other SUDs. • Improved access for youth through early intervention and SUD treatment in ambulatory ASAM LOC.
Reduced utilization of EDs and inpatient hospital settings for treatment where the utilization is preventable or medically inappropriate	• Increased use of Evidence-based SUD Specific Patient Placement Criteria. • Increased provider capacity at each LOC, including MAT for SUD/OUD.
Reduced readmissions to the same or higher LOC where the readmission is preventable or medically inappropriate	• Increased use of Evidence-based SUD Specific Patient Placement Criteria. • Increased use of comprehensive treatment and prevention strategies to address opioid misuse and OUD.
Improved access to care coordination among beneficiaries, including improved discharge planning and transitions	• Improved care coordination and transitions between LOCs for physical care. • Improved discharge planning and continuity of care between providers.
Maintain or reduce Medicaid costs for individuals with SUD, where possible	• The Demonstration will remain budget neutral to the Federal government. • Residential services and any other new SUD treatment services including care coordination developed under this Demonstration.

Driver Diagrams, Research Questions, and Hypotheses

The four Connecticut Goals represent the ultimate intentions of the waiver. The primary drivers are strategic improvements necessary to achieve the Connecticut Goals. The secondary drivers describe the interventions (milestones) targeted for improvement in order to achieve the strategic improvements.

These primary and secondary drivers of change are based on the March 2017 CMS letter to State Medical Directors, which outlined the interest of CMS to work with the states "to provide a full continuum of care for people struggling with addiction," and in hearing state-proposed "solutions that focus on improving quality, accessibility, and outcomes in the most cost-effective manner." The letter offered states the flexibility to design 1115 Demonstrations aimed at making significant improvements over the course of a five-year period on the following six goals and six milestones specific to addiction to opioids or other substances.[6]

Goals:

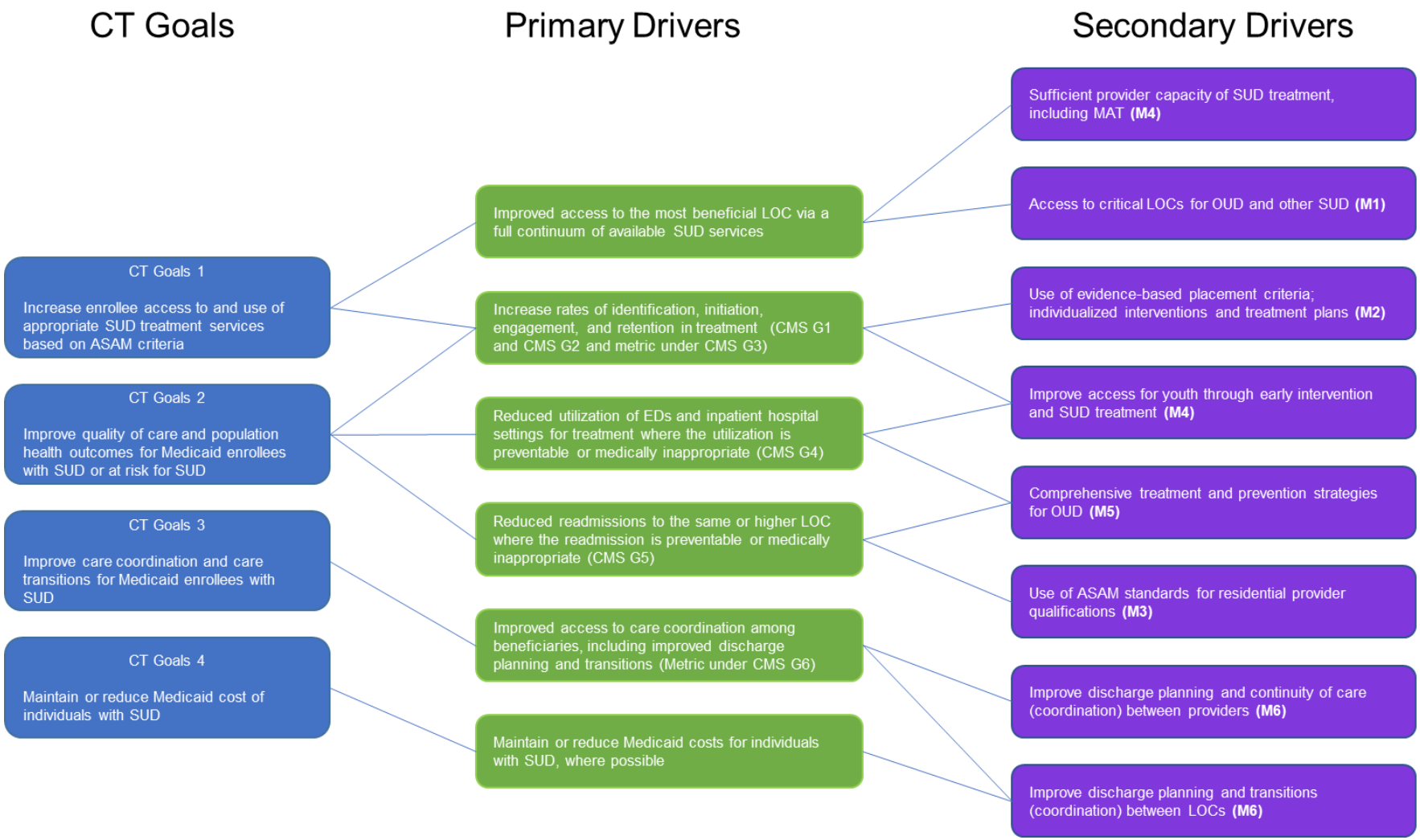
1. Increased rates of identification, initiation, and engagement in treatment. (Primary Driver 2)
2. Increased adherence to and retention in treatment. (Primary Driver 2)
3. Reductions in overdose deaths, particularly those due to opioids. (Metric under Primary Driver 2)
4. Reduced utilization of EDs and inpatient hospital settings for treatment where the utilization is preventable or medically inappropriate through improved access to other continuum of care services. (Primary Driver 3)
5. Fewer readmissions to the same or higher LOC where the readmission is preventable or medically inappropriate. (Primary Driver 4)
6. Improved access to care for physical health conditions among beneficiaries. (Metric under Primary Driver 5)

Milestones:

1. Access to critical LOCs for OUD and other SUDs.
2. Widespread use of evidence-based, SUD-specific patient placement criteria.
3. Use of nationally recognized, evidence-based SUD program standards to set residential treatment provider qualifications.
4. Sufficient provider capacity at each LOC.
5. Implementation of comprehensive treatment and prevention strategies to address opioid abuse and OUD.
6. Improved care coordination and transitions between LOCs.

[6] State Medicaid Director Letter #17-0003 is available at: https://www.medicaid.gov/sites/default/files/federal-policy-guidance/downloads/smd17003.pdf.

High Level Driver Diagram



Measuring Effects on the Four Connecticut Goals

For the outcome evaluation, select performance measures will be used to demonstrate observed changes in outcomes, using an interrupted time-series (ITS) design where sufficient pre-demonstration data is available, or with pre-post comparisons or comparisons to national benchmarks where sufficient pre-demonstration data is not available. Additional performance measures will be collected to monitor progress on meeting the milestones and project goals. These performance measures are grouped and described under the related primary drivers.

The research design table in Section 3, outlines the research questions and hypotheses of the evaluation, organized by each primary driver.

Section 3
Methodology

Evaluation Design

The evaluation of the Connecticut SUD 1115 Waiver Demonstration will utilize a mixed-methods Evaluation Design with three main goals:

1. Describe the progress made on specific Demonstration-supported activities (process/implementation evaluation).
2. Demonstrate change/accomplishments in each of the Demonstration milestones (short-term outcomes).
3. Demonstrate progress in meeting the overall project goals/Connecticut Goals.

A combination of qualitative and quantitative approaches will be used throughout the evaluation. Qualitative methods will include key informant interviews with DSS, DCF, DMHAS, JB-CSSD, DOC and provider staff, ASOs, and other identified stakeholders regarding Demonstration activities, as well as document reviews of contracts, policy guides, and manuals. Quantitative methods will include descriptive statistics and time series analyses showing change over time in both counts and rates for specific metrics and ITS analysis to assess the degree to which the timing of waiver interventions affect changes across specific outcome measures.

Qualitative analysis will include document review and interviews with key informants. It will identify and describe the SUD service delivery system and changes occurring during the Demonstration for Medicaid enrollees. Each of the milestones will be discussed and documented. This will allow identification of key elements Connecticut intends to modify through the Demonstration and measure the effects of those changes. Using a combination of case study methods, including document review, telephone interviews, and face-to-face meetings, a descriptive analysis of the key Connecticut Demonstration features will be conducted.

The evaluation will analyze how the State is carrying out its implementation plan and track any changes it makes to its initial design as implementation proceeds. Both planned changes that are part of the Demonstration design (e.g., expansion of ASAM) and operational and policy modifications the State makes based on changing circumstances and the creation of a new SPA will be identified. Finally, it is possible that, in some instances, changes in the policy environment in the State will trigger alterations to the original Demonstration implementation plan.

During ongoing communication with the State, detailed information on how Connecticut has implemented each milestone, including how it has structured the submission of a SPA supporting ASAM expansion, identified providers at each ASAM level, implemented PDMP and other Health Information Technology (HIT) changes, and structured care coordination between LOCs for beneficiaries enrolled in the Demonstration, will be collected. The evaluation will analyze the scope of each of these milestones as implemented, the extent to which they conduct these functions

directly or through contract, and internal structures established to promote implementation of the milestones.

Key informant interviews and document reviews will occur at four critical junctures: initially, prior to the mid-point assessment, prior to the interim evaluation report being written, and prior to the final summative evaluation report being finalized.

The key informant interviews will be conducted with staff members in the following departments who are directly responsible for SUD 1115 implementation and operations: DSS, DMHAS, DCF, JB-CSSD, DOC, ASOs, and service providers.

To maximize efficiency in the evaluation, most outcome measures align with performance measures being reported to CMS for each of the six milestones. As the independent evaluator/contractor, Mercer will calculate the quantitative performance measures, according to metrics specifications, and based on data provided by DSS, along with other State agencies, as needed. Mercer is currently receiving monthly transfers of Connecticut's Medicaid Management Information System (MMIS) data, through a Health Insurance Portability and Accountability Act (HIPAA)-compliant secure portal. Mercer is also arranging to receive pre-demonstration detailed claims data on inpatient, residential, and ambulatory SUD services delivered prior to the Demonstration start date. Mercer will calculate all performance measures using the period of time specified in the CMS technical manual (e.g., monthly, quarterly, or annually).

The Demonstration is open to all adult and adolescent (Medicaid and CHIP) non-expansion and expansion members, so a concurrent comparison group of Connecticut Medicaid members is not available. Outcomes will be assessed, where possible, using an ITS quasi-experimental design. The ITS analysis projects metrics derived from a pre-demonstration time period into the post-demonstration implementation time period as a comparison for actual post-demonstration implementation metrics. In cases where there are not enough data points for reliable projects (e.g., annual measures) we will use a basic time series analysis, or pre-post analyses, to describe changes over time.

Target and Comparison Populations

Because there is not an available comparison population, the "comparison population groups" in this design will be a projection of each measure, based on historical data, of what the group would look like in the absence of the Demonstration.

The Target population includes non-expansion and expansion adult and adolescent Medicaid beneficiaries with a SUD diagnosis. Based on Demonstration goals and activities, we do not anticipate that the Demonstration will have ***intentional*** differential impacts on specific subgroups, except for adolescents, and adolescent girls, as noted in the evaluation table below. However, to account for known long-term disparities in access to care, engagement, and outcomes, we will use some demographic categories as covariates in our analyses. Additionally, some covariates based on OUD diagnosis will be used in examining changes in specific SUD utilization metrics. Other specified subpopulations (e.g., dual eligible, pregnant women, and the criminal justice population) will likely have insufficient data to provide reliable analysis. All members

who are eligible for and/or receive services will be included in all descriptive time series and ITS analysis, so no sampling strategy is needed.

Evaluation Period

The evaluation period is April 1, 2022 through March 31, 2027. The draft SUD Mid-point assessment is due 60 days after March 31, 2025. The Draft Interim Evaluation is due March 31, 2026 or with the extension application. Draft interim results derived from a portion of this evaluation period, April 1, 2022 through June 30, 2023 (with three months run out of claims data) will be reported in the Draft Interim Evaluation Report due to CMS on June 30, 2024. The Draft Summative Evaluation Report analysis will allow for a three-month run out of claims data. Results across this time period will be included in the Draft Summative Evaluation Report due to CMS by June 30, 2027.

Evaluation Measures and Data Sources

The Evaluation Design and evaluation measures are based on sources that provide valid and reliable data that will be readily available throughout the demonstration and final evaluation. To determine if data to be used for the evaluation are complete and accurate, the independent evaluator will review the quality and completeness of data sources (including but not limited to claims for pharmacy, professional, and facility services as well as eligibility data). Example analyses the independent evaluator will use to determine reliability and accuracy of claims data include, but are not limited to: frequency reports, valid values, missing values, date and numerical distributions, and duplicates (part of adjustment logic).

As often as possible, measures in the evaluation have been selected from nationally recognized measure stewards for which there are strict data collection processes and audited results.

The following tables summarize: the primary drivers and hypotheses, process (implementation) and outcome measures for the evaluation, measure steward (if applicable), numerator and denominator definitions where appropriate, types of data (quantitative or qualitative), and data sources.

Mercer will calculate all performance measures for the Demonstration period using claims data from DSS, except for overdose deaths, which is calculated using vital statistics data maintained by DPH.

CONNECTICUT GOAL 1: Increase enrollee access to and use of appropriate SUD treatment services based on ASAM criteria.

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
Primary Driver: Improved access to care via a full continuum of available SUD services. **Hypothesis 1: The Demonstration will increase the availability of critical LOCs for Medicaid enrollees.**							
Research Question 1.1: Has access to critical LOCs improved in Medicaid?	Submission of SPA to include residential care and to update SUD service standards to align with ASAM standards for each LOC.	N/A	Cumulative for interim reporting period, and for summative reporting period.	None	None	Key Informant Interviews (DSS, DMHAS, DCF/ JB-CSSD/DOC staff, Medicaid, and DMHAS/DCF ASO representatives; Document Review (ASO policies and procedures, provider addendums, provider review tools)	Thematic analysis of interviews and final SPA.
	Stakeholder reports of successful implementation and adequate access to each ASAM critical LOC.	N/A	Cumulative for interim reporting period, and for summative reporting period.	None	None	Key Informant Interviews (DSS, DMHAS/DCF/ JB-CSSD, DOC staff, Medicaid, and DMHAS/DCF ASO representatives;	Thematic analysis of interviews and final SPA. We area also exploring beneficiary focus groups,

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
						Document Review (ASO policies and procedures, provider addendums, review tools, SPA)	leveraged through existing participatory and advocacy organizations.
Primary Driver: Improved access to care via a full continuum of available SUD services. **Hypothesis 2: The Demonstration will increase the use of residential, MAT, withdrawal management, early intervention, and ambulatory care available by Medicaid enrollees.**							
Research Question 2.1 Since the development of the 1115 SUD waiver, are more individuals receiving services at critical LOCs when compared to the numbers prior to the waiver?	Number/percent of beneficiaries who receive prevention or early intervention services (CMS #7).	CMS	Monthly	Number of unique members in the denominator with a service claim for early intervention services (e.g., procedure codes associated with SBIRT).	Members with a SUD diagnosis (CMS #3) for percentage	Claims	ITS; controlling for demographic subgroups
	Number/percent of beneficiaries who use outpatient	CMS	Monthly	Number of unique members in the	Members with a SUD diagnosis (CMS #3) for percentage	Claims	ITS; controlling for demographic subgroups

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
	services (CMS #8).			denominator with a claim for outpatient services for SUD (e.g., outpatient recovery or motivational enhancement therapies, step-down care, and monitoring for stable patients).			
	Number/percent of beneficiaries who use intensive outpatient and partial hospitalization services (CMS #9).	CMS	Monthly	Number of unique members in the denominator with a claim for intensive outpatient and/or partial hospitalization services for SUD (e.g., specialized outpatient SUD	Members with a SUD diagnosis (CMS #3) for percentage	Claims	ITS; controlling for demographic subgroups

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
				therapy and other clinical services).			
	Number/percent of beneficiaries who use residential and/or inpatient services for SUD (CMS #10).	CMS	Monthly	Number of unique members in the denominator with a service for residential and/or inpatient services for SUD.	Members with a SUD diagnosis (CMS #3) for percentage	Claims	ITS; controlling for demographic subgroups
	Number of beneficiaries who have a claim for MAT for SUD during the measurement period (CMS #12).	CMS	Monthly	Number of unique members in the denominator with a service for MAT services.	Members with a SUD diagnosis (CMS #3) for percentage	Claims	ITS; controlling for demographic subgroups
	Number/percent of beneficiaries who use withdrawal management	CMS	Monthly	Number of unique members in the denominator	Members with a SUD diagnosis (CMS #3) for percentage	Claims Include DMHAS data in numerator for baseline years	ITS; controlling for demographic subgroups

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
	services (CMS #11).			with a service or pharmacy claim for withdrawal management services.			
	Number and length of IMD stays for SUD (CMS #36).	CMS	Yearly	Total number of days in an IMD for inpatient/ residential discharges for SUD.	Total number of discharges from an IMD for beneficiaries with an inpatient or residential treatment stay for SUD.	Claims Include DMHAS data in numerator for baseline years	Descriptive Time Series; pre-post one-way ANCOVA statistic comparing baseline average to post-demonstration average, controlling for demographic subgroups
Primary Driver: Improved access to the most beneficial LOC via a full continuum of available SUD services **Hypothesis 3: The Demonstration will lead to use of the most recent version of the ASAM placement criteria by all providers.**							
Research Question 3.1: Has the use of evidence-based SUD-specific patient placement criteria (ASAM criteria) been	Number/percent of providers certified at each LOC.	Evaluator, with input from the agency collecting the data	Yearly	Number of providers in the denominator licensed at each LOC.	Total number of SUD providers (CMS #13) for percentage	DMHAS and DCF certification records	Descriptive time series; pre-post chi square test of significance comparing baseline proportion to post-demonstration period proportion (for each LOC)

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
implemented across all LOCs for all patient populations? **(Process Question)**	Description of activities to monitor provider use of ASAM criteria for patient placement for providers who are certified at higher LOCs, as well as non-certified providers at ASAM .5 and 1 LOCs.	N/A	Cumulative for interim reporting period, and for summative reporting period.	None	None	Key Informant interviews from Medicaid ASO and DMHAS/DCF ASO staff; aggregate reports from onsite provider monitoring records	Thematic analysis of interviews and documents Medicaid ASO reports on the number of ASAM LOC requested by the provider and either denied or changed by the Medicaid ASO for providers at all LOCs DMHAS/DCF ASO Numeric reports on provider compliance with use of ASAM Placement criteria
	Description of training and technical assistance activities to align providers with new ASAM standards.	N/A	Cumulative for interim reporting period, and for summative reporting period.	None	None	Key Informant interviews and document review from ASOs and State agency partners	Thematic analysis of interviews and documents Numeric reports on the number of provider staff trained in ASAM

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
Primary Driver: Improved access to care via a full continuum of available SUD services. **Hypothesis 4: The Demonstration will increase provider capacity for SUD treatment at critical LOCs for individuals in the State.**							
Research Question 4.1: Has the availability of providers in Medicaid accepting new patients, including MAT providers, improved under the Demonstration?	Number/percent of Medicaid-accepting providers licensed at each LOC.	Evaluator, with input from the agency collecting the data	Yearly	Number of Medicaid providers in the denominator licensed at each LOC.	Total number of SUD providers (CMS #13) for percentage	Medicaid ASO and DMHAS provider capacity tracking records	Descriptive time series; pre-post chi square test of significance comparing baseline proportion to post-demonstration period proportion (for each LOC)
	Number/percent of beneficiaries receiving any SUD treatment service (CMS #6).	CMS	Monthly	Number of unique members in the denominator receiving at least one SUD treatment service or pharmacy claim during the measurement period.	Number of unique members enrolled in the measurement period (for percentage) Subpopulations: OUD, Age, Dual, Pregnant, and Criminal Justice	Claims	ITS; controlling for demographic subgroups Compare “Received Any Substance Use Treatment in the Past Year” as benchmark if DMHAS data is not available/useable for ITS
	The number of providers who were enrolled in	CMS	Yearly	Number of providers.	None	Key Informant interviews and document review	Time series

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
	Medicaid and qualified to deliver SUD services during the measurement period (CMS #13).					from ASOs and State agency partners	
	The number of providers who were enrolled in Medicaid and qualified to deliver SUD services during the measurement period and who meet the standards to provide buprenorphine or methadone as part of MAT (CMS #14).	CMS	Yearly	Number of providers.	None	Key Informant interviews and document review from ASOs and State agency partners	Time series
Primary Driver: Improved access to care via a full continuum of available SUD services. **Hypothesis 5: The Demonstration will improve access and develop capacity for adolescent girls needing SUD residential treatment.**							

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
Research Question 5.1: Has access to SUD residential treatment improved for adolescent girls?	Number/percent of adolescent girls enrolled in Medicaid who use residential and/or inpatient services for SUD (CMS #10 — specific subgroup).	CMS	Monthly	Number of unique members in the denominator with a service for residential and/or inpatient services for SUD.	Adolescent (12–17) girls with a SUD diagnosis (CMS #3) for percentage.	Claims Qualitative Interview Have any residential providers been certified to serve adolescent girls	ITS
Primary Driver: Improved access to care via a full continuum of available SUD services. **Hypothesis 6: More adolescent SUD treatment services will be provided at the ambulatory ASAM LOCs.**							
Research Question 6.1 Will more adolescents be treated for SUD using early identification and ambulatory ASAM LOCs including early access to treatment?	Number/percent of adolescent beneficiaries who receive prevention or early intervention services (CMS #7).	CMS	Monthly	Number of unique members in the denominator with a service claim for early intervention services (e.g., procedure codes associated with SBIRT).	Adolescent (ages 12–17) members with a SUD diagnosis (CMS #3) for percentage	Claims	ITS
	Number/percent of adolescent	CMS	Monthly	Number of unique	Adolescent (ages 12–17)	Claims	ITS

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
	beneficiaries who use outpatient services (CMS #8).			members in the denominator with a claim for outpatient services for SUD (e.g., outpatient recovery or motivational enhancement therapies, step-down care, and monitoring for stable patients).	members with a SUD diagnosis (CMS #3) for percentage		
Primary Driver: Increase rates of identification, initiation, engagement, and retention in treatment. **Hypothesis 7: The Demonstration will improve rates of identification, initiation, and engagement in treatment.**							
Research Question 7.1: Has the widespread use of ASAM patient placement criteria resulted in increased rates of	Initiation of Alcohol and Other Drug (AOD) Abuse or Dependence Treatment (IET-AD) (CMS #15).	National Committee for Quality Assurance (NCQA) National Quality Forum	Yearly	Number of unique members in the denominator who initiate treatment through an inpatient AOD admission,	Number of unique members with a new episode of AOD abuse or dependence	Claims	Descriptive time series; pre-post chi square test of significance comparing baseline proportion to post-demonstration period proportion

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
identification, initiation, and engagement in treatment for members with SUD diagnoses?		(NQF) #0004		outpatient visit, intensive outpatient visit or partial hospitalization, telehealth, or medication treatment within 14 days of the diagnosis.			Compare to CMS Medicaid Adult Core Set national median as benchmark if pre-demonstration data is not available/ useable
	Engagement of AOD Abuse or Dependence Treatment (IET-AD) (CMS #15).	NCQA NQF #0004	Yearly	Number of unique members in the denominator who were engaged in ongoing AOD treatment within 34 days of the initiation visit.	Number of unique members with a new episode of AOD abuse or dependence and initiated treatment	Claims	Descriptive time series; pre-post chi square test of significance comparing baseline proportion to post-demonstration period proportion Compare to CMS Medicaid Adult Core Set national median as benchmark if pre-demonstration data is not available/ useable

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
Primary Driver: Improved access to the most beneficial LOC via a full continuum of available SUD services**.** **Hypothesis 8: The Demonstration will improve access and develop capacity for adolescent girls needing SUD residential treatment.**							
Research Question 8.1: Did more adolescent girls receive residential SUD treatment as a result of the Demonstration?	Number/percent of adolescent female beneficiaries who use residential and/or inpatient services for SUD (CMS #10).	CMS	Monthly	Number of unique members in the denominator with a service for residential and/or inpatient services for SUD.	Adolescent female members with a SUD diagnosis (CMS #3) for percentage	Claims Qualitative Interview Have any residential providers been certified to serve adolescent girls	ITS; controlling for demographic subgroups

CONNECTICUT GOAL 2: Improve quality of care and population health outcomes for Medicaid enrollees with SUD.

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
Primary Driver: Reduced utilization of EDs and inpatient hospital settings for treatment where the utilization is preventable or medically inappropriate **Hypothesis 9: The 1115 SUD Demonstration will decrease the rate of ED and hospital use among Medicaid enrollees with SUD.**							
Research Question 9.1: What is the impact of the Demonstration on ED	ED Utilization for SUD per 1,000 Medicaid Beneficiaries (CMS #23).	CMS	Monthly	Number of ED visits for SUD.	All Medicaid members	Claims	ITS; controlling for demographic subgroups

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
utilization by Medicaid enrollees with SUD?							
Research Question 9.2: Did inpatient stays decrease after implementation of UM?	Inpatient Stays for SUD per 1,000 Medicaid Beneficiaries (CMS #24).	CMS	Monthly	Number of inpatient stays for SUD.	All Medicaid members	Claims Include DMHAS data in numerator for baseline years	ITS; controlling for demographic subgroups
Primary Driver: Reduced utilization of EDs and inpatient hospital settings for treatment where the utilization is preventable or medically inappropriate **Hypothesis 10: The 1115 SUD Demonstration will lead to lower hospitalization readmission rates for enrollees with SUD.**							
Research question 10.1: Did readmissions to the same or higher LOC, where readmission is preventable or medically inappropriate for OUD and other SUD, decrease?	Readmissions Among Beneficiaries with SUD (CMS #25).	CMS	Yearly	Acute hospital admissions from the denominator with at least one acute readmission for any diagnosis within 30 days of discharge.	Acute hospital admissions for members with SUD diagnosis	Claims	Descriptive time series; pre-post chi square test of significance comparing baseline proportion to post-demonstration period proportion

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
Primary Driver: Increase rates of identification, initiation, engagement, and retention in treatment . **Hypothesis 11: Enrollees with SUD will have fewer opioid-related overdose deaths.**							
Research question 11.1: Did comprehensive treatment and prevention strategies correspond to a reduction in overdose deaths and activities that support overdose death reduction?	Overdose Deaths (rate) (CMS#27).	Evaluator, with input from the agency collecting the data	Yearly	Number of Medicaid members with overdose as cause of death.	All Medicaid members	State data on cause of death	Descriptive time series (data ID's Medicaid members? Possible ITS); pre-post chi square test of significance comparing baseline proportion to post-demonstration period proportion Also compare to National Center for Health Statistics national drug overdose death rate as benchmark

CONNECTICUT GOAL 3: Improve care coordination and care transitions for Medicaid enrollees with SUD.

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
Primary Driver: Improved access to care coordination among beneficiaries, including improved discharge planning and transitions **Hypothesis 12: The 1115 SUD Demonstration will increase the rate of Medicaid enrollees with SUD-related conditions who are also receiving primary/ambulatory care.**							
Research Question 12.1: What is the impact of the Demonstration on the integration of physical and BH care among Medicaid enrollees with SUD and co-morbid conditions?	Access to Preventive/ Ambulatory Health Services for Adult Medicaid Beneficiaries with SUD (AAP) (Adjusted Healthcare Effectiveness Data and Information Set [HEDIS] measure) (CMS #32).	NCQA	Yearly	Number of unique members with SUD with an ambulatory or preventative care visit.	Number of unique members with a SUD diagnosis (CMS #4)	Claims	Descriptive time series; pre-post chi square test of significance comparing baseline proportion to post-demonstration period proportion
Research Question 12.2 Has the Demonstration impacted access to care for individuals	Follow-Up After ED Visit for AOD Abuse or Dependence (FUA-AD) (CMS #17-1).	NCQA	Yearly	Number of ED visits for members in the denominator who had a follow-up visit	Number of ED visits for members with a principal diagnosis of AOD abuse or dependence.	Claims	Descriptive time series; pre-post one-way ANCOVA comparing baseline average to post-demonstration average, controlling

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
with SUD by linking beneficiaries with community-based services and supports following ED visits and reducing readmission rates for hospital stays?				for AOD abuse or dependence within: 30 days 7 days			for demographic subgroups Also compare to CMS Medicaid Adult Core Set national median as benchmark
	Follow-Up After ED Visit for Mental Illness (FUM-AD) (CMS #17-2). Follow-Up After Hospital Admission for Mental Illness	NCQA	Yearly	Number of ED visits for members with a principal diagnosis of mental illness or intentional self-harm and who had a follow-up visit for mental illness within: 30 days 7 days	Number of ED visits for members with a principal diagnosis of mental illness or intentional self-harm	Claims	Descriptive time series; pre-post one-way ANCOVA comparing baseline average to post-demonstration average, controlling for demographic subgroups Also compare to CMS Medicaid Adult Core Set national median as benchmark

Primary Driver: Increase rates of identification, initiation, engagement, and retention in treatment . **Hypothesis 13: Medicaid IMD providers will demonstrate consistency in program design and discharge planning policies.**							
Research question 13.1: Did IMD providers improve program design and discharge planning policies? **(Process Question)**	Description of training and technical assistance activities to align providers with new ASAM standards.	N/A	Cumulative for interim reporting period, and for summative reporting period.	None	None	Key Informant interviews and document review with SUD providers	Thematic analysis of interviews and documents

CONNECTICUT GOAL 4: Maintain or reduce Medicaid cost of individuals with SUD.

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
Primary Driver: Maintain or reduce Medicaid costs for individuals with SUD, where possible							
Hypothesis 14: The Demonstration will be budget neutral to the Federal government. **Hypothesis 15: Total Medicaid SUD spending during the measurement period will remain constant after adjustment for the new residential services and any other new SUD treatment services including care coordination developed under this Demonstration.**							
Research Question 14.1: Will Medicaid maintain or decrease	SUD Spending (CMS #28).	CMS	Yearly	The sum of all Medicaid spending on SUD treatment services.	None	Claims Use provider paid amounts	Descriptive time series

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
overall costs after accounting for the newly added residential and withdrawal management services?	SUD Spending within IMDs (CMS #29).	CMS	Yearly	The sum of all Medicaid spending on inpatient/ residential treatment for SUD provided within IMDs.	None	Claims Use provider paid amounts	Descriptive time series
	Per Capita SUD Spending (CMS #30).	CMS	Yearly	The sum of all Medicaid spending on SUD treatment services (CMS #28).	Members with a SUD diagnosis (CMS #4)	Claims Use provider paid amounts	Descriptive time series; pre-post one-way ANCOVA statistic comparing baseline average to post-demonstration average, controlling for demographic subgroups
	Per Capital SUD Spending within IMDs (CMS #31).	CMS	Yearly	The sum of all Medicaid spending on inpatient/ residential treatment for SUD provided within IMDs (CMS #29).	Number of members with a claim for inpatient/ residential treatment for SUD in an IMD	Claims Use provider paid amounts	Descriptive time series; pre-post one-way ANCOVA statistic comparing baseline average to post-demonstration average, controlling for demographic subgroups

Research question	Measure	Measure Steward	Time Period	Numerator	Denominator[a]	Data Sources	Analytic Method
	Total Cost PMPM	CMS SUD Evaluation Design Guidance, Appendix C	Quarterly	The sum of all Medicaid spending (Inpatient, Outpatient, Pharmacy, Long Term Care, Capitation payments, Administrative Costs, Federal Costs) for members with a SUD diagnosis	Member months per quarter for members with a SUD diagnosis	Claims Use provider paid amounts CMS 64 for Federal Costs Data source for administrative costs:	ITS; controlling for demographic subgroups

Analytic Methods

Multiple analytic techniques will be used, depending on the type of data for the measure and the use of the measure in the Evaluation Design (e.g., process measure versus outcome measures). Descriptive, content analysis will be used to present data related to process evaluation measures gathered from document reviews, key informant interviews, etc., as discussed previously. Qualitative analysis software (R Qualitative, ATLAS, or similar) will be used to organize documentation, including key informant interview transcripts. Analysis will identify common themes across interviews and documents. In some cases, checklists may be used to analyze documentation (e.g., licensure) for compliance with standards. These data will be summarized in order to describe the activities undertaken for each project milestone, including highlighting specific successes and challenges.

Descriptive statistics including frequency distributions and time series (presentation of rates over time) will be used for quantitative process measures in order to describe the output of specific waiver activities. These analysis techniques will also be used for some short-term outcome measures in cases where the role of the measure is to describe changes in the population, but not to show specific effects of the waiver Demonstration. Where pre-demonstration and post-demonstration rates are comparable, pre-post distributional test will be made to quantify statistical differences in process measures before and after the demonstration.

An ITS will be used to describe the effects of waiver implementation in metrics that are measured on a monthly or quarterly basis. Specific outcome measure(s) will be collected for multiple time periods both before and after start of intervention. Segmented regression analysis will be used to measure statistically the changes in level and slope in the post-intervention period (after the waiver) compared to the pre-intervention period (before the waiver). The ITS design will be dependent on being able to use similar historical data on specific outcome measures collected from DSS based on SUD services provided prior to the Demonstration. The ITS design uses historical data to forecast the “counterfactual” of the evaluation, that is to say, what would happen if the Demonstration did not occur. We propose using basic time series linear modeling to forecast these “counterfactual” rates for three years following the Demonstration implementation.[7] The more historical data available, the better these predictions will be. ITS models are commonly used in situations where a contemporary comparison group is not available.[8] The State has considered options for a contemporary comparison group. Since the Demonstration will target all adult and adolescent non-expansion and expansion Medicaid members in need of SUD services, the only viable groups for comparison within the State would be those covered with private insurance, which would include a very different demographic population.

For this Demonstration, establishing the counterfactual is somewhat nuanced. The driver diagram and evaluation hypotheses assume that Demonstration activities will have overall positive impacts on outcome measures. The figure below illustrates an

[7] E Kontopantelis (2015). Regression based quasi-experimental approach when randomisation is not an option: interrupted time series analysis. British Medical Journal (BMJ). Available at: https://www.bmj.com/content/350/bmj.h2750.

[8] Ibid.

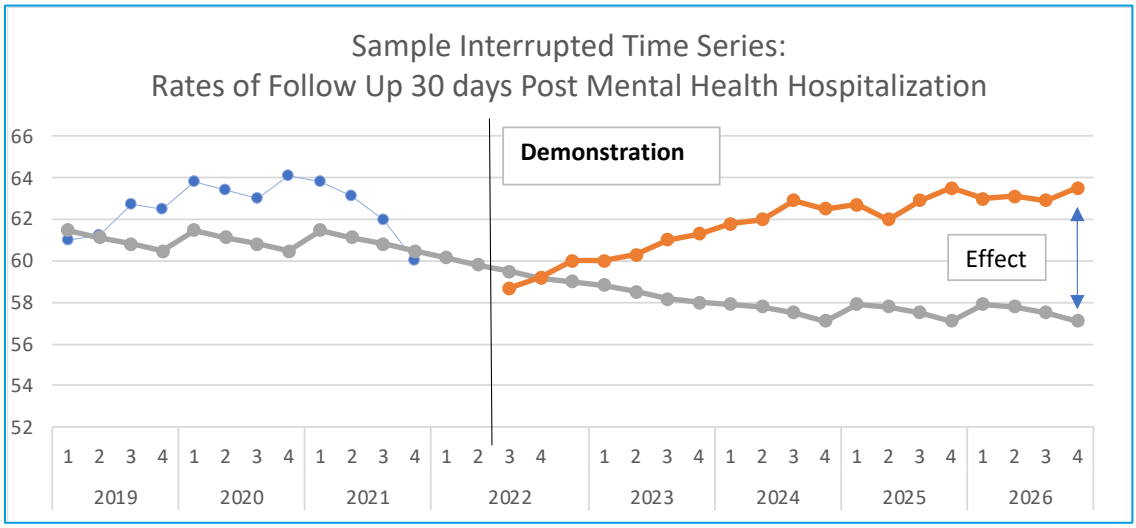
ITS design that uses basic regression forecasting to establish the counterfactual — this is represented by the grey line in the graphic. The counterfactual is based on historical data (the blue line). It uses time series averaging (trend smoothing) and linear regression to create a predicted trend line (shown below as the grey line). The orange line in the graph is the (sample) actual observed data. Segmented regression analysis will be used to measure statistically the changes in level and slope in the post-intervention period compared to the predicted trend (see "effect" in the graph below).

$$Y_t = \beta_0 + \beta_1 T + \beta_2 X_t + \beta_3 T X_t$$

Where β_0 represents the baseline observation, β_1 is the change in the measure associated with a time unit (quarter or year) increase (representing the underlying pre-intervention trend), β_2 is the level change following the intervention and β_3 is the slope change following the intervention (using the interaction between time and intervention: TX_t).[9]

This can be represented graphically as follows.

Figure 1: (SAMPLE data only) Rates of Follow-Up Post Mental Health Hospitalization



Pre-demonstration data from January 1, 2018 to March 30, 2022 will be calculated using the monthly, quarterly, or annual period of time as specified in the CMS technical specifications for each metric. Trends in these data for each measure will be used to predict the counterfactual (what would have happened without the Demonstration). Outcomes measures will be calculated beginning April 1, 2022 through the end of the waiver Demonstration project (March 31, 2027). A discussion of including confounding variables (e.g., COVID-19, other SUD efforts) is included in the next section.

[9] Bernal JL, Cummins S, Gasparrini A. "Interrupted time series regression for the evaluation of public health interventions: a tutorial" (2017 Feb.). International Journal of Epidemiology 46(1): 348-355.

Quantitative outcome measures with yearly measurement periods that are expressed as averages or proportions will be analyzed with pre-post tests. While two or three pre-demonstration measurement periods for yearly metrics may not be enough information to establish a trend for the ITS analysis, pre-post analyses may reveal differences in outcomes before and after the Demonstration. One-way analysis of covariance, or t-tests will be used to compare pre-demonstration averages with post-demonstration averages, and chi-square tests will be used to compare proportions.

Qualitative analysis will utilize data collected from three main sources: 1) key informant interviews with State staff working on implementation efforts, ASO representatives, and providers, 2) key process documentation (e.g., policy and procedure manuals, guidance documents), and 3) provider addendums. Informant sampling will be largely based on convenience/snowball sampling where key stakeholders provide initial lists of potential interviewees, based on their perspective on Demonstration implementation activities. Meeting minutes listing attendees will also be reviewed to identify potential interviewees. ASO staff and provider staff will also be included. Because this likely will be a large number of people, the independent evaluator will work with the State to determine whether to conduct focus groups with these populations, or to engage in a strategic stratified sampling process. The latter will ensure representation across the industry, and from providers stratified by geography/location, size, and services provided. Document reviews will include meeting minutes, policy and procedure documents, provider contracts, and others identified during the qualitative analysis process. Themes will be identified by multiple coders who review documents, identify initial themes, then collaborate in the creation of a central list of primary and secondary themes.

Key informant interviews and document reviews will occur at four critical junctures: initially, prior to the mid-point assessment, prior to the interim evaluation report being written, and prior to the final summative evaluation report being finalized. Specifically, the initial qualitative analysis will occur October 2024–December 2024. The second qualitative analysis will occur October 2025–December 2025. The third qualitative analysis will occur March 2026–May 2026. The final qualitative analysis will occur April 2027–June 2027 if the waiver is not renewed.

Section 4

Methodological Limitations

There are two primary limitations to the evaluation methodology presented here. The first involves issues of data quality and data sources that either: 1) are not sufficient to conduct the analysis proposed here (e.g., not enough historical data for needed prior time periods), or 2) contain errors. An additional limitation is related to the design itself because this evaluation plan relies heavily on descriptive, time series analysis, and qualitative data, this evaluation will describe what happened after the Demonstration was implemented, but it will be difficult to isolate why changes occurred. In other words, it will be difficult to directly attribute changes after waiver implementation to the activities undertaken as part of the waiver. Each of these limitations is discussed in greater detail within this section.

Some of the metrics being computed by Mercer will be calculated for the historic period using non-Medicaid data for residential services. Both Mercer and the Department are working closely to request and test extracts of pre-demonstration data. While it is unclear at this time the degree to which it will be possible to generate historical data needed to forecast the slope of the "counterfactual" trend line (what would have happened without the Demonstration), Mercer has access to this historical data and utilized it in the past. This historical data is an important component of the ITS design, but also supports the descriptive time series analysis. In particular, there will be a limitation in estimating the slope of what the trend line would be without the Demonstration if the data is not sufficient to model what would have happened without implementation.

While the ITS design is the strongest available research method, in the absence of a randomized trial or matched control group, there are some threats to the validity of results in the design.[10] The primary threat is that of history, or other changes over time happening during the waiver period. This ITS design is only valid to the extent that the Demonstration program was the only thing that changed during the evaluation period. Other changes to policies or programs could affect the outcomes being measured under the Demonstration. Mercer will attempt to control this threat by considering other policy and program changes happening concurrent to the waiver period interventions. At a minimum, we will use qualitative methods, in the form of key informant interviews, to identify other initiatives or events may have occurred during the Demonstration that might influence Demonstration effects. Mercer will conduct a qualitative assessment of these likely impacts and will use time series analysis to show how trends may have changed at these critical time periods. In order to isolate the effects of these efforts, Mercer will also conduct additional iterations of the ITS. Using identified critical time points as additional variables, we will test whether other major efforts had a statistically significant impact in the post-demonstration waiver trend. The analysis will note the

[10] Penfold RB, Zhang F. "Use of interrupted time series analysis in evaluating heath care quality improvements." Academic Pediatrics, 2013 Nov-Dec, 13(6Suppl): S38-44.

dates of other changes and analyze the degree to which the slope of the trend line changes after implementation of other interventions are made.

The impact of COVID-19 most likely affected the pre-demonstration period, and Mercer anticipates a statically significant impact on most metrics. Therefore, in the initial forecasting within the ITS model, the independent evaluator will include a COVID-19 covariant for the start of the pandemic in the forecast model. Essentially, the ITS for this evaluation will create two counterfactual scenarios using historical data. Mercer will create a "without" COVID-19 forecast using historical data only prior to March of 2020 as one potential counterfactual to compare against actual trends. If we can establish sufficient data points between March 2020 and the waiver start date of April 2022, we can estimate the COVID-19 impact on the forecast. Mercer will also create a forecast with data through the pre-demonstration period (up to January 2021) that includes data during the times COVID-19 was prevalent in the State. As long as COVID-19 remains prevalent during the Demonstration period, we anticipate that using the "with COVID-19" model as the counterfactual will be more accurate. Additional covariate time periods can be added to the model if there are significant shifts in either COVID-19 prevalence numbers or policy shifts (e.g., new stay at home orders) in the State. Mercer will also qualitatively explore how COVID-19 impacted the implementation of the waiver, based on data from key informant interviews.

A related threat to the validity of this evaluation is external (history such as the pandemic). Because we have not identified a comparison group (a group of Medicaid members who would be eligible for the waiver interventions but who will not receive them and/or for whom data will not be collected), it will be difficult to attribute causality. It will be less certain whether the changes observed in outcomes are due entirely to the waiver interventions, rather than some external, outside cause (including other program and policy changes described earlier). However, the ITS design controls for this threat to some degree, by linking what would have likely happened (e.g., forecasting the trajectory of counts and rates over time) without any program changes and comparing this forecast to actual changes over time. To strengthen this design as much as possible, as many data points will be collected as possible across multiple years preceding waiver changes. This will allow for adjustment of seasonal or other, cyclical variations in the data. Additionally, the design will examine multiple change points and identifying key areas of major program and policy adjustments, so that with each major milestone accomplishment, corresponding changes to metrics can be observed

The ITS analysis will also include a sensitivity analysis to determine the degree to which specific ITS assumptions impact the analysis. Specifically, the degree to which the assumption that trends in time are linear versus non-linear will be addressed. Additionally, this model assumes that changes will occur directly after the intervention. However, it is possible that for some outcomes, there will be a lag between the start of the waiver and observed outcomes.

Mercer will also attempt to limit this threat to validity by triangulating our data. Claims data trends across multiple time periods will be compared to trends happening at other points in time (other large policy or program shifts that might influence the slope of the trend in addition to the demonstration). Also, key informant interviews will be used to inform the quantitative findings and explain the degree to which individuals are seeing

demonstration impacts. Mercer will also attempt to seek out national and other State data for benchmarking, that will allow us to determine whether Connecticut is performing in a similar fashion to other demonstration states, non-demonstration states, or national benchmarks overall.

According to the literature on ITS analysis, estimating the level and slope parameters requires a minimum of eight observations before and after implementation in order to have sufficient power to estimate the regression coefficients.[11] Evaluators will need to work closely with the DSS, DMHAS, and their respective data teams to gather as many data points as possible and discuss limitations within the evaluation findings if enough points cannot be collected.

It should also be noted that ITS cannot be used to make inferences about any one individual's outcomes as a result of the waiver. Conclusions can be drawn about changes to population rates, in aggregate, but not speak to the likelihood of any individual Medicaid member having positive outcomes as a result of the waiver.

Qualitative data, while useful in confirming quantitative data and providing rich detail, can be compromised by individual biases or perceptions. Key informant interviews, for example, represent a needed perspective around context for Demonstration activities and outcomes. However, individuals may be limited in their insight or understanding of specific programmatic components, meaning that the data reflects perceptions, rather than objective program realities. The evaluation will work to address these limitations by collecting data from a variety of different perspectives to help validate individuals' reports. In addition, standardized data collection protocols will be used in interviews and interviewers will be trained to avoid "leading" the interviewee or inappropriately biasing the interview. It will also utilize multiple "coders" to analyze data and will create a structured analysis framework, based on research questions that analysts will use to organize the data and to check interpretations across analysts. Finally, results will be reviewed with stakeholders to confirm findings.

[11] Ibid.

Section 5
Attachments

As part of the STCs, as set forth by CMS, the Demonstration project is required to arrange with an independent party to conduct an evaluation of the SUD Demonstration to ensure that the necessary data is collected at the level of detail needed to research the approved hypotheses. Mercer, through a request for proposal (RFP) process, contracts to provide technical assistance to DSS, including this independent evaluation work.

Mercer was selected as the waiver evaluator. Mercer will develop the Evaluation Design, calculate the results of the study, evaluate the results for conclusions, and write the Interim and Summative Evaluation Reports.

Mercer has over 25 years of experience assisting state governments with the design, implementation, and evaluation of publicly sponsored health care programs. Mercer currently has over 25 states under contract and has worked with over 35 different states in total. They have assisted states like Arizona, Connecticut, Missouri, and New Jersey in performing independent evaluations of their Medicaid programs; many of which include 1115 Demonstration waiver evaluation experience. Given their extensive experience, the Mercer team is well equipped to work effectively as the external evaluator for the Demonstration project. The table below includes contact information for the lead coordinators from Mercer for the evaluation:

Name	Position	Email Address
Charles Lassiter	Engagement Leader	charles.lassiter@mercer.com
Shawn Thiele Sacks, LCSW	Program Manager	shawn.thiele.sac@mercer.com
Vinaya Krishnaswamy	Project Manager	vinaya.krishnaswamy@mercer.com
Brenda Jenney, PhD	Statistician	brenda.jenney@mercer.com
Tonya Aultman-Bettridge, PhD	Evaluator	taultman-bettridge@triwestgroup.net
Laurie Klanchar, RN, MSN	Clinician	laurie.klanchar@mercer.com
Brenda Jackson, MPP	Specialty Consulting Sector	brenda.jackson@mercer.com

Appendix A
Conflict of Interest Statement

Connecticut (DSS) has taken steps to ensure that Mercer is free of any conflict of interest and will remain free from any such conflicts during the contract term. DSS considers it a conflict if Mercer currently 1) provides services to ASOs or health care provider doing business in Connecticut under the Health First Connecticut program; or 2) provides direct services to individuals in DSS or DMHAS-administered programs included within the scope of the technical assistance contract. If DSS discovers a conflict during the contract term, DSS may terminate the contract pursuant to the provisions in the contract.

Mercer's Government specialty practice does not have any conflicts of interest, such as providing services to any MSOs or health care providers doing business in Connecticut under the Connecticut program or to providing direct services to individual recipients. One of the byproducts of being a nationally operated group dedicated to the public sector is the ability to identify and avoid potential conflicts of interest with our firm's multitude of clients. To accomplish this, market space lines have been agreed to by our senior leadership. Mercer's Government group is the designated primary operating group in the Medicaid space.

Before signing a contract to work in the Medicaid market, either at the state-level or otherwise, we require any Mercer entity to discuss the potential work with Mercer's Government group. If there is a potential conflict (i.e., work for a Medicaid health plan or provider), the engagement is not accepted. If there is a potential for a perceived conflict of interest, Mercer's Government group will ask our state client if they approve of this engagement, and we develop appropriate safeguards such as keeping separate teams, restricting access to files, and establish process firewalls to avoid the perception of any conflict of interest. If our client does not approve, the engagement will not be accepted. Mercer has collectively turned down a multitude of potential assignments over the years to avoid a conflict of interest.

Given that Mercer is acting as both technical assistance provider and independent evaluator for this project, DSS and Mercer have implemented measures to ensure there is no perceived conflicts of interest. This contract was awarded following a competitive bidding process that complied with all Connecticut State laws, the Mercer evaluation team (TriWest) is functionally and physically separate from the technical assistance team, and the contract does not include any performance incentives that would contribute to a perception of conflicted interests between technical assistance services and the independence of the evaluation process. As an additional firewall, the evaluation statistical analyses will be conducted by a subcontractor that has not had any interaction with the technical assistance team, using data that has been reviewed and accepted by CMS (through monitoring protocol submissions).

In regards to Mercer's proposed subcontractors, all have assured Mercer there will be no conflicts and that they will take any steps required by Mercer or DSS to mitigate

any perceived conflict of interest. To the extent that we need to implement a conflict mitigation plan with any of our valued subcontractors, we will do so.

Mercer, through our contract with DSS, has assured that it presently has no interest and will not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of its services. Mercer has further assured that in the performance of this contract, it will not knowingly employ any person having such interest. Mercer additionally certified that no member of Mercer's Board or any of its officers or directors has such an adverse interest.

Appendix B

Evaluation Budget

	DY 1	DY2	DY3	DY4	DY5	Final Evaluation	Total Evaluation Cost
	2021	2022	2023	2024	2025	6/30/2027	
State of Connecticut							
DSS	$100,000*	$50,000**	$50,000	$50,000	$50,000	$50,000	$350,000

*Estimates based on 1) Demonstration Year 1 (DY1) data infrastructure and data sharing protocol build between Departments and vendor; and 2) staff review of DY1 deliverables.

**Estimates for DY2–DY5 based on State of Connecticut review of annual, ongoing deliverables.

Evaluation Budget — Independent Evaluator/Contractor — Mercer Hours					
	Senior Consultant	Junior Consultant	Consultant	Project Management	Total Hours
Evaluation Activities					
Develop and draft Evaluation Design	288	72	--	30	390
Revise drafted Evaluation Design	28	7	--	--	35
Draft Interim Evaluation report	72	18	--	26	116
Finalize Interim Evaluation report	40	10	--	--	50
Draft Summative Evaluation report	92	23	--	26	141
Finalize Summative Evaluation report	40	10	--	--	50

Evaluation Budget — Independent Evaluator/Contractor — Mercer Hours					
	Senior Consultant	Junior Consultant	Consultant	Project Management	Total Hours
Data Activities					
Load, validate, and scrub raw data — Evaluation measures for Annual reports.	--	250	250	10	510
Load, validate, and scrub raw data — Evaluation measures for Interim and Final Evaluation report	148	148	35	--	331
File mapping to standardize file format — Evaluation measures for Annual reports.	100	195	100	10	405
File mapping to standardize file format — Evaluation measures for Interim and Final Evaluation report	--	128	128	10	266
Initial programming/validation of code for measure development — Evaluation measures (37)	88	10	88	--	186
Run and validate programming/coding for each measure, generate the measures — Evaluation measures for annual reports. (10 measures; 40 hours/year; 10 PM)	--	100	100	10	210
Statistical measures for the evaluation: Interim and Final report (300 hours/report)	100	250	250	10	610
Final Total:					**3,300**

Evaluation Budget — Independent Evaluator/Contractor — Mercer Costs									
	FY1 – DY1	FY2 – DY1, 2	FY3 – DY2, 3	FY4 – DY3, 4	FY5 – DY4, 5	FY6 – DY5	FY7 – DY6	FY8	Total Cost
Evaluation Activities									
Develop and draft Evaluation Design	$115,140	--	--	--	--	--	--	--	$ 115,140
Revise drafted Evaluation Design	--	$10,465	--	--	--	--	--	--	$ 10,465
Draft Interim Evaluation report	--	--	--	--	$33,410	--	--	--	$ 33,410
Finalize Interim Evaluation report	--	--	--	--	--	$14,950	--	--	$ 14,950
Draft Summative Evaluation report	--	--	--	--	--	--	$40,885	--	$ 40,885
Finalize Summative Evaluation report	--	--	--	--	--	--	--	$14,950	$ 14,950
Data Activities									
Load, validate, and scrub raw data — Evaluation measures for Annual reports.	--	$27,750	$27,750	$27,750	$27,750	$27,750	--	--	$ 138,750
Load, validate, and scrub raw data — Evaluation measures for Interim and Final Evaluation report (190 hours initial	--	$52,975	--	$30,263	--	--	$30,263	--	$ 113,501

Evaluation Budget — Independent Evaluator/Contractor — Mercer Costs									
	FY1 – DY1	FY2 – DY1, 2	FY3 – DY2, 3	FY4 – DY3, 4	FY5 – DY4, 5	FY6 – DY5	FY7 – DY6	FY8	Total Cost
File mapping to standardize file format — Evaluation measures for Annual reports.	--	$44,163	$17,650	$17,650	$17,650	$17,650	--	--	$ 114,763
File mapping to standardize file format — Evaluation measures for Interim and Final Evaluation report	--	--	--	$34,694	--	$34,694	--	--	$ 69,388
Initial programming/validation of code for measure development — Evaluation measures (37)	--	$172,744	--	--	--	--	--	--	$ 172,744
Run and validate programming/coding for each measure, generate the measures — Evaluation measures for Annual reports.	--	$12,600	$12,600	$12,600	$12,600	$12,600	--	--	$ 63,000

Evaluation Budget — Independent Evaluator/Contractor — Mercer Costs									
	FY1 – DY1	FY2 – DY1, 2	FY3 – DY2, 3	FY4 – DY3, 4	FY5 – DY4, 5	FY6 – DY5	FY7 – DY6	FY8	Total Cost
Statistical measures for the evaluation: Interim and Final report	--	--	--	$78,250	--	$78,250	--	--	$ 156,500
Final Total:									**$ 1,058,446**

Appendix C

Potential Timeline and Major Deliverables

The table below highlights key evaluation milestones and activities for the waiver and the dates for completion.

Deliverable	STC Reference	Date
Submit evaluation design plan to CMS	36	October 11, 2022
Final evaluation design due 60 days after comments received from CMS	36	60 days after comments received from CMS
Mid-point assessment due	29	No later than 60 days after March 31, 2025
Draft Interim Report due	40	March 31, 2026
Final Interim Report due 60 days after CMS comments received	40(d)	60 days after comments received from CMS
Draft Summative Evaluation Report due 18 months following demonstration	41	Within 18 months after March 31, 2027 if the waiver is not renewed
Final Summative Evaluation Report due 60 days after CMS comments received	41(a)	60 days after comments received from CMS

Mercer Health & Benefits LLC
2325 East Camelback Road, Suite 600
Phoenix, AZ 85016
www.mercer-government.mercer.com