IAP | Medicaid Innovation Accelerator Program

Using Opioid Data Analytics to Support Reduction of Substance Use Disorders

In July 2014, the Centers for Medicare & Medicaid Services launched a collaborative between the Center for Medicaid and CHIP Services and the Center for Medicare & Medicaid Innovation called the Medicaid Innovation Accelerator Program (IAP). The goal of IAP is to improve health and health care for Medicaid beneficiaries and to reduce costs by supporting states' ongoing payment and delivery system reforms. IAP provides targeted technical assistance to Medicaid agencies across four program areas. The first IAP program area began in February 2015 and focused on technical assistance with better identifying individuals with a substance use disorder (SUD), expanding coverage for effective SUD treatment, and enhancing SUD practices delivered to beneficiaries. Under this program area, IAP assisted states with related data analytic and delivery system reform designs. IAP also worked with Medicaid agencies on improving care for Medicaid beneficiaries with complex care needs and high costs, promoting community integration through long-term services and supports, and supporting physical and mental health integration.

Opioid Data Analytics Affinity Group and Technical Assistance

As part of its assistance to Medicaid agencies to strengthen and improve their SUD treatment delivery systems, IAP convened several state-to-state learning collaboratives on topics that Medicaid agencies identified as top priorities in their efforts to combat the opioid crisis. One of these opportunities was an Opioid Data Analytics affinity group. The goal of this affinity group was to provide participating states with a better understanding of SUD data that they could then use to inform strategies and develop targeted interventions. The affinity group was geared toward Medicaid agencies in the initial stages of examining their SUD data. Participating states received tools and technical resources, including instructions for conducting data analytics (e.g., table shells, value sets); state-to-state discussion opportunities; and individual technical assistance from experts in SUD policy and data analytics.

The IAP data analytic assistance provided to states covered three interrelated components that ran sequentially from April 2018 through August 2018:

1. The first component focused on opioid use disorder (OUD) specifically—sizing and stratifying the magnitude of the opioid epidemic within the Medicaid population, expenditure patterns of the population with OUD (with a focus on high-cost/high-need beneficiaries with OUD), and characteristics of the affected population across key dimensions, including age and sex.

2. The second component focused on medication-assisted treatment (MAT) and included an assessment of the availability and distribution of MAT within a state's Medicaid program. The aim of the MAT component was to better understand the characteristics of MAT in the state across key dimensions, including geography; participation of buprenorphine-waivered practitioners in Medicaid; caseloads of waivered practitioners; penetration rates; and utilization of concomitant services, such as individual or group counseling or other types of recovery supports.

3. The final component focused on neonatal abstinence syndrome (NAS) and OUD care for pregnant women in the Medicaid program. The aim of the NAS component was to help states understand where treatment occurs, the type of OUD maternity care and NAS treatment beneficiaries are using, and the cost to Medicaid.

The three components in this Opioid Data Analytics affinity group were designed to build on one another; states were encouraged to participate in all three components but could participate in one or two. Thirteen states participated: California, Colorado, Delaware, Indiana, Kansas, Kentucky, Maryland, Michigan, Missouri, New Hampshire, New Jersey, South Carolina, and West Virginia. Several examples of participating states' data analytic work are listed below.

CALIFORNIA

California participated in the OUD component and completed a statewide estimate of how Medicaid beneficiaries diagnosed with OUD and alcohol use disorder are being treated, with a focus on understanding MAT services. With IAP's technical assistance under the MAT component, California also tracked trends in provider data to demonstrate how its SUD workforce capacity was changing (increasing) over time. The state shared an abbreviated dashboard of the workforce capacity trends across Department of Health Care Services divisions to inform its evaluation plans for SUD diagnosis and treatment in targeted populations and/or waiver programs.

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KENTUCKY

IAP provided technical assistance to Kentucky with sizing the opioid problem within its Medicaid population, driving interventions, and tracking the impact of those interventions for beneficiaries with OUD. Kentucky also used these data to focus on top priorities (e.g., NAS), determine which related measures are actionable, keep an OUD scoreboard, and add tasks to its analytic work to push its understanding further. For example, to help focus its data analytic programming, the state created a map that identified mothers of infants with NAS throughout Kentucky, followed mother-infant dyads over time, and looked at outcomes for infants born with NAS over the first year of life.

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MARYLAND

Before conducting the NAS and maternal OUD analysis, Maryland received IAP technical assistance with integrating Medicaid data to link mothers and newborns. First, the state matched 1,184 beneficiary claims records (which contain data not in the Medicaid Management Information System [MMIS], such as low birthweight) to their data in the MMIS records. When Maryland matched these records to MMIS records from 2013 through 2018 using the Medicaid unique identifier, field name, and date of birth, it matched between 99.4 and 99.9 percent of records depending on the data year. The second phase of integrating these data was cross-linking each mother's record with her child's record. During this step, Maryland was able to identify family linkages between 98.9 and 99.1 percent of the time. Matching these two datasets allowed Maryland to better measure (1) the impact of the opioid epidemic on mothers and newborns enrolled in Maryland's Medicaid program and (2) the effectiveness of current programs at combating opioid-related poor health outcomes.

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MICHIGAN

Through technical assistance received in the OUD and MAT components, Michigan used 2017 data to better understand the top 1,000 Medicaid beneficiaries with the highest cost that also had an OUD. It learned that almost three percent (3%) of its 1,814,271 Medicaid beneficiaries aged 12 years and over have an OUD diagnosis and that the total expenditure per year for those with an OUD is $920,460,868, or $17,952/beneficiary. The 1,000 most expensive beneficiaries with OUD cost $132,584,559 annually, and their most common non-OUD, non-SUD diagnoses are hepatitis C, HIV, sickle cell anemia, hypertension, chronic obstructive pulmonary disease, and kidney disease. Since this initial analysis led to more questions, the state is considering future analyses that will include a review of the relationship of physical health diagnoses to the incidence of OUD and increased costs over time. The state is also planning a longitudinal analysis of the top 1,000 most expensive OUD-diagnosed beneficiaries.

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NEW HAMPSHIRE

The IAP affinity group provided New Hampshire with a better understanding of the challenges associated with using claims data to identify the Medicaid population with OUD. With assistance from IAP, the state modified its OUD identification method to capture beneficiaries with both a diagnosis of OUD and a prescription for naltrexone. This change allowed the state to identify individuals receiving naltrexone for OUD or co-occurring OUD and alcohol use disorder. New Hampshire will use this improved method going forward in its OUD-related analysis. Through its participation in the MAT component, New Hampshire also gathered useful insights into buprenorphine-waivered practitioners and continues to use the waivered provider data files to monitor progress as the state works to expand the number of providers that can prescribe MAT.

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SOUTH CAROLINA

Participation in the IAP affinity group gave South Carolina's Medicaid leadership standardized utilization and cost metric results that could be compared directly with other Medicaid programs' data. The South Carolina Department of Health and Human Services recently approved services for Opioid Treatment Programs in the state. These treatment programs can now administer previously noncovered methadone maintenance therapy. In addition, South Carolina Medicaid will be providing transportation services to and from these treatment programs. South Carolina will continue to use the data analytic techniques from the affinity group to monitor and assess the utilization and costs of these new SUD-related services.

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WEST VIRGINIA

West Virginia learned about various data challenges while participating in the three components of the IAP Opioid Data Analytics affinity group. For example, lack of timely data in the warehouse is a system constraint, identifying beneficiaries with NAS is difficult, and determining a preterm low-gestational-age diagnosis is challenging because claims are not coded for gestational age. In addition, data inconsistencies occurred because temporary identifications were assigned on claims and managed care organizations held onto claims before they paid, and linking the child to the mother for NAS diagnosis on a maternal claim is difficult. Some of the analyses also indicated that the number of beneficiaries receiving methadone was lower than expected (most likely because Medicaid recently started to cover methadone as a billable service) and that beneficiaries aged 18–45 years old have the highest rate of OUD diagnosis as well as the highest per capita expenditures per year. In consultation with Medicaid leadership, West Virginia is continuing to monitor these outcomes and researching how to address these data challenges. The state is reviewing the lessons learned to prioritize issues and plans to implement new related policy changes.

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Additional information on the IAP Reducing SUDs program, including materials from the Opioid Data Analytics affinity group, is available on the Medicaid IAP Reducing SUDs web page