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

September 29, 2023

Lorelei Kellogg
Interim Director, Medical Assistance Division
New Mexico Human Services Department
State Capitol
Room 400
Santa Fe, NM 87501

Dear Director Kellogg:

The Centers for Medicare & Medicaid Services (CMS) completed its review of the Centennial Care 2.0 Interim Evaluation Report, which is required by the Special Terms and Conditions (STCs), specifically STC #139 "Interim Evaluation Report" of the New Mexico "Centennial Care 2.0 Medicaid 1115 Demonstration" (Project No: 11-W00285/6). The demonstration extension was approved on December 14, 2018 and is effective through December 31, 2023. This Interim Evaluation Report covers the period from January 2019 through December 2021. CMS determined that the Evaluation Report, submitted on November 15, 2022 and revised on June 30, 2023, is in alignment with the CMS-approved Evaluation Design and the requirements set forth in the STCs, and therefore, approves the state's Interim Evaluation Report.

Despite challenges due to the COVID-19 Public Health Emergency (PHE), the state's Interim Evaluation Report showed promising evidence of progress made toward each of the four demonstration goals that the report evaluated. For some analyses, the evaluation employed a rigorous difference-in-differences analytic approach, which compared the demonstration populations against comparable in-state populations. These analyses showed an estimated increase in the percentage of demonstration beneficiaries with at least one claim for physical health services. This result supported the goal of enhanced access to services. The evaluation also showed that the quality of care for Medicaid beneficiaries with substance use disorder (SUD) improved during this period, as demonstrated through, for example, an increase in the percentage of individuals with SUD who received peer support and engaged in alcohol and other drug abuse dependence treatment. Descriptive analyses also suggested that the demonstration was making progress toward its other goals, including managing the pace at which costs were increasing as well as streamlining processes and modernizing the Medicaid health delivery system through use of data, technology, and person-centered care. The state's Summative Evaluation Report is expected to provide a fuller understanding of the demonstration's

effectiveness leveraging additional years of data that may enable separating out the confounding effects of the COVID-19 PHE from those of the demonstration itself more effectively.

In accordance with STC #140, the approved Evaluation Report may now be posted to the state's Medicaid website within 30 days. CMS will also post the Interim Evaluation Report on Medicaid.gov.

We look forward to our continued partnership on the New Mexico Centennial Care 2.0 Medicaid 1115 Demonstration. If you have any questions, please contact your CMS demonstration team.

Sincerely,

Paula M. Kazi -S

Digitally signed by Paula M. Kazi -S
Date: 2023.09.28 16:54:52 -04'00'

Paula M. Kazi
Acting Director
Division of Demonstration Monitoring and Evaluation

cc: Dana Brown, State Monitoring Lead, CMS Medicaid and CHIP Operations Group

State of New Mexico Human Services Department,
Medical Assistance Division

Medicaid 1115 Demonstration and Substance Use Disorder Waiver—Centennial Care 2.0

Interim Evaluation Report

April 2023

HSAG HEALTH SERVICES ADVISORY GROUP

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Executive Summary

The New Mexico Human Services Department's (HSD's) Section 1115 Demonstration Waiver renewal application, Centennial Care 2.0, was approved by the Centers for Medicare & Medicaid Services (CMS) on December 14, 2018, effective from January 1, 2019, through December 31, 2023.[1] The waiver allowed HSD to continue the goals and objectives of the original waiver, Centennial Care, working to further improve administrative simplification, care coordination, member engagement, and benefit and delivery system payment reforms. In addition, Centennial Care 2.0 was designed to support four new aims:

- **Aim One**: Continue the use of appropriate services by members to enhance member access to services and quality of care.
- **Aim Two**: Manage the pace at which costs are increasing while sustaining or improving quality, services, and eligibility.
- **Aim Three**: Streamline processes and modernize the Centennial Care health delivery system through use of data, technology, and person-centered care.
- **Aim Four**: Improve quality of care and outcomes for Medicaid beneficiaries with a substance use disorder (SUD).

Pursuant to the Special Terms and Conditions (STCs) of the Section 1115 Demonstration Waiver, HSD contracted with Health Services Advisory Group, Inc. (HSAG), as an independent evaluator to conduct a comprehensive evaluation of Centennial Care 2.0.[2] The goal of this evaluation is to provide CMS and HSD with an independent evaluation that ensures compliance with the Section 1115 Demonstration Waiver requirements; assist in both State and federal decision making about the efficacy of the Demonstration; and enable HSD to further develop clinically appropriate, fiscally responsible, and effective Medicaid demonstration programs. This is the Interim Evaluation Report for the Centennial Care 2.0 Section 1115 Demonstration Waiver. This report evaluates the first three years of the Demonstration Waiver, January 1, 2019, through December 31, 2021. After the conclusion of the Demonstration Waiver in 2023, a Summative Evaluation Report will include analysis of the full five-year Demonstration period.

In addition to evaluating the Centennial Care 2.0 program as a whole, the evaluation covered three additional distinct programs:

- **Health Homes (Aim One)**—An integrated health care service program for Medicaid behavioral health beneficiaries with a primary diagnosis of Serious Mental Illness (SMI) and/or Severe Emotional Disturbance (SED).
- **Centennial Rewards (Aim One)**—A rewards-based program to encourage healthy behaviors while maintaining cost-effectiveness of the program.
- **Centennial Home Visitation Pilot (Aim One)—**a pilot program for home visitation among pregnant and postpartum members.

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1 State of New Mexico Human Services Department. Application for Renewal of Section 1115 Demonstration Waiver Centennial Care Program: Centennial Care 2.0. Available at https://www.hsd.state.nm.us/wp-content/uploads/Centennial-Care-2_0-Waiver-Application-NM-Dec-2017-1.pdf. Accessed on July 8, 2022.

2 Centers for Medicare & Medicaid Services. Special Terms and Conditions Centennial Care 2.0 Medicaid 1115 Demonstration. *Human Services Department.* 2020. 11W-00285/6. Available at: https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/nm/nm-centennial-care-ca.pdf. Accessed on July 8, 2022.

Results

Aim One

Aim One is generally supported by the analyses with particular success in the Health Home program. Notably, members in a Health Home program tended to have higher rates of preventive visits than similar non-Health Home members even in the face of disruptions in health care resulting from the coronavirus disease 2019 (COVID-19) public health emergency (PHE). For example, prior to the expansion of the Health Home program in 2017, approximately 96 percent of Health Home and non-Health Home members had a claim/encounter for physical health service. However, in each year from 2019 to 2021, this increased to over 99 percent among Health Home members but decreased to approximately 91 percent for non-Health Home members. These results suggest that participation in the Health Home program helped beneficiaries maintain and even increase access to care during the COVID-19 PHE relative to similar members who did not participate. Children and adolescents' access to primary care among the full Centennial Care population was adversely impacted by the COVID-19 PHE with significant declines following the PHE; however, well-child visits among children aged 3 to 6 declined in 2020 but returned to pre-PHE levels in 2021.

While the analysis results generally suggest that the Centennial Rewards program encourages members to engage in preventive care services, the measures for the program lack a valid comparison group or sufficient historical data to reliably assess the impact of the program. HSAG will work with HSD and the program's administrator, Finity, to develop more informative and robust measures for the evaluation of the program for the Summative Evaluation Report.

Aim Two

Aim Two is supported by the results of the analyses, with the number of providers with value-based payment (VBP) contracts increasing alongside the percentage of expenditures paid under VBP arrangements. Costs increased by less than would be expected given changes in the overall population; however, cost trends among utilizing members increased by more than expected.

Aim Three

Aim Three is generally supported by the analyses with substantive increases in the use of electronic visit verification (EVV) and telemedicine even prior to the COVID-19 PHE, which precipitated a shift towards this method of care delivery. Beneficiary satisfaction also generally increased during Centennial Care 2.0 with a significantly larger proportion of adults reporting a higher rating of health care in 2019 compared to the trend prior to Centennial Care 2.0. A larger proportion of adults and children reported a higher rating of health plan and personal doctor in 2019.

Aim Four

The results for Aim Four are mixed. Members receiving peer support services showed the greatest success with higher rates of engagement of alcohol and other drug abuse or dependence treatment and longer tenure of treatment compared to members not receiving peer support. Moreover, there was a significant increase in the percentage of members with a SUD receiving peer support.

The remainder of the findings were mixed. More individuals were screened for substance use disorder (SUD) by more providers, but the proportion of members with a SUD diagnosis receiving treatment remained unchanged.

There was a temporary increase in the proportion of emergency department (ED) visits for SUD following the onset of the COVID-19 PHE but had returned to pre-PHE levels by the second half of 2021. Although the percentage of inpatient admissions for SUD continued to increase (worsen) throughout the Centennial Care 2.0 period, the percentage of 30-day readmissions for SUD stabilized following the beginning of Centennial Care 2.0 (relative improvement). Additionally, the use of medication assisted treatment (MAT) fell below what was expected based on pre-Centennial Care 2.0 trends.

Several of the measures for which analysis results failed to support their associated hypotheses showed some degree of improvement in 2019 before declining in 2020, including:

- Percentage of individuals with a SUD diagnosis who received any SUD service during the measurement year.
- Percentage of individuals diagnosed with a SUD receiving care coordination
- Number of naloxone training and kit distributions
- Number of managed care organization (MCO) network MAT providers

However, there were other SUD-related measures that were analyzed where the 2019 results did not show improvement from previous years:

- Percentage of Inpatient admissions of individuals with a SUD for withdrawal management (2019 rates trended upward [lower rates are better], with the PHE period trending slightly higher than the 2019 trend)
- Percentage of individuals diagnosed with a SUD with MAT claims (2019 was lower than the estimated counterfactual, with a further decrease beginning in 2020)
- Overdose Proportionate Mortality, which is a part of Measure 54 and looks at the difference between the statewide and Medicaid overdose mortality rates (the difference between the statewide and Medicaid rate remained stable across all years)
- Overdose Cause-Specific Death Rates per 100k Individuals, which is a part of Measure 54 (the rate increased in 2020, but the difference between the statewide and Medicaid rate widened starting in 2020)

Conclusions

Despite the challenges and disruptions to the health care system resulting from the COVID-19 PHE, there have been several notable successes of the Centennial Care 2.0 program. Members receiving **peer support** (Aim Four) showed improvements in engagement of SUD treatment. Members engaged with a **Health Home** (Aim One) maintained high rates of preventive care visits even when care was disrupted in 2020 due to the PHE. Utilization of **telemedicine** (Aim Three) increased between the start of Centennial Care 2.0 and the start of the PHE, which necessitated a shift towards this care delivery model and increased its usage significantly.

Several areas in which care was impacted by the COVID-19 PHE included access to preventive and well-care visits among the Centennial Care population (Aim One). Measures 4a, 5a, and 6 all showed improvement in 2019, followed by sharp declines beginning in 2020. While statistical methods were applied to control for the impacts of the COVID-19 PHE in 2020, it is probable that due to the scale of the PHE, impacts of the PHE lingered beyond 2020. Only Measure 6 (well-child visits for ages 3-6) showed a rebound to pre-PHE levels in 2021. Once data for

subsequent years and national benchmarks are available, a clearer picture of the PHE's impact on Centennial Care can be made.[3]

The financial analyses suggest the cost of care has been below or around the estimated costs had Centennial Care 2.0 not been implemented (the counterfactual) until early calendar year (CY) 2021, at which time costs began to increase slightly more than our expected costs calculated based on changes in the population. It is possible that the increases in costs of care in calendar year (CY) 2021 resulted from the release of pent-up demand and increased Medicaid enrollment during the PHE. Data for subsequent years to be included in the Summative Evaluation Report should provide additional insight into the extent of the PHE impact on costs of care.

Interpretations & Policy Implications

Analysis suggests that at this point in the Demonstration, the State is meeting Aim One and Aim Two. Aim Three is being met to the extent that conclusions could be drawn from the available data. As additional data become available, it is expected that a more nuanced picture around Aim Three can be drawn. HSAG will work with the State to explore additional data sources or additional measures that will ensure a more complete picture of Aim Three performance for the Summative Evaluation Report. As of this Interim Evaluation Report, the results for Aim Four are mixed. However, several aspects of Aim Four have been substantially impacted by the COVID-19 PHE. HSAG believes that as additional data become available and the impacts of the PHE diminish, the performance of the program should be separable from PHE impacts, allowing for a more refined analysis of the diagnosis and treatment of SUD elements of Centennial Care 2.0.

Peer support services represent the most notable success emerging from the interim evaluation analyses. The number of individuals with a SUD diagnosis increased during Centennial Care 2.0 and all peer support services performance measures have shown improvement against declines for individuals not enrolled in peer support services. The peer support services performance improvements continued against the backdrop of the COVID-19 PHE, which appears to have substantially impacted other elements of Aim Four, to improve the quality of care and outcomes for Medicaid beneficiaries with SUDs.

Health Homes were moderately successful in maintaining preventive care even when faced with the challenges of the COVID-19 PHE. Health Home enrollment continued to grow at a moderate rate; however, the results of only four of the 11 outcome/utilization measures (3, 4b, 5b, and 10) support the associated hypotheses and aims. Results for other Health Home measures were not statistically significant but tended towards improvement.

The COVID-19 PHE has added layers of complexity to program evaluations, with only a few elements not impacted by the pandemic. Even with the most significant impacts confined mainly to 2020, lingering PHE impacts were identified through 2021. Due to the unprecedented nature of the PHE, very little research is available to reliably predict the trajectory of PHE impacts beyond those accompanying the shutdown and restrictions in 2020. Separating the impacts of the Demonstration Waiver from those of the PHE will be facilitated by the availability of additional data to identify and control for the trajectory of the PHE and its impacts on the program. If out-of-state data are available and feasible for the summative report (e.g., through Transformed Medicaid Statistical Information System [T-MSIS]) then a comparison group may be constructed for some measures, improving the ability to control for the effects of the PHE on the implementation of the Demonstration.

There are likely PHE impacts that have not yet been fully realized, particularly around service needs that were postponed during the PHE and any resurgences of the virus. These impacts will likely continue to impact

[3] Note: measure 5a (Children and Adolescents' Access to Primary Care Practitioners [CAP]) has been retired in 2020, meaning data from national benchmarks will not be available; however, HSAG will continue to calculate this measure into the future for comparison purposes.

Demonstration Waivers for several years. The financial analyses suggest that during the PHE, states faced fiscal pressures responding to the PHE. However, states may still face fiscal pressures from the demand for services as well as lingering health impacts from COVID-19 on their populations.

Despite the impact of the PHE, peer support services appeared to lead to improved outcomes. The results of the analyses suggest that connections with peers provides robust support for individuals with SUD, even in the face of an unprecedented PHE. Additional research should be encouraged and disseminated regarding other ways in which peer support services may be leveraged to improve member health and appropriate service utilization within a Medicaid program.

1. Background

Section 1115 of the Social Security Act allows states the flexibility to design and test their own methods for providing and funding healthcare services that differ from services required by federal statute but meet the objectives of the federal Medicaid program and Children's Health Insurance Program (CHIP). Thus, Section 1115 Demonstration Waivers allow states flexibility in how to operate and fund their healthcare. The Centers for Medicare & Medicaid Services (CMS) has designed a national evaluation strategy to ensure demonstrations meet program objectives while also comparing to other states' Section 1115 Medicaid waivers.

CMS approved the New Mexico Human Services Department's (HSD's) Section 1115 Demonstration Waiver renewal application, Centennial Care 2.0, on December 14, 2018. Centennial Care 2.0 is effective from January 1, 2019, through December 31, 2023.[1-1] The demonstration was amended on February 7, 2020, and two additional amendments, submitted on March 1, 2021, and December 30, 2021, are awaiting approval from CMS. This section outlines the history, guidance, and application of Centennial Care 2.0 including goals of the demonstration, timelines for evaluation, and demographics of the beneficiaries, both in total and program specific in accordance with the special terms and conditions (STCs).[1-2]

Historical Background of New Mexico's Section 1115 Waiver

New Mexico's Medicaid program, administered through HSD, provides healthcare to the State's eligible population. HSD's overall mission is to transform lives, with the intent of providing high quality services to improve the security and promote the independence of its citizens. Over the course of New Mexico's Medicaid program, new populations have been incorporated and covered, such as CHIP, and new delivery methods have been tested through the advent of different types of federal waivers.

Originally, New Mexico's Medicaid program operated entirely on a fee-for-service (FFS) model. Starting on July 1, 1997, HSD implemented the Salud! program as part of a mandate to implement a managed care program. A proposal was submitted under a Section 1915(b) waiver to provide medical and social services under managed care for approximately 65 percent of the New Mexico Medicaid population with the goal of improving quality and access to care while making cost-effective use of State and federal funds. Furthermore, CHIP, and other Medicaid safety net programs for children were all combined into a single program called New Mexikids.[1-3]

Prior to Centennial Care, New Mexico's Medicaid program was administered under a number of home and community-based services (HCBS) Section 1915(b) and 1915(c) waivers in addition to Salud! and New Mexikids. Each waiver targeted a different population including beneficiaries with acquired immune-deficiency syndrome (AIDS), autism, intellectual and developmental disabilities (IDD), and those deemed medically fragile. The number of waivers created an intense administrative burden, siloed care for beneficiaries within certain population groups, and consumed an ever-growing portion of the State budget, leading HSD to apply for a Section 1115 Demonstration Waiver on April 25, 2012.

1-1 State of New Mexico Human Services Department. Application for Renewal of Section 1115 Demonstration Waiver Centennial Care Program: Centennial Care 2.0. Available at https://www.hsd.state.nm.us/wp-content/uploads/Centennial-Care-2_0-Waiver-Application-NM-Dec-2017-1.pdf. Accessed on Jan 4, 2022.

1-2 Centers for Medicare & Medicaid Services. Special Terms and Conditions Centennial Care 2.0 Medicaid 1115 Demonstration. *Human Services Department.* 2020. 11W-00285/6. Available at: https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/nm/nm-centennial-care-ca.pdf. Accessed on Jan 4, 2022.

1-3 HSD Medical Assistance Division. New Mexico Medicaid Managed Care Program Quality Strategy. Available at: https://www.hsd.state.nm.us/wp-content/uploads/2017-nm-quality-strategy-final-1.pdf. Accessed on Dec 29, 2021.

In January 2013, New Mexico elected to expand Medicaid effective January 2014 under the Affordable Care Act (ACA), providing coverage to adults ages 19–64 up to 138 percent of the federal poverty level (FPL) resulting in an enrollment surge of nearly 600 percent for low-income adults. Additionally, CHIP enrollment saw a large increase of 85 percent since early 2014.[1-4] Overall, the expansion helped increase the total number of beneficiaries to 831,398 as of February 2019.[1-5]

On January 1, 2014, HSD started providing care via a Section 1115 Demonstration Waiver commonly referred to as Centennial Care. The goals of Centennial Care are as follows:

- Ensure that Medicaid beneficiaries in the program receive the right amount of care, delivered at the right time, and in the right setting.
- Ensure that the care and services being provided are evaluated in terms of their quality and not solely by quantity.
- Slow the growth rate of costs or "bend the cost curve" over time without inappropriate reductions in benefits, eligibility, or provider rates.
- Streamline and modernize the Medicaid program in the State.

In addition to its goals, Centennial Care operated following four guiding principles:

- Developing a comprehensive service delivery system that provides the full array of benefits and services offered through the State's Medicaid program.
- Encouraging more personal responsibility so that recipients become more active participants in their own health and more efficient users of the healthcare system.
- Increasing the emphasis on payment reforms that pay-for-performance rather than for the quantity of services delivered.
- Simplifying administration of the program for the State, for providers and for recipients where possible.

Prior to the implementation of Centennial Care, New Mexico's Medicaid program was administratively complex, running under 12 separate waivers and an FFS program, and contracting with seven separate managed care organizations (MCOs). Six MCOs provided physical or long-term support services and supports (LTSS) while behavioral health care was provided through the statewide behavioral health MCO; members would have to manage their individual care through multiple MCOs. The program was also taking up a growing portion of the State budget, increasing from 12 percent to 16 percent from 2012 to 2013.[1-6] To address the increasing costs, the creation of Centennial Care streamlined its administration and folded most previous waivers under one Section 1115 Demonstration Waiver, with a few exceptions. HSD also reduced the number of contracted MCOs, from seven to four. Additionally, each MCO began providing comprehensive integrated managed care. CMS approved Centennial Care for renewal on December 14, 2018, as Centennial Care 2.0, and became effective starting January 1, 2019, through December 31, 2023.

1-4 State of New Mexico Human Services Department. Centennial Care 1115 Waiver Renewal Subcommittee Issue Brief: Member Engagement & Personal Responsibility, January 2017. Available at: https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/nm/nm-centennial-care-pa.pdf. Accessed on Jan 5, 2022.

1-5 State of New Mexico Human Services Department Medical Assistance Division. Medicaid 1115 Demonstration and Substance Use Disorder Waiver Evaluation Design Plan. Available at: https://www.medicaid.gov/medicaid/section-1115-demonstrations/download/nm-centennial-care-apprvd-eval-des-04022020.pdf. Accessed on Jan 4, 2022.

1-6 State of New Mexico Human Services Department. Application for Renewal of Section 1115 Demonstration Waiver Centennial Care Program: Centennial Care 2.0. Available at https://www.hsd.state.nm.us/wp-content/uploads/Centennial-Care-2_0-Waiver-Application-NM-Dec-2017-1.pdf. Accessed on Jan 4, 2022.

On March 13, 2020, the President of the United States invoked Section 501(b) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121–5207 (the "Stafford Act") and declared coronavirus disease 2019 (COVID-19) a federal emergency. Following the President's declaration, the Secretary of the U.S. Department of Health and Human Services declared COVID-19 to be a national public health emergency (PHE) and invoked his right, pursuant to Section 1135 of the Social Security Act, to modify and waive certain Medicare and Medicaid federal requirements.

Accordingly, HSD was granted, via an Appendix K contract, the temporary ability to do the following: [1-7]

- Provide services in alternative settings including those licensed for other purposes.
- Expand services, including telehealth options.
- Allow provider enrollment, re-enrollment with modified risk screening elements such as suspending fingerprint checks or modifying training requirements to all HCBS service providers.
- Permit payment for services rendered legally responsible individuals.
- Modify incident reporting requirements, medication management or other participant safeguards to ensure individual health and welfare, and to account for emergency circumstances.
- Continue all care coordination activities using telephonic visits, or, if the capacity exists for the member and MCO, virtual visits.
- Include retainer payments for approved personal care services.
- Allow for payment for services for the purpose of supporting waiver participants by allowing personal care services in an acute care hospital or short-term institutional stay when necessary supports are not available in that setting during this emergency.
- Suspend the Nursing Facility Level of Care (NFLOC) redetermination for the duration of the COVID-19 PHE.

Demonstration Background

On December 14, 2018, CMS approved HSD's request to renew New Mexico's Section 1115 Demonstration Waiver under the name Centennial Care 2.0 for a five-year period from January 1, 2019, through December 31, 2023. The waiver allowed HSD to continue the goals and objectives of Centennial Care with the intent of furthering progress in several areas that saw considerable improvement in the original demonstration. These areas include administration simplification, care coordination, benefit and delivery system payment reforms, and member engagement. Additionally, Centennial Care 2.0 will work to support four new aims:

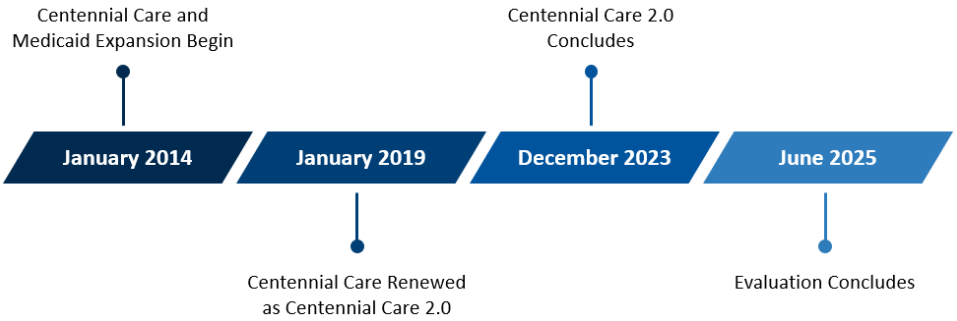
- **Aim One**: Continue the use of appropriate services by members to enhance member access to services and quality of care.
- **Aim Two**: Manage the pace at which costs are increasing while sustaining or improving quality, services, and eligibility.
- **Aim Three**: Streamline processes and modernize the Centennial Care health delivery system through use of data, technology, and person-centered care.

[1-7] Comeaux, N. Emergency Preparedness and Response Appendix K. October 9, 2020. Available at: https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/nm-centennial-care-appendix-k-appvl-ltr-10092020.pdf. Accessed on Jan 5, 2022.

- **Aim Four**: Improve quality of care and outcomes for Medicaid beneficiaries with a substance use disorder (SUD).

Figure 1-1 displays a timeline of the key demonstration milestones for Centennial Care 2.0.

Figure 1-1—Centennial Care 2.0 Timeline of Key Demonstration Events



Administration Simplification

Prior to Centennial Care, New Mexico's Medicaid program was fragmented, functioning under 12 waivers with seven MCOs administering different benefit packages for defined populations, leading to an administratively complex system. The number of federal waivers was reduced and combined into the Centennial Care 1115 Demonstration Waiver, and the number of MCOs was reduced with each providing a full array of services in an integrated model of care. Centennial Care 2.0 aimed to continue simplifying the program and increase efficiency while reducing administrative and healthcare costs.

Care Coordination

Care Coordination for high needs members was a focal point of Centennial Care. MCOs were required to conduct a Health Risk Assessment (HRA) with all newly enrolled members and members, not already engaged in Care Coordination, who had a change in condition that required a higher level of care. The HSD standardized HRA confirmed whether the member requires a Comprehensive Needs Assessment (CNA) and targeted care coordination services. Care Coordination provided members with a central point of contact for resources and services to improve member health outcomes. HSD directed MCOs to give particular attention on high needs groups such as members diagnosed with a traumatic brain injury or a developmental disability, justice involved members, Native American members, and children in state custody. HSD directed MCOs to increase their Transition of Care (TOC) services for members transitioning from an inpatient or nursing facility and may be in need of Community Benefits.

Additionally, HSD directed MCOs to transition more members to delegated Care Coordination through either a Full Delegation Model or Shared Functions Model. The Full Delegation Model required the presence of a value-based purchasing (VBP) arrangement in which providers were paid based on the health outcomes of their patients and the quality of services rendered. In the Shared Functions Model, the MCO retained some Care Coordination functions and allowed other Care Coordination activities to be conducted by a partner. The Shared Functions Model has been especially beneficial for use with Paramedicine programs in conducting HRAs with hard-to-reach members.

Centennial Care saw the creation of Health Homes, a system that provides care coordination to children and adults with chronic behavioral health conditions, administered through CareLink NM. Health Homes provide physical and behavioral health services, long-term care, housing assistance, transportation support, and other

social needs services.[1-8] First implemented on April 1, 2016, in two pilot counties (Curry and San Juan), the program was expanded in April 2018 and again in July 2018. Currently, there are seven Health Homes operating across 10 counties, including two Health Homes in Bernalillo County (Albuquerque) and two in Sandoval County (Rio Rancho).

In addition to implementing and expanding Health Homes as a care coordination model, which was a primary focus of both Centennial Care and Centennial Care 2.0, Centennial Care 2.0 also expanded patient-centered medical homes (PCMHs) to create a focus on integrated patient-centered care driven by providers. MCOs engaged with PCMH providers to provide care through delegated arrangements.

In addition, HSD improved transitions of care for individuals released from incarceration or detention facilities; children returning home post-foster care placement; and those discharged from a Crisis Triage Center (CTC), a residential or institutional facility, an inpatient stay, or a nursing facility. HSD and the MCOs were responsible for creating VBP initiatives to support successful transitions. Lastly, Centennial Care 2.0 encouraged partnerships between MCOs and community agencies to expand successful programs that target high need populations. Such partnerships include, but are not limited to, Project Extension for Community Healthcare Outcomes (ECHO), wellness centers, paramedicine agencies, community health workers, and leveraging use of the Emergency Department Information Exchange.[1-9]

Benefit and Delivery System

One of the greatest successes of Centennial Care came from changing how member benefits are managed. Before the demonstration, a beneficiary would receive physical health services through a physical health care or LTSS MCO and behavioral health care through the statewide behavioral health MCO, creating fragmented care. By changing the benefits and delivery system, beneficiaries were able to receive integrated health care through a single MCO. Additionally, Centennial Care focused on both increasing access to community-based services for LTSS beneficiaries, who previously required a waiver slot to receive such services and increasing funding to keep LTSS beneficiaries in their homes, rather than in institutional settings.

Due to the large number of beneficiaries in both self-directed community benefits (SDCB) and agency-based community benefits (ABCB), HSD aimed to align services between these two groups as part of Centennial Care 2.0. With the goal of providing care to beneficiaries at the right time in the right place, HSD sought to provide items that encourage successful self-management for the SDCB group and allowed one-time start-up goods for beneficiaries who transition from ABCB to SDCB. To contain costs, HSD established limits on costs for certain services, such as non-medical transportation and specialized therapies, for beneficiaries in the SDCB model with the goal of ensuring the sustainability of services.

HSD collaborated with New Mexico Department of Health (DOH) and New Mexico Children, Youth, and Families Department (CYFD) to increase the services provided for pre-natal care, post-partum care, and early childhood development through the Centennial Home Visiting (CHV) Pilot Program. The CHV pilot program began in 2019 through the 1115 Demonstration Waiver as a one payment method for home visiting that already existed in the state through the evidence-based models Nurse Family Partnership (NFP) and Parents as Teachers (PAT). NFP requires admission before pregnant members reach 28 weeks and continues service until the child is two years old. It provides prenatal and post-partum nursing assessments, breastfeeding support and education, and

[1-8] CareLink NM. CareLink NM HEALTH HOMES 2021 Policy Manual. https://www.hsd.state.nm.us/wp-content/uploads/CLNM-POLICY-MANUAL-FINAL-081121.pdf. Accessed on Mar 25, 2022.

[1-9] State of New Mexico Human Services Department. Application for Renewal of Section 1115 Demonstration Waiver Centennial Care Program: Centennial Care 2.0. Available at https://www.hsd.state.nm.us/wp-content/uploads/Centennial-Care-2_0-Waiver-Application-NM-Dec-2017-1.pdf. Accessed on Jan 4, 2022.

a variety of screening and education initiatives including domestic violence and home safety. PAT must start before delivery and may continue until the child is 5 years old. Similarly, it provides support services, education, and assistance with referrals but does not have nursing assessments included in the model. The CHV pilot program initially started in Bernalillo, Curry, Roosevelt, and Taos counties before CMS approved a proposed amendment in 2020 that expanded services statewide. The Early Childhood Education and Care Department (ECECD) took over the administration of the CHV program in July 2020 and continues to make revisions and expansions to the program including initiatives to increase utilization and drive provider improvement.[1-10]

To address the unique needs of members with a serious mental illness (SMI) diagnosis, HSD created housing support services to assist SMI beneficiaries in finding, acquiring, and maintaining a stable living situation with the goal of allowing SMI beneficiaries the opportunity to participate in their own treatment plan.

HSD also expanded the SUD continuum of care in the renewal demonstration. Opportunities for expansion involved extending Screening, Brief Intervention, and Referral to Treatment (SBIRT) to primary care, community health centers, and urgent care facilities across New Mexico. SBIRT helped to identify beneficiaries who could benefit from SUD services and placed them in the right care setting. Beneficiaries requiring an advanced level of care at American Society of Addiction Medicine (ASAM) Level Three were able to receive residential treatment with expanded services. Centennial Care 2.0 allowed increased stays in institutions for mental disease (IMD) from a limit of 15 to a goal of an average length of stay of 30 days for beneficiaries with a SUD diagnosis with a transition to community-based SUD treatment in place afterwards. Furthermore, non-SUD beneficiaries were granted access to IMD services for 30 days, as long as the services provided are more cost-effective than care provided in a non-IMD setting.[1-11]

Payment Reforms

In 2015, HSD began implementing payment reforms as a method to achieve the goal of paying for quality of services provided rather than the quantity of services provided. One such reform was VBP. Through VBP arrangements, MCOs were expected to enhance reimbursement for value strategies within their provider network using VBP models, where MCOs must spend a specified percentage of all provider payments through VBP arrangements. The goal of VBP was to expand payment reform to achieve improved quality and better health outcomes for members. There were three levels of VBP payment arrangements. Level one is at the lower end of the risk continuum and correlates to incentives/withholds, level two refers to shared savings and bundled payments, and level three refers to partial- or full-risk capitation payments at the higher end of the risk continuum. As of January 1, 2017, MCOs were required to contribute at least 16 percent of provider payments to the VBP levels; a minimum of 5 percent had to be designated to level one, 8 percent to level two, and 3 percent to level three. [1-12]

Centennial Care 2.0 increased risk-based provider payments and required MCOs to continue increasing the percentage of provider payments that must be contributed to VBP levels two and three. Additionally, MCOs had

1-10 The Focus Group Consulting for New Mexico Early Childhood Education and Care Department. Workgroup Report: Medicaid and Early Childhood Home Visiting. Available at: https://www.nmececd.org/wp-content/uploads/2021/10/Medicaid-and-Early-Childhood-Home-Visiting-Report-2021.pdf. Accessed on Sept 28, 2022.

1-11 State of New Mexico Human Services Department. Application for Renewal of Section 1115 Demonstration Waiver Centennial Care Program: Centennial Care 2.0. Available at https://www.hsd.state.nm.us/wp-content/uploads/Centennial-Care-2_0-Waiver-Application-NM-Dec-2017-1.pdf. Accessed on: Jan 4, 2022.

1-12 Centennial Care Value-Based Purchasing Brief. Available at https://www.hsd.state.nm.us/wp-content/uploads/Value-Based-Purchasing-Issue-Brief-Jan-13-2017.pdf. Accessed on: Mar 31, 2022.

to improve provider's readiness to participate in the higher risk payment arrangements while focusing specifically on increasing VBP payments to behavioral health, LTSS, and smaller-volume providers.

Beyond provider payments, VBP was used to drive other key program goals, such as key care coordination goals, physical and behavioral health integration, transitions of care improvements, and reducing avoidable emergency department (ED) utilization. Payment reforms also altered safety net care pools (SNCPs) by incrementally changing the percentage of funds that go to additional hospital funding. At the beginning of the demonstration, more funding was designated for uncompensated care (UC) while a smaller percentage went to hospital quality improvement incentive (HQII).

Member Engagement

Under Centennial Care, HSD focused on increasing member engagement to encourage beneficiaries to be responsible for their own health. As a result, the Centennial Rewards incentive program was created. Beneficiaries receive reward points for completing pre-determined healthy behaviors and can redeem the points for a qualifying gift. Centennial Care 2.0 aimed to continue to improve member engagement by growing the Centennial Rewards Program.

Amendments

On February 7, 2020, CMS approved HSD's request to amend the Section 1115 Demonstration Waiver to increase the number of Community Benefit (CB) slots by 1,500 and expand the CHV Pilot Program. The CHV program utilized home visiting delivery models to improve the health of pregnant women and their children. In the amendment, HSD requested removing restrictions on the number of counties and number of individuals that may participate in the pilot program. All changes were effective immediately upon approval. Additionally, the increased number of CB slots and expanded CHV program will allow the program to reach more members than originally planned.[1-13]

HSD submitted a second waiver amendment on March 1, 2021, with the goal of maintaining beneficiary access to behavioral health services in appropriate settings and ensuring individuals receive care in appropriate facilities by seeking a waiver of the IMD exclusion for all Medicaid beneficiaries to ensure beneficiaries can receive behavioral health services in the most appropriate setting for their needs. The amendment also requested establishment of high-fidelity wraparound (HFW) services for high intensive needs children with the intent of providing services to achieve better health outcomes and the development of a graduate medical education program to increase the number of primary care specialties in the State, including general psychiatry, family medicine, general pediatrics, and general medicine. Lastly, the amendment requested coverage of the COVID-19 vaccine to beneficiaries with limited benefit plan coverage once funding from the Coronavirus Aid, Relief, and Economic Security (CARES) Act discontinues.[1-14] As of this interim report, this amendment has yet to be approved by CMS.

[1-13] Centers for Medicare & Medicaid Services. *CMS Approval Letter*. February 7, 2020. Available at: https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/nm-centennial-care-cms-amendment-appvl-02072020.pdf. Accessed on Feb 16, 2022.

[1-14] State of New Mexico Human Services Department. *Centennial Care 2.0 1115 Waiver Amendment #2 Request.* March 1, 2021. Available at: https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/nm-centennial-care-pa3.pdf. Accessed on Feb 16, 2022.

On November 5, 2021, HSD received partial approval for its Section 9817 American Rescue Plan Act (ARPA) HCBS Spending Plan from CMS.[1-15] In response, HSD submitted modifications to the second amendment on December 30, 2021.[1-16] The amendment was designed to effectuate the initiatives outlined in the HCBS Spending Plan. The amendment sought to increase the number of CB allocation slots by 1,000 beginning in Demonstration Year (DY) 9 for members who have been determined to meet a NFLOC and do not meet standard Medicaid financial eligibility.[1-17] Additionally, the amendment sought to raise the service limits on Community Transition Services from $3,500 to $4,000 every 5 years beginning in DY 9 and continuing through the end of the demonstration period. Finally, the amendment requested to increase the Environmental Modification service limit from $5,000 to $6,000 per person every 5 years, also beginning in DY 9 and continuing through the end of the current demonstration period.

Demographics

The waiver is intended to target four New Mexico Medicaid beneficiary population groups including:

- Temporary assistance for needy families (TANF) and related group.
- Supplemental security income (SSI) Medicaid Only group.
- SSI Dual Eligible group.
- Medicaid Expansion groups.

The TANF and related group consists of families living in New Mexico with dependent children under the age of 18 that are under a set income.[1-18] Populations covered under the TANF and related groups for Centennial Care 2.0 include newborns, infants, and children; CHIP beneficiaries; pregnant women; low-income parents or caretakers; and beneficiaries with breast or cervical cancer.

The SSI Medicaid and SSI Dual Eligible populations consist of beneficiaries who are either aged, blind, or disabled or working disabled. Beneficiaries who are additionally eligible for Medicare will fall into the SSI Dual Eligible population while beneficiaries who are only eligible for Medicaid are in the SSI Medicaid group.

The Medicaid Expansion groups consist of individual beneficiaries between the ages of 19–64, and whose poverty status is limited to 133 percent of the Federal Poverty Level (FPL), corresponding to the ACA of 2014.

The Maintenance of Effort (MOE), approved in response to the COVID-19 PHE, provides continuous eligibility for all Medicaid members who were enrolled as of March 18, 2020. Table 1-1 illustrates the evolution of Medicaid enrollment in New Mexico from 2013 through 2021, across various milestones. Medicaid enrollment in January 2013 represented TANF, SSI, and SSI Dual Eligible populations, together accounting for 578,000 beneficiaries. The following year, the Medicaid Expansion group began entering the Centennial Care Program, initially reaching 638,442 beneficiaries in January 2014. Over the next 6-year period (2014–2020) the overall Medicaid population increased at an average annual rate of 4.5 percent, reaching 829,830 by January 2020.

1-15 Centers for Medicare & Medicaid Services. "CMS Partial Approval 11.5.2021" Available at: https://www.hsd.state.nm.us/wp-content/uploads/NM-9817-partial-approval-11-05-2021.pdf. Accessed on: June 7, 2022.

1-16 Human Services Department. "Pending Application – HCBS Amendment" Available at: https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/nm-centennial-care-pa4.pdf. Accessed on: June 7, 2022.

1-17 After the amendment was approved, HSD elected not to increase the number of CB allocation slots.

1-18 Human Services Department. "Temporary Assistance for Needy Families." Available at: https://www.hsd.state.nm.us/lookingforassistance/temporary_assistance_for_needy_families/. Accessed on: April 1, 2022.

Subsequently, Medicaid enrollment expanded from the COVID-19 PHE and related MOE requirements, reaching 911,572 by January 2021.

Table 1-1—Total Medicaid Enrollment, 2013–2021

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021
Medicaid Enrollment	578,316	638,442	766,510	842,710	898,976	857,309	832,571	829,830	911,572

Figure 1-2 demonstrates Centennial Care and Centennial Care 2.0 enrollment from 2013 to 2021. Centennial Care members make up the majority of total Medicaid enrollment. Overall Centennial Care enrollment increased with the ACA expansion and start of the Centennial Care Program in 2014 and again as a result of the COVID-19 PHE.

Figure 1-2—Managed Care Enrollment, 2013–2021

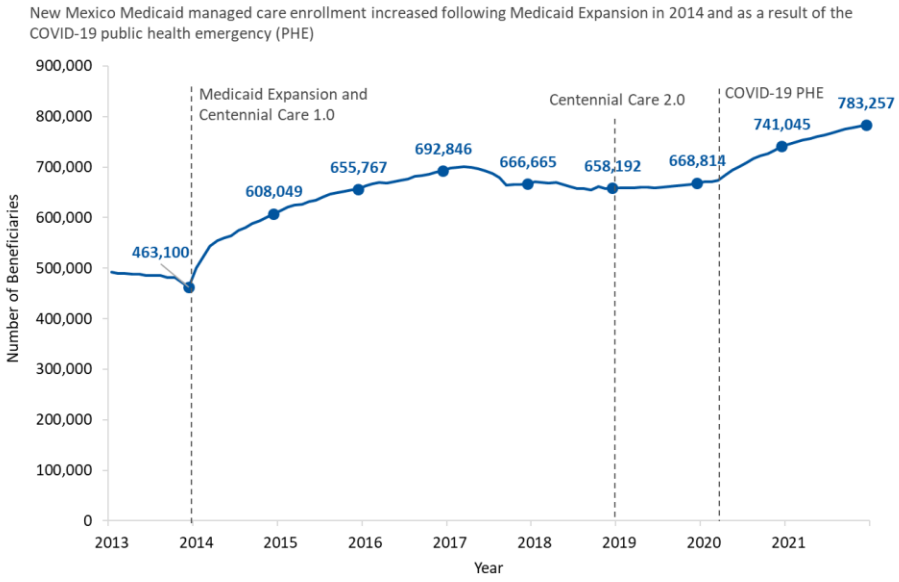


Figure 1-3 displays the percentage of New Mexico residents who are enrolled in managed care from 2013 to 2021. Overall, New Mexico has the highest percentage of state residents enrolled in Medicaid across the United States.[1-19] Increases in the percentage of New Mexico residents enrolled in Centennial Care and Centennial Care 2.0 can be seen following the ACA expansion and the COVID-19 PHE.

1-19 Kaiser Family Foundation. Percent of People Covered By Medicaid/CHIP, 2017. Medicaid State Fact Sheets. Available at https://www.kff.org/interactive/medicaid-state-fact-sheets/. Accessed on: Sept 27, 2022.

Figure 1-3—Percentage of New Mexico Residents Enrolled in Managed Care, 2013-2021

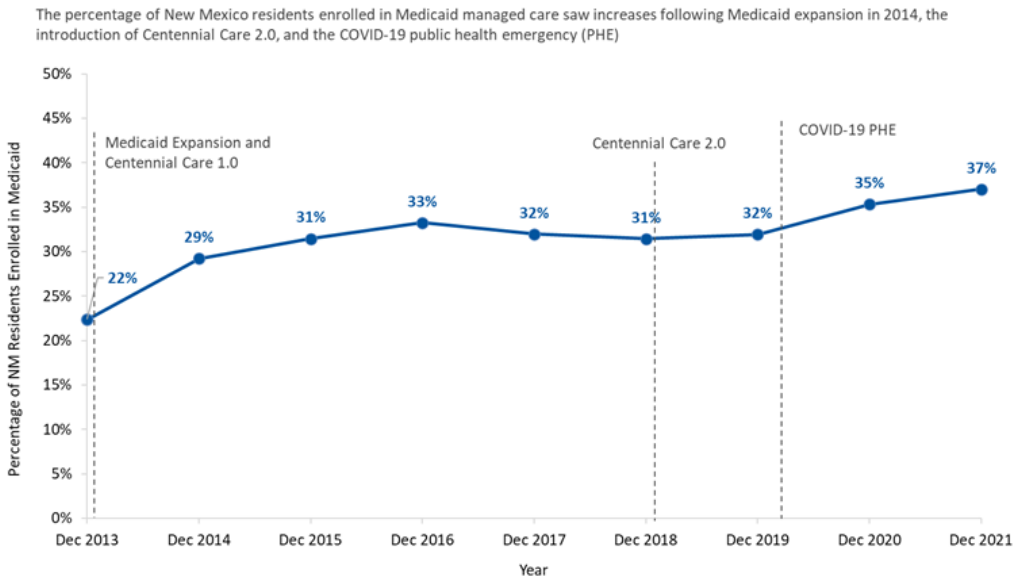


Figure 1-4 shows that at least two-thirds of beneficiaries were enrolled for a full 12 months in each year (excluding 2014) and increased to 86 percent by 2021. Less than 20 percent of beneficiaries had fewer than six months of Medicaid enrollment in each year.

Figure 1-4—Percentage of Managed Care Members Enrolled for Full or Partial Year

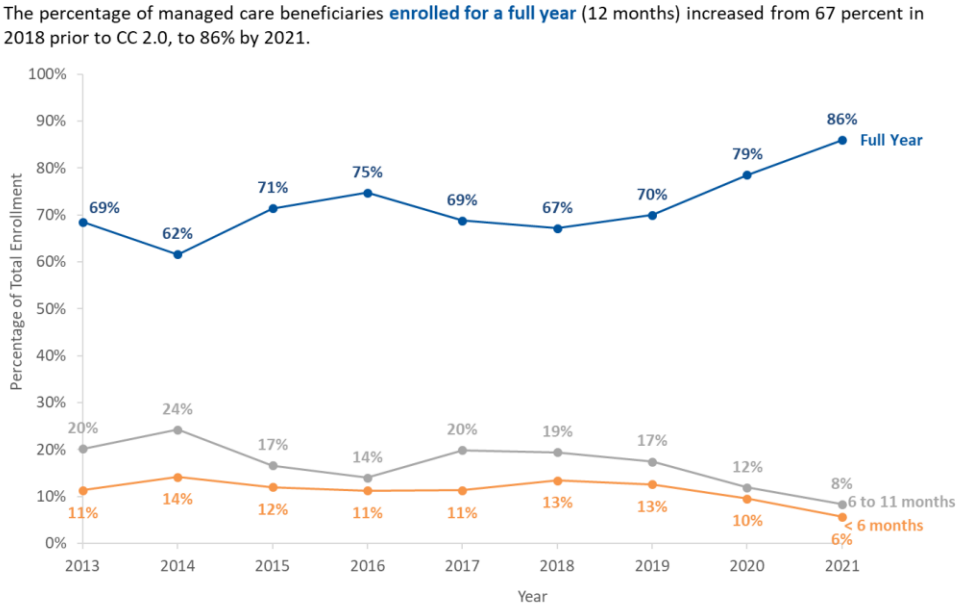
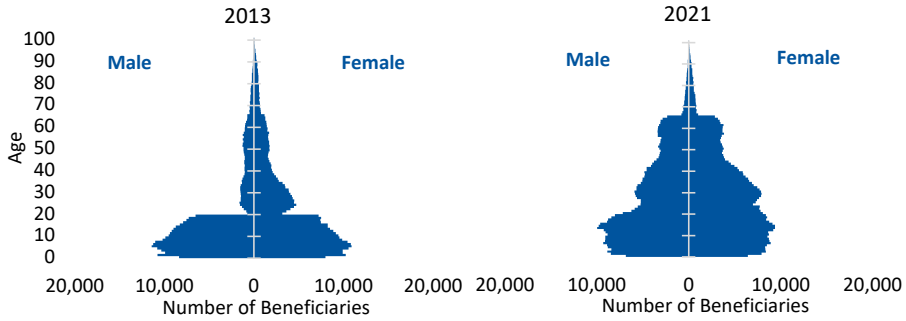


Figure 1-5 illustrates the changes in age and gender distribution between pre-Medicaid expansion in 2013 and current enrollment following Medicaid expansion and increases due to the COVID-19 PHE. Unsurprisingly, prior to Medicaid expansion, there were few adult males enrolled in Medicaid while the majority of enrolled beneficiaries (approximately two-thirds) were children. The Centennial Care 2.0 population as of 2021 has

relatively more adults, accounting for 58 percent of total enrollment. Table A-1 contains specific values for the change in age and gender distribution between 2013 and 2021.

Figure 1-5—Change in Age and Gender Distribution Among Beneficiaries



Evaluation Activities

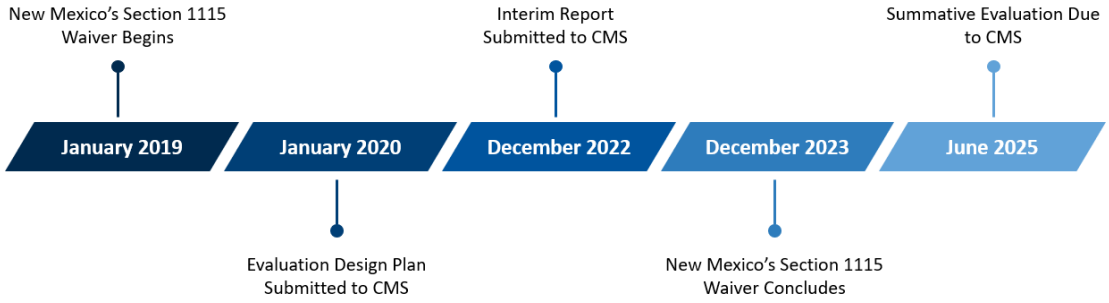
In response to the STCs, HSD has contracted with an independent evaluator, Health Services Advisory Group, Inc. (HSAG), to conduct comprehensive evaluations (i.e., interim and summative) of Centennial Care 2.0, New Mexico's Medicaid Section 1115 Demonstration Waiver. [1-20] The purpose of this evaluation is to provide CMS and HSD with an independent evaluation of Centennial Care 2.0, ensure compliance with Medicaid Section 1115 requirements, and provide recommendations to improve program efficacy along the way.

- Evaluation Design Plan[1-21]—The plan for how to accomplish the evaluation explains how it is expected to achieve the goals of the waiver along with specifying hypotheses, evaluation questions, associated measures, and analytic methods. The evaluation design plan for Centennial Care 2.0 was developed by Mercer, Government Human Services Consulting and approved by CMS on April 2, 2020.
- Interim Evaluation Report—The report will include the goals of the evaluation, the hypotheses related to the demonstration, and the methodology of the evaluation. The report will provide interpretations of the findings, assessments of the outcomes, explanations on the limitations of the design, data, and analyses, and recommendations to the State from January 1, 2019, to December 31, 2021. [1-22]
- Summative Evaluation Report—The report will follow the same structure as the interim report for the entirety of the demonstration period (January 1, 2019, to December 31, 2023).

1-20 The evaluation for Centennial Care was conducted by Deloitte.
1-21 The CMS-approved Evaluation Design Plan is available in Appendix B of the Interim Evaluation Report.
1-22 Centers for Medicare & Medicaid Services. Special Terms and Conditions Centennial Care 2.0 Medicaid 1115 Demonstration. *Human Services Department.* 2020. 11W-00285/6. Available at: https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/nm/nm-centennial-care-ca.pdf. Accessed on: Jan 4, 2022.

Figure 1-6 displays the timeline of the evaluation activities.

Figure 1-6—Timeline of Evaluation Activities



2. Evaluation Questions and Hypotheses

The primary purpose of the interim evaluation is to determine whether the Centennial Care 2.0 Demonstration Waiver is achieving the four aims outlined in the Background section above. Section 2 presents the hypotheses and research questions used to quantitatively evaluate each aim, as described in the evaluation design plan approved by CMS on April 2, 2020 (also attached to this report as Appendix B). The demonstration aims are examined individually following a two-step process. The first step specifies a "logic model" for each demonstration aim that logically relates the aim to specific program interventions. The second step relates these interventions to hypotheses and quantifiable research questions. Accordingly, the hypotheses were tested on the basis of specific research questions concerning the demonstration aims.

Demonstration Goals

The Centennial Care 2.0 demonstration supports improvements to achieve four primary aims:

1. Continue the use of appropriate services by members and to enhance member access to services and quality of care.
2. Manage the pace at which costs are increasing while sustaining or improving quality, services, and eligibility.
3. Streamline processes and modernize New Mexico Medicaid health delivery system through use of data, technology, and person-centered care,
4. Improve quality of care and outcomes for Medicaid beneficiaries with a substance use disorder (SUD).

To accomplish these aims, the demonstration includes key activities and interventions to maintain current levels of improved performance and health outcomes for Centennial Care 2.0 members.

Hypotheses and Research Questions

Fourteen hypotheses were tested using 45 research questions, providing a comprehensive evaluation of the aims of the demonstration waiver. The evaluation design plan describes the hypotheses as being developed based on the ability to measure performance, identify the potential for improvement, and forming comparison groups where possible to identify the effects of the demonstration and interventions. Although some measures utilized data that were not sufficient for a conclusive analysis, these were included to provide important contextual information regarding key components of the demonstration that could not be obtained elsewhere. The hypotheses and research questions are presented below in relation to the logic model used in evaluating each demonstration goal.

Aim One: Continue the Use of Appropriate Services by Members to Enhance Member Access to Services and Quality of Care

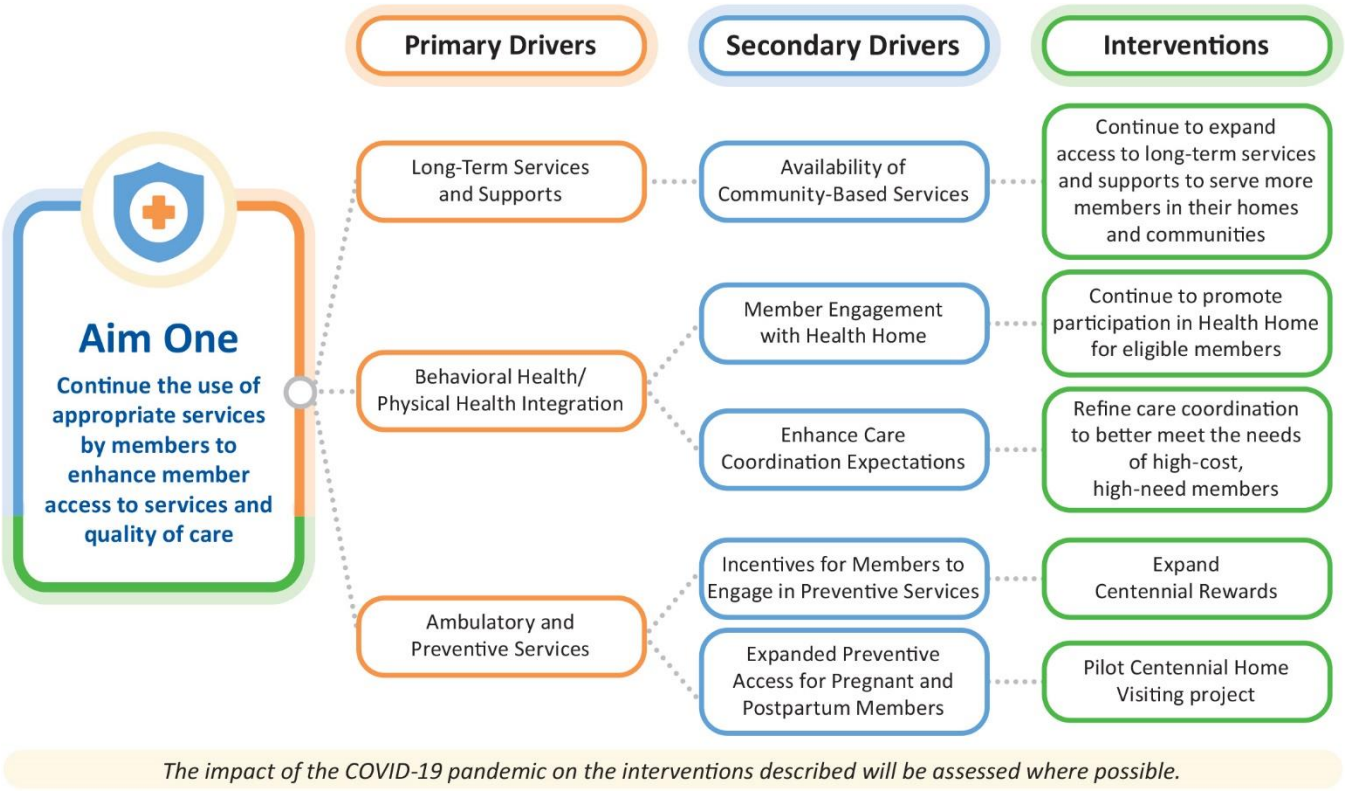
Logic Model

Centennial Care 2.0 seeks to ensure that Medicaid members in the program receive the right amount of care, delivered at the right time, in the right setting. Additionally, the demonstration seeks to ensure that the care and services being provided are measured in terms of their quality rather than quantity alone.

The CMS-approved evaluation design specifies logic models, which relate program interventions to specific initiatives and applicable programmatic areas. Evaluation hypotheses and research questions for each aim were derived from the logic model.

Figure 2-1 displays the logic model for Aim One.

Figure 2-1—Aim One Logic Model



Hypotheses and Research Questions

The hypotheses and associated research questions for Aim One are presented in Table 2-1.

Table 2-1—Aim One Hypotheses and Research Questions

Hypothesis 1: Continuing to expand access to Long-Term Support Services and Supports (LTSS) and maintaining the progress achieved through rebalancing efforts to serve more members in their home and communities will maintain the number of members accessing Community Benefit (CB) services.	Q1: Has the number of members accessing CB services been maintained year-over-year?
Hypothesis 2: Promoting participation in a Health Home will result in increased member engagement with the Health Home and increase access to integrated physical and behavioral health care in the community.	Q1: Is there an increase in the number/percentage of members enrolled in a Health Home? Q2: Is the proportion of members engaged in a Health Home receiving any physical health (PH) services higher than those not engaged in a Health Home?
Hypothesis 3: Enhanced care coordination supports integrated care interventions, which lead to higher levels of access to preventive/ambulatory health services	Q1: Is there an increase in Centennial Care members who have at least one claim for preventive/ambulatory care in a year?

	Q2: Does engagement in a Health Home result in beneficiaries receiving more ambulatory/ preventive health services?
Hypothesis 4: Engagement in a Health Home and care coordination support integrative care interventions, which improve quality of care.	Q1: To what extent is Health Home engagement associated with improved disease management? Q2: Does Health Home engagement result in increased follow up after hospitalization for mental illness?
Hypothesis 5: Expanding member access to preventive care through the Centennial Home Visiting (CHV) Pilot Program and providing incentives through Centennial Rewards (CR) will encourage members to engage in preventive care services[2-1]	Q1: Has the percentage of Centennial Care members participating in CR increased? Q2: Are CR incentive redeeming members likely to receive more preventive/ambulatory services on an annual basis than those who have not redeemed incentives in the 12-month period following the initial redemption? Q3: Does use of CR encourage members to improve their health and make healthy choices? Q4: Is the percentage of babies born with low birth weight (< 2,500 grams) to mothers participating in the CHV Pilot Program lower than the percentage of low-birth-weight babies born to Medicaid mothers who do not participate in the CHV Pilot Program?

Aim Two: Manage the Pace at Which Costs Are Increasing While Sustaining or Improving Quality, Services, and Eligibility

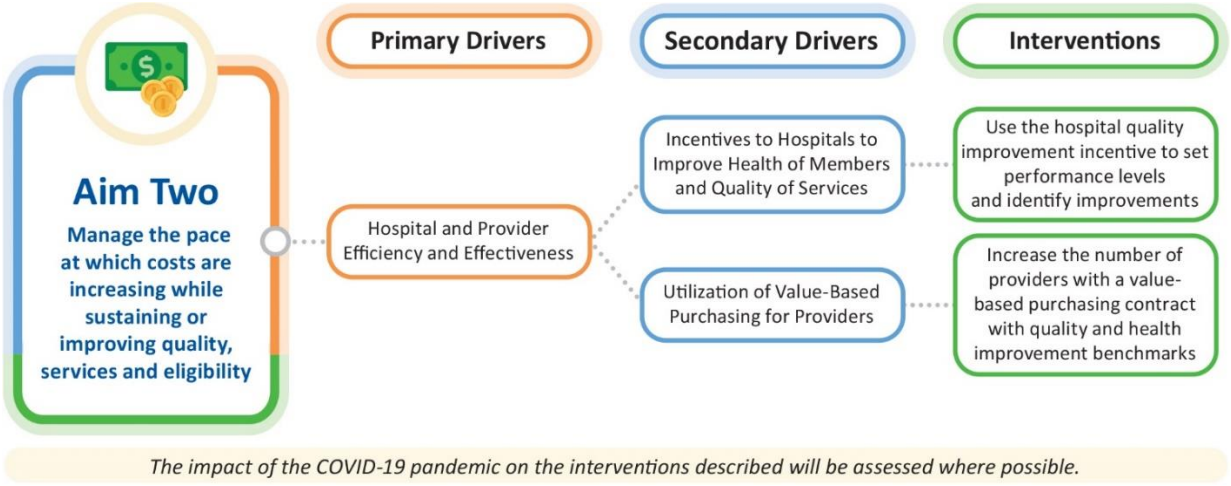
Logic Model

Centennial Care 2.0 aims to slow the growth rate of costs or "bend the cost curve" over time without inappropriate reductions in quality, benefits, eligibility, or provider rates.

The CMS-approved evaluation design specifies logic models, which relate program interventions to specific initiatives and applicable programmatic areas. Evaluation hypotheses and research questions for each aim were derived from the logic model. Figure 2-2 illustrates the logic model for Aim Two.

2-1 The hypothesis has been revised slightly from that in the CMS-approved Evaluation Design. The original hypothesis was misleading as it suggested that both programs provide incentives for preventive care. Only CR provides preventive care incentives.

Figure 2-2—Aim Two Logic Model



Hypotheses and Research Questions

Table 2-2 presents the hypotheses and research questions corresponding with Aim Two.

Table 2-2—Aim Two Hypotheses and Research Questions

Hypothesis 1: Incentivizing hospitals to improve health of members and quality of services and increasing the number of providers with value-based purchasing (VBP) contracts will manage costs while sustaining or improving quality.	Q1: Has the number of providers with VBP contracts increased? Q2: Has the number of providers participating in VBP arrangements, who meet quality metric targets increased? Q3: Has the amount paid in VBP arrangements increased? Q4: Has reported performance of Domain 1 measures in the Safety Net Care Pool (SNCP) Hospital Quality Improvement Program been maintained or improved? Q5: Do cost trends align with expected reimbursement and benefit changes?

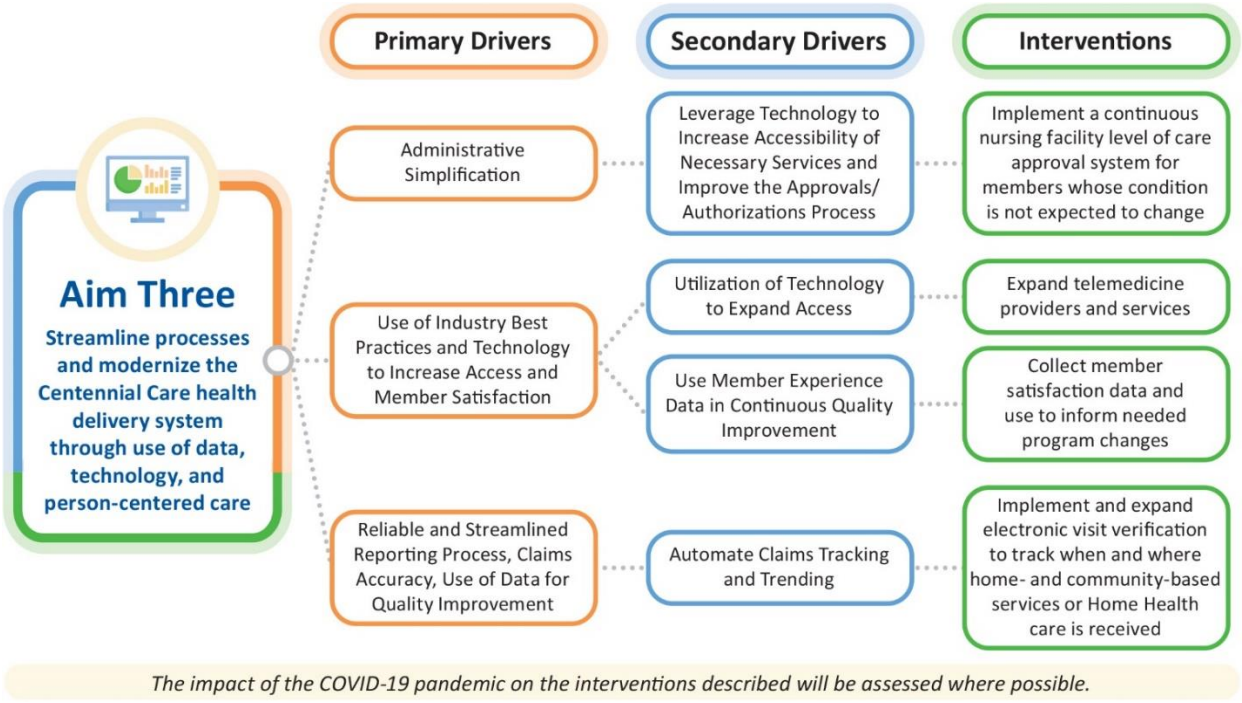
Aim Three: Streamline Processes and Modernize the Centennial Care Health Delivery System Through Use of Data, Technology, and Person-Centered Care

Logic Model

The Demonstration Waiver targets the streamlining and modernization of the Medicaid program in the State of New Mexico as an area for improvement.

The CMS-approved evaluation design specifies logic models, which relates program interventions to specific initiatives and applicable programmatic areas. Evaluation hypotheses and research questions for each aim were derived from the logic model. Figure 2-3 presents the logic model for Aim Three.

Figure 2-3—Aim Three Logic Model



Hypotheses and Research Questions

The hypotheses and research questions for Aim Three are displayed in Table 2-3.

Table 2-3—Aim Three Hypotheses and Research Questions

Hypothesis 1: The Demonstration will relieve administrative burden by implementing a continuous Nursing Facility Level of Care (NFLOC) approval with specific criteria for members whose condition is not expected to change over time.	Q1: Has the number of continuous NFLOC approvals increased during the Demonstration?
Hypothesis 2: The use of technology and continuous quality improvement (CQI) processes align with increased access to services and member satisfaction.	Q1: Has the number of telemedicine providers increased during Centennial Care 2.0? Q2: Has the number of unduplicated members with a telemedicine visit increased during Centennial Care 2.0? Q3: Has member satisfaction increased during Centennial Care 2.0?
Hypothesis 3: Implementation of electronic visit verification (EVV) is associated with increased accuracy in reporting services rendered.	Q1: Has the number of claims submitted through EVV increased? Q2: Has the proportion of paid or unpaid hours retrieved due to false reporting decreased?

Aim Four: Improved Quality of Care and Outcomes for Medicaid Beneficiaries With a Substance Use Disorder

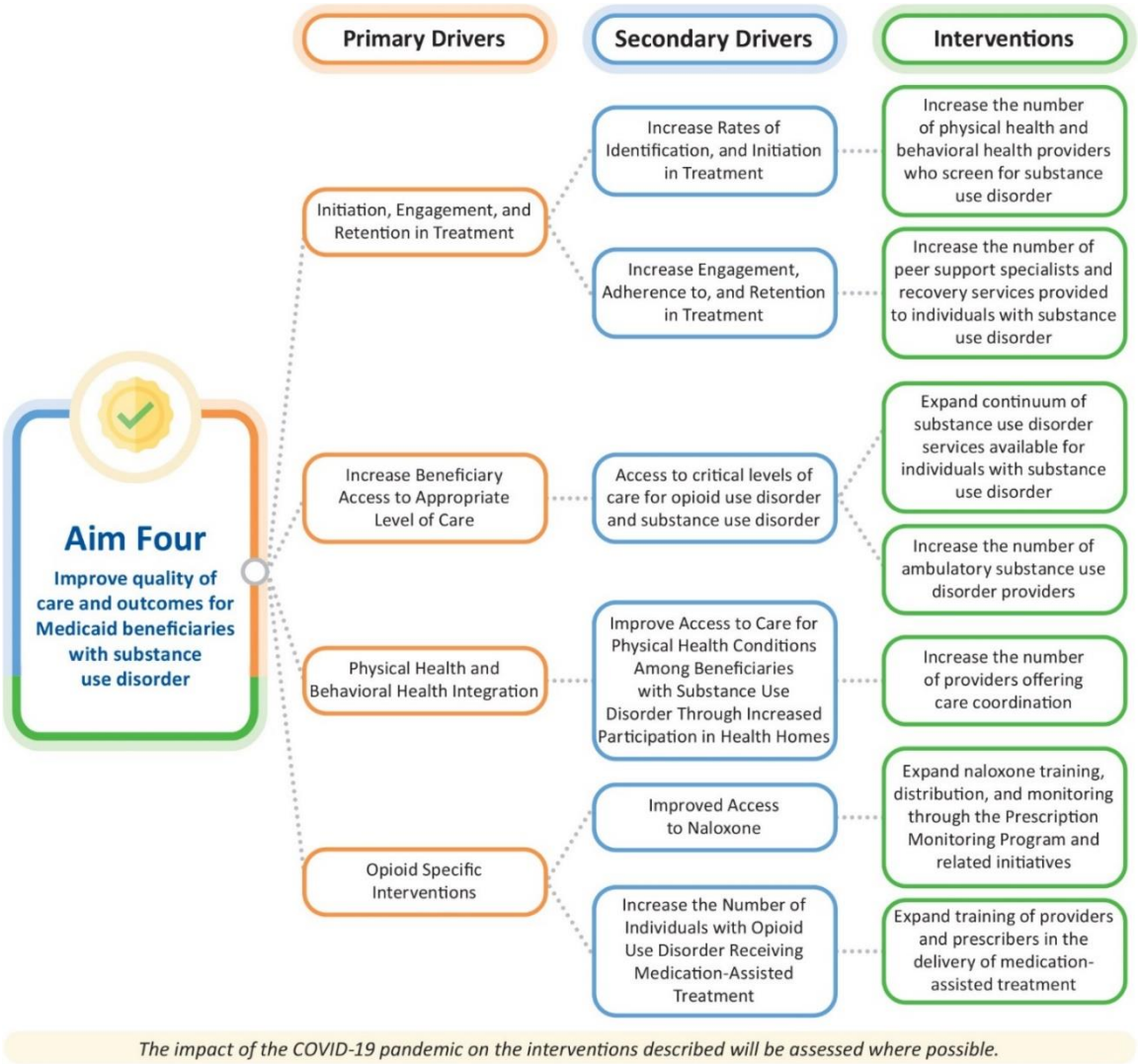
Logic Model

Centennial Care 2.0 seeks to ensure members have access to high quality, evidence-based opioid use disorder (OUD) and other SUD treatment services. These services range from medically supervised withdrawal management to ongoing chronic care for these conditions in cost-effective settings.

The CMS-approved evaluation design specifies logic models, which relates program interventions to specific initiatives and applicable programmatic areas. Evaluation hypotheses and research questions for each aim were derived from the logic model.

Figure 2-4 displays Aim Four's logic model.

Figure 2-4—Aim Four Logic Model



Hypotheses and Research Questions

Table 2-4 presents the hypotheses and research questions associated with Aim Four.

Table 2-4—Aim Four Hypotheses and Research Questions

Hypothesis 1: The Demonstration will increase the number of providers that provide SUD screening, which will result in an increase in the number of individuals screened and the percentage of individuals who initiate treatment for alcohol and other drug (AOD) dependence treatment.	Q1: Did the number of behavioral health and physical health providers who screen beneficiaries for SUD increase? Q2: Did the number of individuals screened for SUD increase? Q3: Has the percentage of individuals with a SUD who received any SUD related service increased? Q4: Did the percentage of individuals who initiated AOD abuse and dependence treatment increase?
Hypothesis 2: The Demonstration will increase peer support services which will result in more individuals engaging in and retained in AOD dependence treatment.	Q1: Has the percentage of individuals with a SUD diagnosis who received peer support services increased? Q2: Does receiving peer support increase the percentage of individuals engaged in AOD abuse and dependence treatment? Q3: Does receiving peer support increase the treatment tenure for individuals receiving AOD abuse and dependence treatment? Q4: Does receiving peer support increase the treatment tenure for medication assisted treatment (MAT) for OUD?
Hypothesis 3: The Demonstration will improve access to a comprehensive continuum of SUD care which will result in decreased utilization of emergency department (ED) and inpatient hospitalization and SUD inpatient readmissions.	Q1: Has the continuum of services available for individuals with a SUD expanded in terms of which services are available? Q2: Has capacity for ambulatory SUD services increased? Q3: Has the utilization of EDs by individuals with a SUD decreased? Q4: Has the utilization of inpatient hospital settings for SUD-related treatment decreased? Q5: Has the utilization of inpatient hospital settings for withdrawal management decreased? Q6: Have inpatient SUD readmissions decreased for individuals with SUD diagnoses? Q7: Have increasing trends in total cost of care been slowed for individuals with SUD diagnoses? Q8: Have SUD costs for individuals with SUD diagnoses changed proportionally as expected with increased identification and engagement in treatment?
Hypothesis 4: The Demonstration will Increase the number of individuals with fully delegated care coordination which includes screening for co-morbid conditions, which will result in increased utilization for physical health conditions.	Q1: Has the percentage of individuals diagnosed with a SUD receiving care coordination increased? Q2: Has the number of individuals with a SUD receiving preventive health care increased?
Hypothesis 5: The Demonstration will increase use of naloxone, medication assisted treatment (MAT) and enhanced monitoring and reporting of opioid prescriptions through the prescription monitoring program, which will result in fewer overdose deaths due to opioid use.	Q1: Has there been an expansion of naloxone distribution and training? Q2: Has the number of providers using MAT services increased? Q3: Has the number of individuals with a SUD receiving MAT increased? Q4: Is there evidence of enhanced policies and practices related to the prescription monitoring program, real time prescription monitoring program updates, member/provider lock-in programs and limits/edits at pharmacy points-of-sale? Q5: Is there a decrease in the number of deaths due to overdose?

3. Methodology

The primary goal of an impact assessment in policy and program evaluation is to establish a causal relationship between the introduction of a policy or program and related outcomes. To accomplish this, a comparison of outcomes between the intervention group and a valid counterfactual—the intervention group had its members not been exposed to the intervention—must be made. The gold standard for experimental design is a randomized controlled trial which would be implemented by first identifying an intervention population, and then randomly assigning individuals to the intervention and the rest to a control group, which would serve as the counterfactual. However, random assignment is rarely feasible in practice, particularly as it relates to healthcare policies.

As such, a variety of quasi-experimental or observational methodologies have been developed for evaluating the effect of policies on outcomes. The research questions presented in the previous section will be addressed through at least one of these methodologies. The selected methodology largely depends on data availability factors relating to (1) data to measure the outcomes, (2) data for a valid comparison group, and (3) data collection during the time periods of interest—typically defined as one or two years prior to implementation and annually thereafter. Table 3-1 illustrates a list of analytic approaches that will be used as part of the evaluation and whether the approach requires data gathered at the baseline (i.e., pre-implementation), requires a comparison group; or allows for causal inference to be drawn. It also notes key requirements unique to a particular approach.

Table 3-1—Analytic Approaches

Analytic Approach	Baseline Data	Comparison Group	Allows Causal Inference	Limitations or Requirements
Difference-in-Differences	✓	✓	✓	Trends in outcomes should be similar between comparison and intervention groups at baseline
Interrupted Time Series	✓		✓	Requires sufficient data points prior to and following implementation
Trend Analysis	✓			Requires multiple baseline data points
Descriptive Time Series Analysis				Relies on descriptive interpretation; does not involve statistical testing

Note: Descriptions of each analytic approach can be found in the Analytic Methods section below.

Evaluation Design Summary

The evaluation design of the 1115 Demonstration Waiver utilized a mixed-methods evaluation design. Quantitative methods included descriptive statistics showing change over time in both counts and rates for specific metrics, interrupted time series (ITS) analysis or difference-in-differences (DiD) to assess whether the waiver interventions effected changes across specific outcome measures. Where possible, comparison groups were used to demonstrate that effects were likely due to the Demonstration Waiver. For some measures related to the Health Home Program, Centennial Home Visiting (CHV) Pilot Program, peer support services, and Centennial Rewards, a comparison group was possible. In many cases, however, a valid comparison group could

not be used because data were unavailable for a comparable population not targeted by the intervention.[3-1] This occurred for interventions that were implemented for all members throughout the State simultaneously. Beneficiary surveys, administered by the managed care organizations (MCOs) as part of their Consumer Assessment of Healthcare Providers and Systems (CAHPS®)[3-2] surveys, were used to assess beneficiaries' rating of their personal doctor, health plan, and overall health care.

Target and Comparison Populations

The target populations for the hypotheses in Aim One through Aim Four were managed care Centennial Care 2.0 members, subgroups of managed care members receiving the Demonstration interventions, and providers serving Centennial Care members.

Within Aims One through Three, the specific member subgroups studied include:

- Long-term care members.
- Long-term services and support (LTSS) members enrolled in the Community Benefit (CB) Program.
- Members enrolled in Health Homes.
- Members receiving fully delegated care coordination from value-based purchasing (VBP) contracted providers.
- Members engaged in the Centennial Rewards program.
- Members enrolled in the Centennial Home Visiting (CHV) Pilot Program.

Provider subgroups studied in the evaluation include safety net care pool (SNCP) hospital quality improvement incentive (HQII) hospitals, and providers with VBP contracts.

Within Aim Four, specific member subgroups studied were Centennial Care members with a substance use disorder (SUD) diagnosis, and members with a SUD diagnosis who received medication-assisted treatment (MAT). Providers serving members with a SUD diagnosis were also studied.

The evaluation design did not include a randomized treatment and a control group. That is, there was not a group of managed care members who were eligible for the waiver interventions and who received them based on random assignment. Certain waiver programs (e.g., Health Homes, CHV Pilot) did allow for comparisons between groups. These groups were based on member self-selection or specific outreach criteria, not randomization. Where possible, adjustments were made to account for differences between the intervention and comparison groups.

3-1 Because the Centennial Care 2.0 demonstration targeted most managed care beneficiaries in the State, no in-state comparison could be used. An out-of-state comparison group could be constructed ideally using Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files (TAF) data. However, due to the two-to-three-year lag, with only preliminary data for 2020 available as of this writing, the T-MSIS data is expected to be feasible for only the summative evaluation report. Depending on access fees and the restrictions around using the T-MSIS data, the independent evaluator will determine the most cost-effective and feasible approach for developing an out-of-state comparison group.

3-2 CAHPS® is a registered trademark of the Agency for Healthcare Research and Quality (AHRQ)

Evaluation Period

The time periods covered in this report are presented in Table 3-2.

Table 3-2—Time Periods

Baseline Period	Interim Report Evaluation Period
January 1, 2018 – December 31, 2018	January 1, 2019 – December 31, 2021

Evaluation Measures

The evaluation measures were based on data sources that provided valid and reliable data which were readily available throughout the Demonstration and evaluation activities. Health Services Advisory Group, Inc. (HSAG), reviewed the quality and completeness of each data source to determine if the data used were complete and accurate. The New Mexico Human Services Department (HSD) used a comprehensive standardized reporting framework based on recommendations from the Centers for Medicare & Medicaid Services (CMS) State Toolkit for Validating Medicaid Managed Care Encounter Data for the Centennial Care Program quarterly and for annual MCO reports. As often as possible, measures in the evaluation were selected from nationally recognized measure stewards for which there are strict data collection processes and audited results. Table 3-3 displays which measure steward was used for each measure. Information from additional data sources, such as the Department of Health, Office of the Medical Investigator, hospital associations, and pharmacy boards, was assessed for completeness and accuracy and was based on State knowledge of the provider community and experience in New Mexico.

Table 3-3—Measure Stewards

Measure Number	Measure Name	Steward
1	Number of Centennial Care members enrolled and receiving CB services	—
2	Number/Percentage of Centennial Care members enrolled in a Health Home	—
3	Number/Percentage of Health Home members with at least one (1) claim for physical health (PH) service in the calendar year	—
4a	Adults' access to preventive/ambulatory health services (AAP)	National Committee for Quality Assurance (NCQA)
5a	Children and adolescents' access to primary care practitioners (CAP)	NCQA
6	Well-child visits in the third, fourth, fifth, and sixth years of life (W34)	NCQA
4b	Adults' access to preventive/ambulatory health services (AAP) – Health Home (HH) population[1]	NCQA
5b	Children and adolescents' access to primary care practitioners (CAP) – HH population[1]	NCQA
7	Diabetes screening for members with schizophrenia or bipolar disorder who are using antipsychotic medications (SSD) – HH population	NCQA
8	Anti-depressant medication management (AMM) Effective Acute Phase Treatment – HH population	NCQA
9	Anti-depressant medication management (AMM) Effective Continuation Phase Treatment – HH population	NCQA
10	7-day follow up after hospitalization for mental illness (FUH) – HH population	NCQA

Measure Number	Measure Name	Steward
11	30-day follow up after hospitalization for mental illness (FUH) – HH population	NCQA
12	Percentage of Centennial Care (CC) members participating in Centennial Rewards (CR)	—
13	Percentage of CR participating members with an annual preventive/ambulatory service	—
14	Percent of CR users responding positively on satisfaction survey to question regarding if the program helped to improve their health and make healthy choices	—
15	Live births weighing less than 2,500 grams (low birth weight)	Centers for Disease Control and Prevention (CDC)
16	Total number of providers with VBP contracts	—
17	Number/percentage of providers meeting quality threshold	—
18	Percentage of total payments that are for providers in VBP arrangements	—
19	Percentage of qualified Domain 1 SNCP Hospital Quality Incentive measures that have maintained or improved their reported performance rates over the previous year	—
20	Cost per member trend	—
21	Cost per user trend	—
22	Number of continuous nursing facility level of care (NFLOC) approvals	—
23	Number of telemedicine providers	—
24	Number of members receiving telemedicine services	—
25	Member rating of health care	NCQA
26	Member rating of health plan	NCQA
27	Member rating of personal doctor	NCQA
28	Number of submitted claims through electronic visit verification (EVV)	—
29	Percent of paid or unpaid hours retrieved due to false reporting	—
30	Number of providers who provide SUD screening	—
31	Number of individuals screened for SUD	CMS
32	Percentage of individuals with a SUD diagnosis who received any SUD service during the measurement year	—
33	Initiation of alcohol or other drug (AOD) Abuse or Dependence Treatment (IET)	NCQA
34	Percentage of individuals with a SUD diagnosis who received peer support	—
35	Engagement of AOD Abuse or Dependence Treatment (IET)	NCQA (modified)
36	Average Length of Stay (ALOS)	—
37	Continuity of Pharmacotherapy for opioid use disorder (OUD)	University of Southern California (USC) (NQF #3175)
38	Continuum of services available	—
39	Number of providers and capacity for ambulatory SUD services	—
40	Percentage of emergency department (ED) visits of individuals with SUD diagnoses	—
41	Percentage of Inpatient admissions for SUD-related treatment	—

Measure Number	Measure Name	Steward
42	Percentage of Inpatient admissions of individuals with a SUD for withdrawal management	—
43	7- and 30-day inpatient and residential SUD readmission rates	—
44	Total and per member per month (PMPM) cost (medical, behavioral, and pharmacy) for members with a SUD diagnosis	—
45	Total and PMPM cost (medical, behavioral, and pharmacy) for members with a SUD diagnosis by SUD source of care	—
46	Total and PMPM cost for SUD services for members with a SUD diagnosis	—
47	Total and PMPM cost for SUD services by type of care (inpatient [IP], outpatient [OP], prescription [RX], etc.)	—
48	Percentage of individuals diagnosed with a SUD receiving care coordination	—
49	Percentage of individuals with a SUD receiving preventive/ambulatory health services (AAP)	Centers for Medicaid & Medicaid Services (CMS) (modified NCQA)
50	Number of naloxone training and kit distributions	—
51	Number of MCO network MAT providers	—
52	Percentage of individuals diagnosed with a SUD with MAT claims	—
53	Number of providers using the prescription monitoring program	—
54	Rate of deaths due to overdose	—

[1]Note: To concisely evaluate the Health Home Program, results for measures 4b and 5b (Health Home-specific measures) are presented after Measure 6.
*The following abbreviations are used in the measure descriptions—ALOS: Average Length of Stay; AOD: alcohol and other drugs; CB: Community Benefit; CC: Centennial Care; CDC: Centers for Disease Control and Prevention; CMS: Centers for Medicare & Medicaid Services; CR: Centennial Rewards; ED: emergency department; EVV: electronic visit verification; HH: Health Home; IP: inpatient; NCQA: National Committee for Quality Assurance; NFLOC: nursing facility level of care; NQF: National Quality Forum; MAT: medication assisted treatment; MCO: managed care organization; OP: outpatient; OUD: opioid use disorder; PH: physical health; PMPM: per member per month; RX: prescription; SNCP: safety net care pool; SUD: substance use disorder; USC: University of Southern California; VBP: value-based purchasing. Measures with no steward, indicated by a dash ("—"), are customized measures specific to the evaluation.

Data Sources

Multiple data sources were used to evaluate the 14 hypotheses for the evaluation. Data collected included administrative claims/encounter data, MCO reports, MCO CAHPS reports, data submitted by Finity, birth registry data, VBP reports, and CMS 64 files supplied by the State. Capitation rate certification files provided by HSD and budget neutrality workbooks publicly available on Medicaid.gov were utilized for the cost-effectiveness review. Administrative data sources included information extracted from the Medicaid Management Information System (MMIS). MMIS was used to collect, manage, and maintain Medicaid recipient files (e.g., eligibility, enrollment, and demographics) and managed care encounter data.

Administrative

Administrative data extracted from the MMIS were used to calculate most measures presented in this Interim Evaluation Report. These data included administrative claims/encounter data, beneficiary eligibility, enrollment, and demographic data. Provider data were also used as necessary to identify provider type and beneficiary attribution.

Use of managed care encounters was limited to final, paid status claims/encounters. Interim transaction and voided records were excluded from all evaluations because these types of records introduce a level of uncertainty (from matching adjustments and third-party liabilities to the index claims) that can impact reported rates and cost calculations.

Quarterly State Budget and Expenditure Reports (CMS-64) provided by HSD were used as part of the cost-effectiveness review and contain statements of expenditures for which states are entitled to federal reimbursement under Title XIX.

Analytic Methods

Multiple analytic techniques were used, depending on the type of data for the measure and the availability of data.

Descriptive, content analysis was used to present data related to process evaluation measures gathered from document reviews. The data were summarized to describe the activities undertaken, including highlighting specific successes and challenges.

Descriptive statistics, including frequency distributions and time series (presentation of rates over time), were used for quantitative process measures to describe the output of specific waiver activities. These analysis techniques were also used for some short-term outcome measures in cases where the role of the measure was to describe changes in the population, but not to show specific effects of the Demonstration Waiver.

Difference-in-Differences

A DiD analysis was performed for measures in which a suitable comparison group could be identified (e.g., all Health Home measures using claims/encounter data and peer support measures). This approach compared the changes in outcome rates between the baseline period and the evaluation period, across the intervention and comparison groups. For the DiD analysis to be valid, the comparison group must accurately represent the change in outcomes that would have been experienced by the intervention group in the absence of the program. DiD analysis was conducted with member-level rates, using a logistic regression model for measures with binary outcomes.

The general form of the DiD model used was:

$$Y_{it} = \beta_0 + \beta_1 * T + \beta_2 * post + \beta_3 * (post * T) + \varepsilon$$

Where Y is the outcome for group i in year t, T is a binary indicator of the intervention group, *post* is a binary indicator for the evaluation period, and ε is an error term. The coefficient β_1 identifies the average difference between the groups during the baseline period prior to the implementation of the waiver. The time period dummy coefficient β_2 captures the change in average outcome between the baseline and evaluation time periods for the non-intervention group. The coefficient on the interaction term β_3 represents the DiD estimate of interest in this evaluation. In other words, it is the difference in the average outcome between the baseline and evaluation time periods for the intervention group, compared to the difference in average outcome between the baseline and evaluation time period for the non-intervention group.

The DiD approach was used where possible, as it controls for any factors external to the program that are applied equally to both groups, such as the coronavirus disease 2019 (COVID-19) public health emergency (PHE). However, the method is still susceptible to external factors that may have differentially impacted one group and not the other.

While a suitable out-of-state comparison group was not available for the entire New Mexico Centennial Care 2.0 Demonstration, two programs, Health Home and Peer Support Services, were available to smaller member subgroups, and thus allowed for an in-state comparison group.

Health Home

To construct the most appropriate comparison group for the Health Home population, a logistic regression model was used to predict the probability that each member would participate in the program, conditional on their observed baseline characteristics (i.e., the propensity score). These characteristics included sex, age, race, county of residence, an indicator for having a serious mental illness (SMI) or severe emotional disturbance (SED) diagnosis at any point during the baseline year,[3-3] a Chronic Illness and Disability Payment System (CDPS) risk score, and indicators for disease conditions related to participation in the Health Home Program. Each Health Home-enrolled member was matched to a non-Health Home member based on the propensity score and county of residence (see Appendix A for matching details).

Peer Support

The DiD analysis was used for Measures 35, 36, and 37, related to assessing the impact of peer support services on alcohol and other drug (AOD) dependence treatment (Aim Four, Hypothesis Two). Although the CMS approved evaluation design plan did not specify a comparison group, it was possible to create an in-state comparison group and utilize the DiD approach—a potentially strong evaluation design.[3-4] To control for potential differences in health profiles between members receiving peer support services and those not receiving peer support services, HSAG controlled for members' weighted CDPS risk score in the analysis.

Interrupted Time Series

The ITS design included annual or quarterly observations of each measure over time, beginning at least one year prior to the Demonstration implementation. The counterfactual for the analysis was the trend, as it would have happened, without being "interrupted" by the Demonstration. Specific outcome measures were collected for multiple time periods both before and after the first demonstration period, waiver renewal, and related interventions. The measurements collected after the Demonstration are then compared to the projected outcome to evaluate the impact the demonstration had on the outcome. The generic ITS model is:

$$Y_t = \beta_0 + \beta_1 time_t + \beta_2 post_t + \beta_3 time \times post_t + \mu_t$$

where Y_t is the outcome of interest for the time period *t*, *time* represents a linear time trend, *post* is a dummy variable to indicate the time periods post-implementation, and $time \times post$ is the interaction term between *time* and *post*. The coefficient, β_0, identifies the starting level of outcome *Y*, β_1 is the slope of the outcome between the measurements before the program, β_2 is the change in the outcome at a various point in time, and β_3 is the change in the slope for the measurements after the program.

For measures calculated quarterly, indicator variables were added to the ITS model specified above for each quarter of the year to adjust for seasonality in the trend. Adjustment for the COVID-19 public health emergency (PHE) was conducted by creating an indicator variable for quarter 2 (Q2) of 2021 to represent the initial wave of COVID-19 PHE—related shutdowns and stay-at-home orders, and a separate indicator variable for Q3 of 2020

3-3 SMI/SED diagnosis codes were obtained from the New Mexico Managed Care Policy Manual. Available at: https://www.hsd.state.nm.us/wp-content/uploads/2020/12/Centennial-Care-Managed-Care-Policy-M.pdf. Accessed on: Jul 5, 2022.

3-4 Contrear, K, Bradley K, and Chao, S, "Best Practices in Causal Inference for Evaluations of Section 1115 Eligibility and Coverage Demonstrations," Mathematica Policy Research White Paper, June 2018.

through the end of Q1 of 2021 to reflect subsequent New Mexico-specific public health orders.[3-5] For measures calculated annually, an indicator variable for 2020 was included in the model to adjust for the COVID-19 PHE.

Comparative interrupted time series (CITS) was used to assess *Measure 13: Percentage of Centennial Rewards Participating Members with an Annual Preventive/Ambulatory Service*. This was estimated using linear regression modeling of the following comparative ITS equation:

$$Y_t = \beta_0 + \beta_1 T + \beta_2 X_t + \beta_3 T X_t + \beta_4 Z + \beta_5 Z T + \beta_6 Z X_t + \beta_7 Z X_t T + \varepsilon$$

Where *Y* is the measure rate, *T* is time, *X* is study phase (pre- or post-interruption), *XT* is time after interruption, *Z* is treatment or control, *ZT* is time for treatment, *ZX* is study phase for treatment, and *ZXT* is time after interruption for treatment.

Trend Analysis

For measures where an ITS analysis was not available, a regression model incorporating both the linear trend in the baseline period and dummy variables for the evaluation period years was used for trend analysis. In this model, observed rates during the evaluation period were compared against the projected rates if the baseline trend had continued. Logistic regression was utilized to evaluate measures with binary outcomes.

The general form of the model is:

$$\ln(Y) = \beta_0 + \beta_1 TIME + \sum \beta_t \delta_t$$

Where β_0 is the intercept representing the natural log of the rate at the first baseline year; β_1 is the average annual change in the logged rate during the baseline period, as a function of *TIME*; and $\sum \beta_t \delta_t$ represents the impact of a series of dummy variables representing each evaluation year t. The coefficients for these dummy variables represent the difference in the logged rate from the last year of the baseline period to the year represented by the dummy variable. *TIME* is the piecewise trend parameter for the baseline period defined as a linear trend in the baseline period and is held constant in the evaluation period by setting it equal to the value of the last year of the baseline period.

A series of hypothesis tests of the linear combination of coefficients were performed to determine if the evaluation period rates were significantly different from the projected evaluation period rates based on the *TIME* coefficient and the intercept.

Descriptive Time Series

Measures in which there are insufficient data points for a robust ITS analysis and no viable comparison group for DiD testing will be assessed through a descriptive analysis of trends in the data.

Financial Analysis

The program financial evaluation is designed to analyze the actual and counterfactual costs and trends (i.e., year-over-year percentage changes) for the evaluation period. Note that the cost analyses do not refer to nor attempt to replicate the formal Budget Neutrality test required under the Section 1115 Demonstration Waiver program,

[3-5] New Mexico Department of Health. Public Health Orders and Executive Orders. Available at: https://cv.nmhealth.org/public-health-orders-and-executive-orders/. Accessed on: June 21, 2022.

which sets a fixed target under which waiver expenditures must fall that was set at the time the waiver was approved.

Costs and trends are developed two ways; normalized, to develop the counterfactual impact and un-normalized, reviewing the actual impact. Claim/encounter costs and trends are then calculated and analyzed at two levels. Level one analysis reviews the per member per month (PMPM) cost and trend by year where level two of the analysis is completed on a per utilizing member per month (PUMPM) basis.

Counterfactual claims projections are calculated by utilizing the actuarial process of normalization, the process of adjusting cost data for the known quantifiable changes that impact utilization and cost such as demographic changes, risk, and inflation. The normalization process was employed with the goal of removing all known and quantifiable variation by analysis period, leading to a more accurate comparison between time periods as well as the development of the counterfactual claims cost projections. Below are the high-level steps of the normalization process. Detailed descriptions of each step are provided in Appendix A.

1. Calculate the risk adjusted PMPM for the analysis cohort.
2. Calculate the age-band/gender factor for the analysis cohort.
3. Calculate the area factor for the analysis cohort.
4. Apply risk, age-band/gender, and area factors to paid claims to calculate the normalized PMPMs for the analysis cohort.

4. Methodological Limitations

The following sections details the methodological limitations of the Interim Evaluation Report for the Centennial Care 2.0 Demonstration Waiver.

Evaluation Design

In this Interim Evaluation Report, Health Services Advisory Group, Inc. (HSAG), presents baseline and evaluation period rates for performance measures and other metrics that align with the primary objectives of the Demonstration Waiver. A particular strength of this evaluation is the use of varied data sources to address a wide breadth of metrics spanning access to services and quality of care; modernization of the health delivery system through data, technology, and person-centered care; and specific attention to Medicaid beneficiaries with a substance use disorder (SUD). The metrics included in the evaluation were selected because of their relevance to the processes and outcomes intended to be impacted by the Centennial Care 2.0 Program. Additionally, many of the performance measures in this report are based on standardized, well-validated metrics from recognized measure stewards. The quantitative analyses presented in this report are intended to assess the change in measure rates and beneficiary survey responses associated with the introduction of the Centennial Care 2.0 Program. The Interim Evaluation Report is therefore based on data and analyses that provide a strong foundation for the final Summative Evaluation Report.

Three key limitations exist for the data, measures, and methods used for this Interim Evaluation Report. First, with the exception of the Health Home Program, members receiving peer support, and the Centennial Home Visiting (CHV) Pilot Program, no in-state comparison population exists since the Demonstration Waiver was implemented for all members throughout the State simultaneously, and all members who would be eligible for the waiver interventions received them. A comparison group of similarly situated Medicaid beneficiaries who have not received the programming changes delivered by Centennial Care 2.0 will be critical for obtaining a proper counterfactual comparison in the Summative Evaluation Report. The comparison group will serve as the basis for understanding what may have happened to the healthcare and health outcomes of Centennial Care 2.0 beneficiaries if the program being evaluated was not put in place. It is possible that Transformed Medicaid Statistical Information System (T-MSIS) data from the Centers for Medicare & Medicaid Services (CMS), while unavailable for this report, may become available for use in forming a counterfactual comparison group for Centennial Care 2.0 by the time the Summative Evaluation Report is written. Additionally, at the time of the Interim Evaluation Report, data could not be obtained from another state with similar population characteristics and Medicaid policies and procedures in place. Therefore, the counterfactual comparison used in this report is the comparison of measure rates projected out from the baseline into the evaluation period of the Demonstration. The results indicate whether the measure rates increased or decreased, and whether the results represented statistically significant changes in performance.

A second key limitation of the results presented in this Interim Evaluation Report is the impact of the global coronavirus disease 2019 (COVID-19) public health emergency (PHE). The COVID-19 PHE impacted the healthcare industry and the entire population on a global scale, requiring substantial changes to the processes used in the delivery of healthcare. In New Mexico, as in other locations, healthcare utilization was significantly reduced in 2020 and is likely to have impacted the results shown in this Interim Evaluation Report. Where possible, adjustments for the impact of the COVID-19 PHE were made in the analyses. For measures analyzed using interrupted time series (ITS), knowledge on state-specific case counts, shutdowns, and stay-at-home orders was incorporated into the model to account for the effect of COVID-19 through controlling for affected quarters or years in regression analyses. For measures wherein a difference-in-differences (DiD) approach was possible,

and a proper comparison group could be identified, the *relative change* over time in outcomes between groups is the estimate of interest, and thus stronger inferences about program impacts may be drawn as the COVID-19 effect is assumed to apply equally to both groups. For many other measures, however, the specifications for calculating rates require lengthy look back periods, or annual assessments of beneficiaries that would not allow such adjustments to be made. Because of this limitation, for some measures, the 2020 rates confound the impact of the COVID-19 PHE with any program impacts, and the analysis cannot disentangle the two sources of change.

Lastly, for programs wherein a comparison group was identified, it is possible that there were differences unaccounted for between the groups, resulting in biased results. Unlike in a true randomized controlled trial, members voluntarily choose to participate in the Health Home Program or receive peer support services, thus they may be systematically different from those who were eligible but elected not to participate in meaningful ways not captured by administrative data. The use of a matched comparison population for the comparison group should, in theory, mitigate any bias caused by the lack of randomization; however, no method can completely remove the effect of self-selection bias.

Furthermore, it is possible that there were remaining unobserved differences between the matched groups that created a "regression to the mean" (RTM) effect. This statistical phenomenon occurs when matching selects units that are extreme relative to their respective group means in order to achieve balance in the matched sample.[4-1] For this to happen, otherwise "healthy" members would have to be matched during a time period of unusually high utilization and/or prevalence of comorbidities, and then "regress" back to their mean from prior to the period used for matching. This may result in biased conclusions.

However, since the measures used to evaluate the Health Home program are reported as rates consisting of numerator and denominator criteria, the probability of numerator events must be affected by RTM for it to bias conclusions. If outcome measures included costs or service utilization, then it is expected that RTM would bias results because the comparison group would "regress" back to their means during the evaluation year. In those cases, it would be plausible that the comparison group at baseline had higher costs and utilization since they would have been matched during a high utilization period under the assumption of RTM. However, due to the nature of the measures included in this study, it is expected that any bias from RTM will be minimal.

For example, Measure 11, *30-day Follow Up After Hospitalization for Mental Illness (FUH)*, demonstrates a decline in the denominator among the non-Health Home group between baseline and each evaluation year. This suggests there is a possibility of RTM due to fewer hospitalizations for mental illness among the comparison group in the evaluation year. However, since the measure is reported as a rate, in order for RTM to bias results, the probability of the numerator event must change between the baseline and evaluation years. That is, the likelihood of receiving a follow-up visit must change due to RTM. Although this effect is unclear, the probability of the numerator event to change for this measure or any other measure included in the evaluation of the Health Home Program is expected to be negligible.

Data Sources

The data used in the Interim Evaluation Report include administrative data, Medicaid enrollment data, demographic data, claims and encounter data, as well as additional data sources such as managed care organization (MCO) reports, Department of Health, Office of the Medical Investigator, hospital associations, and

[4-1] Daw JR, Hatfield LA. Matching and Regression to the Mean in Difference-in-Differences Analysis. *Health Serv Res*. 2018 Dec;53(6):4138-4156. doi: 10.1111/1475-6773.12993. Epub 2018 Jun 29. PMID: 29957834; PMCID: PMC6232412.

pharmacy boards. The variety of data sources for this evaluation is a major strength as it allows the State to uniquely answer research questions that might not otherwise be possible with administrative data.

While using numerous data sources in this Interim Evaluation Report is a desirable strength, each source has weaknesses as well which are important to understand within the context of the evaluation. For example, the claims/encounter data used to calculate performance metrics are generated as part of the billing process for Medicaid and, as a result, may not be as complete or sensitive for identifying specific healthcare processes and outcomes as may be expected from a thorough review of a patient's medical chart.[4-3] This weakness may be mitigated in part if the lack of sensitivity in the claims/encounter data remains relatively stable over time and if the measures calculated from these data follow trends consistent with the underlying processes and outcomes of interest. The additional data sources had their own unique challenges. For example, the MCO report data files varied in terms of data elements reported from year to year; this may have been due to changes in the reporting template, making it unclear whether the data provided were reflecting a true change to the measure or merely an artifact of reporting. These data were provided to HSAG as reported by each MCO, and thus could not be confirmed or independently validated.

Methods

The methodology used in the Interim Evaluation Report comprises a mix of ITS, DiD, trend analyses, and descriptive analyses. Excluding descriptive analyses, the results give the reader an understanding of whether the measures exhibited statistically significant changes after Centennial Care 2.0 was implemented.

When data are available for multiple time points during the baseline period and evaluation period, an ITS design offers a robust quasi-experimental approach for evaluating treatment effects. The strength of a single group ITS lies in its adjustment of underlying trends in the baseline period as well as the ability to control for confounding factors such as seasonality. However, without a valid comparison group, the internal validity of a single group ITS analysis is threatened, as other policies or interventions may affect the outcome simultaneous with Centennial Care 2.0, resulting in biased conclusions about the impact of the Demonstration.[4-2] Where possible, a comparison population was used in the ITS analysis to control for concurrent changes. Furthermore, in time series analyses, repeated observations of the outcome taken both before and after the intervention allows for the construction of an estimated counterfactual trend during the evaluation period. The counterfactual is based on a projection of the underlying trend in the baseline period into the evaluation period. Power in ITS depends on the number and distribution of data points before and after the intervention, among other factors; when there are few data points during either the baseline or evaluation period, the results should be interpreted with caution.[4-3,4-4] It is possible that too few data points may have impacted the analysis; in particular, annual measures analyzed using ITS included four data points during the baseline period and three data points during the evaluation period and may not allow for accurate representations of trends in the data.

For the Health Home program population and the population of members receiving peer support services, the use of a DiD approach was taken, and a proper comparison group was identified. The results from this analysis allow

4-2 Becker Friedman Institute. Testing the Validity of the Single Interrupted Time Series Design. Available at: https://bfi.uchicago.edu/wp-content/uploads/BFI_WP_201997.pdf. Accessed on July 5, 2022.

4-3 Hategeka C, Ruton H, Karamouzian M, et al. Use of interrupted time series methods in the evaluation of health system quality improvement interventions: a methodological systematic review. BMJ Glob Health. 2020 Oct;5(10):e003567. doi: 10.1136/bmjgh-2020-003567. PMID: 33055094; PMCID: PMC7559052.

4-4 Bernal JL, Cummins S, Gasparrini A. Interrupted time series regression for the evaluation of public health interventions: a tutorial. Int J Epidemiol. 2017 Feb 1;46(1):348-355. doi: 10.1093/ije/dyw098. Erratum in: Int J Epidemiol. 2020 Aug 1;49(4):1414. PMID: 27283160; PMCID: PMC5407170.

the reader to draw stronger conclusions about program impacts because the members participating in a Health Home or receiving peer support services are compared to similar members who did not participate in a Health Home or receive peer support services. However, a fundamental assumption of the DiD analysis is that the trends between the intervention and comparison group are parallel prior to implementation of the program. By identifying baseline trends in the outcomes, the parallel trends assumption can be directly tested and controlled for if not satisfied. To be included in the DiD analysis, the same group of members are followed from the baseline period to the evaluation period. The baseline period should be close in time to the start of Centennial Care 2.0 in January 2019 to maximize the number of members enrolled during both periods. Choosing a baseline period far removed from the start of Centennial Care 2.0 would result in a greater number of members who were not enrolled in Medicaid during both time periods due to the relatively high rate of enrollment and disenrollment patterns among the Medicaid population. These members would consequently be excluded from the DiD analysis. Due to ramp-up effects of the first year of Health Home implementation, as well as the county-by-county phased nature of program roll-out, the first year of the Health Home Program would not provide an accurate measurement of its performance from which to base an evaluation. As a result, measures based on administrative data are evaluated based on a single year of baseline data. With only one pre-intervention data point, the parallel trends assumption cannot be tested. To the extent the Health Home and non-Health Home groups had different pre-intervention trends, the results would be biased.

Another limitation of the methods used in this report is associated with the trend analysis comparing performance measure rates in each evaluation year to the projected rate obtained from the baseline trend. While this analysis takes advantage of the multiple baseline years to obtain a trend projection into the evaluation period, the comparison may become less meaningful for measures wherein the baseline trend exhibited very large increases or decreases, and when a baseline measure rate is nearly zero. The comparison in this analysis is based on an assumption that the baseline trend would continue during the evaluation period if the Demonstration program was not implemented. For measures with steep baseline trends, this assumption is unlikely to hold, making the resulting comparison less informative. Additionally, when measure rates are nearly zero, then small absolute changes in the rate represent large relative changes because the measure rate is low. For these measures, projections in the evaluation period rise more quickly than may otherwise be expected, and the comparison of observed to projected rates becomes less informative.

In contrast, for some measures, only a descriptive comparison of measure rates during the baseline period to rates during the evaluation period was possible, and thus highlights a primary limitation in the inability to draw causal inferences. A descriptive analysis does not provide a sufficiently strong comparison group to definitively conclude whether the Centennial Care 2.0 Demonstration caused changes in the measure rates, as it does not attempt to isolate the impact of the Demonstration on measured outcomes. Other factors outside of the Demonstration may have contributed to changes in measure rates, such as the COVID-19 PHE, changes in coding and reporting practices in the claims/encounter data, and changes in prescribing practices for opioids. The forthcoming Summative Evaluation Report will seek to establish a causal link between the implementation of the Demonstration and changes in outcomes.

A final limitation of the methodology is associated with its ability to speak to why specific measures may have improved, worsened, or remain unchanged. The statistical analysis performed in this Interim Evaluation Report characterizes the direction, magnitude, and statistical significance of measure rate changes. As this evaluation did not include any qualitative components such as interviews with stakeholders or MCOs, the ability to explain why specific measures changed in the ways that they did is limited. Therefore, the causes of changes in specific measure rates, or the lack thereof, cannot be identified.

5. Results

The following section details measure results by research question and related hypotheses for the Centennial Care 2.0 Demonstration Waiver. This interim report provides results from the baseline period and first two years of the evaluation period. Details on the measure definitions and specifications can be found in Appendix C.

Results Summary

Findings for each measure are summarized generally by two criteria:

1. The measure directly addresses the hypothesis.
2. The measure does not directly address the hypothesis, and instead provides descriptive or contextual information.

Depending on the analytic approach utilized, measures that directly address the hypothesis can provide sufficient evidence to *support the hypothesis* or *fail to support the hypothesis*. If available data and/or the analytic approach used cannot draw these conclusions, a measure may neither support nor fail to support the hypothesis.

Measures that do not directly address the hypothesis but provide contextual information related to the hypothesis may be deemed *consistent with the hypothesis* or *inconsistent with the hypothesis*. Although the measure cannot provide direct evidence relating to the veracity of the hypothesis, the results may be in alignment with the hypothesis (i.e., consistent with the hypothesis) or not be in alignment with the hypothesis (i.e., inconsistent with the hypothesis).

Measures for which there are currently not enough data to draw a conclusion are classified as *N/A*.

Aim One: Continue the use of appropriate services by members to enhance member access to services and quality of care

Hypothesis 1: Continuing to expand access to Long-Term Support Services and Supports (LTSS) and maintaining the progress achieved through rebalancing efforts to serve more members in their homes and communities will maintain the number of members accessing Community Benefit (CB) services.

Research Question 1: Has the number of members accessing CB services been maintained year-over-year?

Number of Centennial Care Members Enrolled and Receiving CB Services (Measure 1)

Measure 1 assesses whether the number of members accessing CB services has been maintained. Table 5-1 shows the number of CB members remained fairly steady after increases in 2014 and 2015.

Table 5-1—Number of Centennial Care Members Enrolled and Receiving CB Services (Measure 1)

Year	Number of CB Members	Change From Previous Year	Percent Change From Previous Year
2013	3,363	-	-
2014	25,556	22,193	659.9%
2015	29,735	4,179	16.4%
2016	31,038	1,303	4.4%

Year	Number of CB Members	Change From Previous Year	Percent Change From Previous Year
2017	30,984	-54	-0.2%
2018	29,251	-1,733	-5.6%
2019	29,712	461	1.6%
2020	30,338	626	2.1%
2021	31,139	801	2.6%

The average change from the previous year from 2016 onward was less than 1 percent, with a notable decrease in 2018 driven by a decline in membership of two MCOs who left Centennial Care in 2019. However, this decrease was partially offset by increases in most years between 2016 and 2021, supporting the hypothesis that the number of beneficiaries accessing CB services has been maintained, following an increase shortly after the introduction of Centennial Care in 2014.

Measure 1 Conclusion: Supports the hypothesis

Hypothesis 2: Promoting participation in a Health Home will result in increased member engagement with a Health Home and increase access to integrated physical and behavioral healthcare in the community.

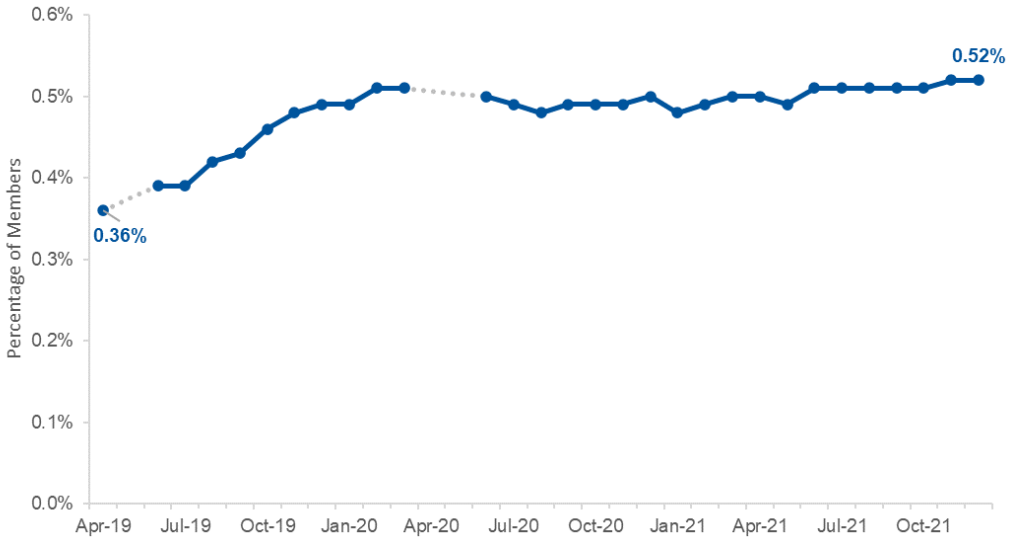
Research Question 1: Is there an increase in the number/percentage of members enrolled in a Health Home?

Percentage of Centennial Care Members Enrolled in a Health Home (Measure 2)

Measure 2 presents the number and percentage of Centennial Care members enrolled in a Health Home to determine if increased promotion in Health Home participation trends with an increase in the percentage of Centennial Care members who are enrolled in a Health Home. To assess this measure, the percentage of Centennial Care members enrolled in managed care who are enrolled in a Health Home was calculated. Overall, the percentage rose from 0.36 percent in April 2019 to 0.52 percent in December 2021. Most of the increase occurred in 2019 when the percentage rose from 0.36 percent in April 2019 to 0.49 percent in December 2019. Starting in January 2020, the percentage remained steady between 0.48 percent and 0.52 percent through December 2021. No Health Home enrollment data were available for January 2019–March 2019, May 2019, and April 2020–May 2020.

Figure 5-1 shows the monthly percentage of Centennial Care members enrolled in managed care who are enrolled in a Health Home. Table A-2 in Appendix A contains the number of Centennial Care members enrolled in a Health Home.

Figure 5-1—Percentage of Centennial Care Members Enrolled in a Health Home, 2019–2021 (Measure 2)



Measure 2 Conclusion: Supports the hypothesis

Research Question 2: Is the proportion of members engaged in a Health Home receiving any physical health (PH) services higher than those not engaged in a Health Home?

Number/Percentage of Health Home Members with at Least One (1) Claim for PH Service in the Calendar Year (Measure 3)

Measure 3 is evaluated through a difference-in-difference (DiD) analysis. For each evaluation year (2019-2021) the Health Home intervention group was matched with non-Health Home members and baseline rates from 2017 (prior to expansion of the Health Home Program) were used to compare against rates in the evaluation year. Due to changing populations across evaluation years, the number of members included in the baseline period will vary slightly.

Table 5-2 shows that during the 2017 baseline period, approximately 96 percent of Health Home and non-Health Home members had a claim (or encounter) for a PH service. During each evaluation year, the rate increased to nearly 100 percent among Health Home members while it dropped to approximately 91 to 92 percent among non-Health Home members, depending on the year. This suggests that enrollment in a Health Home contributed to a statistically significant increase in member utilization of PH services. Members in the Health Home group were matched to members in the non-Health Home group using a propensity score model which included member demographics, predominant county of residence during the evaluation year, and morbidities present at baseline (see Propensity Score-Based Matching Methodology for more information in Appendix A).

Table 5-2—Number/Percentage of Health Home Members With at Least One Claim for PH Service in the Calendar Year (Measure 3)

Evaluation Year	Group	Regression Adjusted Rates			
		Time Period[1]		Change[2]	Health Home Impact (p-Value)
		Baseline	Evaluation Year		
2019	Health Home	96.2% N=2,227	99.9% N=2,227	3.7p.p.	7.9p.p. (<0.001)
	Non-Health Home	96.5% N=2,227	92.4% N=2,227	-4.2p.p.	
2020	Health Home	96.1% N=2,908	99.8% N=2,908	3.6p.p.	9.2p.p. (<0.001)
	Non-Health Home	96.3% N=2,908	90.7% N=2,908	-5.6p.p.	
2021	Health Home	96.2% N=3,165	99.5% N=3,165	3.3p.p.	8.7p.p. (<0.001)
	Non-Health Home	96.1% N=3,165	90.7% N=3,165	-5.4p.p.	

[1]Note: N represents the denominator count.
[2]p.p.=percentage point

Measure 3 Conclusion: Supports the hypothesis

Hypothesis 3: Enhanced care coordination supports integrated care interventions, which lead to higher levels of access to preventive/ambulatory health services.

Research Question 1: Is there an increase in Centennial Care members who have at least one claim for preventive/ambulatory care in a year?

Adults' Access to Preventive/Ambulatory Health Services (AAP) (Measure 4a)

To determine the impact that Centennial Care 2.0 had on the percentage of members receiving preventive/ambulatory care, Health Services Advisory Group, Inc. (HSAG) conducted an interrupted time series (ITS) analysis, controlling for seasonality and the peak coronavirus disease 2019 (COVID-19) public health emergency (PHE)-affected year (2020) on the following measures.[5-1]

- The percentage of members 20 years and older who had an ambulatory or preventive care visit
- The percentage of members 12 months–19 years of age who had a visit with a primary care practitioner (PCP), stratified by the following age groups:
  - 12–24 months
  - 25 months–6 years
  - 7–11 years
  - 12–19 years
- The percentage of members 3–6 years of age who had one or more well-child visits with a PCP during the measurement year Table A-3 contains additional regression results.

5-1 Model projections were calculated using all coefficients from the ITS regression except for the post-intervention indicator and the post-intervention time trend.

Figure 5-2 through Figure 5-7 provide a comparison between the observed rates to the estimated counterfactual (in the absence of Centennial Care 2.0) rates from the ITS analysis. The dashed gray line represents the estimated counterfactual rate. The black line illustrates the national median, where available.

Figure 5-2 shows an overall downward trend in preventive visits throughout the baseline and evaluation periods, falling from a high of 78.5 percent in 2015 to 73.8 percent in 2021. The national median also exhibited a slight downward trend during the same period before falling in 2020 due to the COVID-19 PHE, which included a temporary state-directed limitation on the provision of certain non-essential health care services.[5-2] The rate among New Mexico members remained consistently below the national median throughout the baseline and evaluation periods. Statistical testing results presented in Table 5-3 show that the decrease in the annual trend of 1.1 percentage points following Centennial Care 2.0 was not statistically significant. Similarly, the level change in 2019 at time of implementation was not statistically significant. Table A-3 contains additional regression results.

Figure 5-2—Adults' Access to Preventive/Ambulatory Health Services (AAP)—Centennial Care Population Observed Rates Compared to ITS Model Projections (Measure 4a)

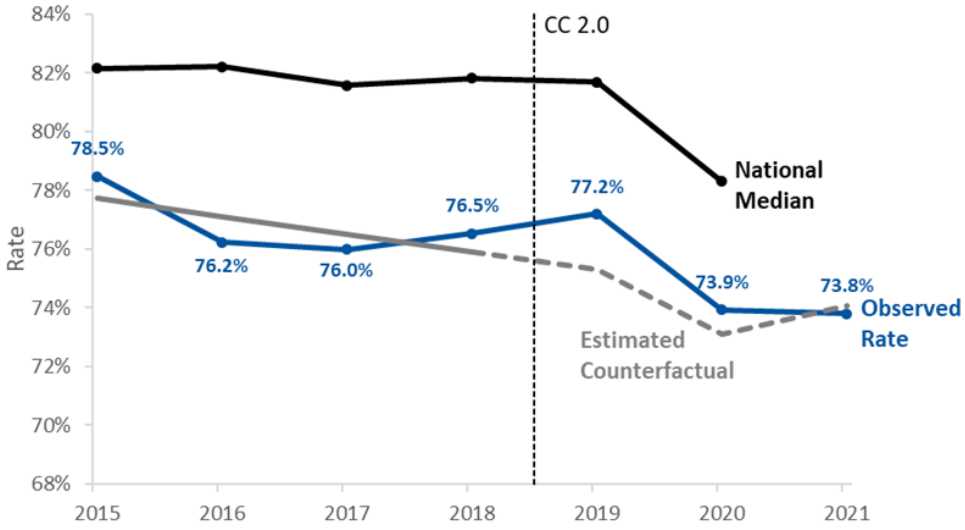


Table 5-3—Adults' Access to Preventive/Ambulatory Health Services (AAP)—Centennial Care Population Primary ITS Model Results[1] (Measure 4a)

Variable	Estimate[2]	p-Value
Intercept	77.7%	<0.001***
Pre- Centennial Care (CC) 2.0 annual trend	-0.6p.p.	0.307
Level change at implementation	3.0p.p.	0.236
Change in annual trend	-1.1p.p.	0.323

*p< 0.1, **p < 0.05, ***p<0.001

[1]Note: Full model results are presented in Appendix A.

[2]p.p. = percentage point

5-2 New Mexico Department of Health. March 23 Public Health Order FAQs. Available at: https://www.env.nm.gov/wp-content/uploads/sites/18/2020/03/FAQS_-stay-at-home-instruction-3.pdf. Accessed on Sept 19, 2022.

Measure 4a Conclusion: Neither supports nor fails to support the hypothesis

Children and Adolescents' Access to Primary Care Practitioners (CAP) (Measure 5a)

Due to differing measure specifications by age, results are reported by four separate age groups for children and adolescents' access to PCPs (CAP).

12–24 months

Figure 5-3 and Table 5-4 show that the rate of child primary care visits (ages 12-24 months) in the pre-Centennial Care 2.0 period steadily increased by 0.7 percent per year. However, the observed rates following Centennial Care 2.0 implementation in 2019 remained high in 2019 before falling in 2020 and 2021. Although no national data were available for 2020 and beyond due to the measure being retired, this decline is likely driven by the COVID-19 PHE. Even after controlling for the initial impacts of COVID-19 in 2020, the trend following Centennial Care 2.0 decreased by 2.3 percentage points per year, which is statistically significant at the 0.05 level. Since the COVID-19 PHE was officially still in effect beyond 2020 it is possible the observed decline in 2021 was partially driven by the PHE. Although every attempt was made to control for the impacts of the COVID-19 PHE, the precipitous and sustained drop in 2020 suggests that the PHE, rather than Centennial Care 2.0, had a significant and lasting impact on the access to care for children 12–24 months of age. Table A-4 in Appendix A contains additional regression results for children 12-24 months.

Figure 5-3—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Centennial Care Population, Observed Rates Compared to ITS Model Projections, 12–24 Months (Measure 5a)

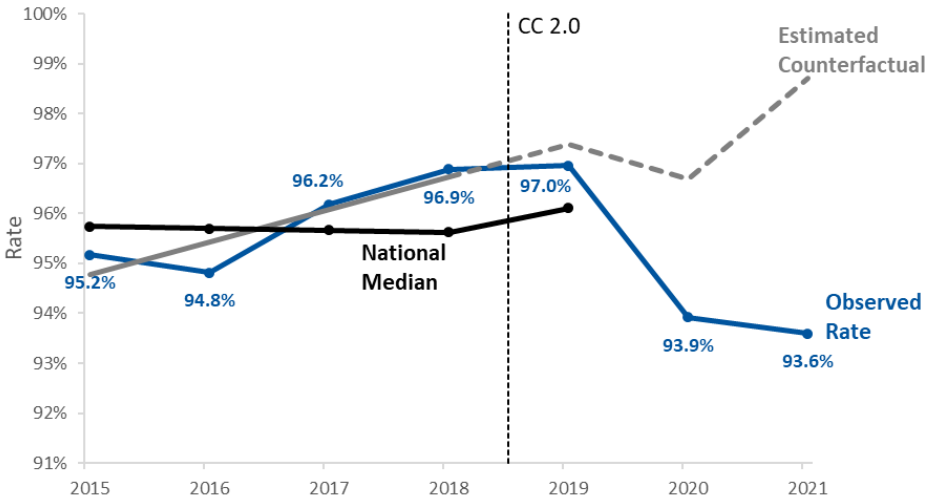


Table 5-4—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Centennial Care Population, Primary ITS Model Results[1], 12–24 Months (Measure 5a)

Variable	Estimate[2]	p-Value
Intercept	94.8%	<0.001***
Pre-Centennial Care (CC) 2.0 annual trend	0.7p.p.	0.111
Level change at implementation	1.9p.p.	0.184
Change in annual trend	-2.3p.p.	0.034**

*p< 0.1, **p < 0.05, ***p<0.001
[1]Note: Full model results are presented in Appendix A.
[2]p.p.=percentage point

25 months–6 years

Similar to the rate of primary care visits among children 12–24 months, Figure 5-4 and Table 5-5 show that the rate among children ages 25 months to 6 years increased on average by 0.6 percentage points during the pre-Centennial Care 2.0 period. Although no national data were available for 2020 and beyond due to the measure being retired, the sharp decline starting in 2020 was almost certainly driven by the COVID-19 PHE. Even after controlling for the initial impacts of COVID-19 in 2020, the trend following Centennial Care 2.0 decreased by 3.9 percentage points per year, which is statistically significant at the 0.1 level. Since the COVID-19 PHE was officially still in effect beyond 2020 it is possible the observed decline in 2021 was partially driven by the PHE. Although every attempt was made to control for the impacts of the COVID-19 PHE, the precipitous drop in 2020 with only a small recovery in 2021 suggests that the PHE, rather than Centennial Care 2.0, had a significant and lingering impact on the access to care for children 25 months to 6 years of age. Table A-5 contains additional regression results for children aged 25 months–six years.

Figure 5-4—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Centennial Care Population, Observed Rate Compared to ITS Model Projections, 25 Months–6 Years (Measure 5a)

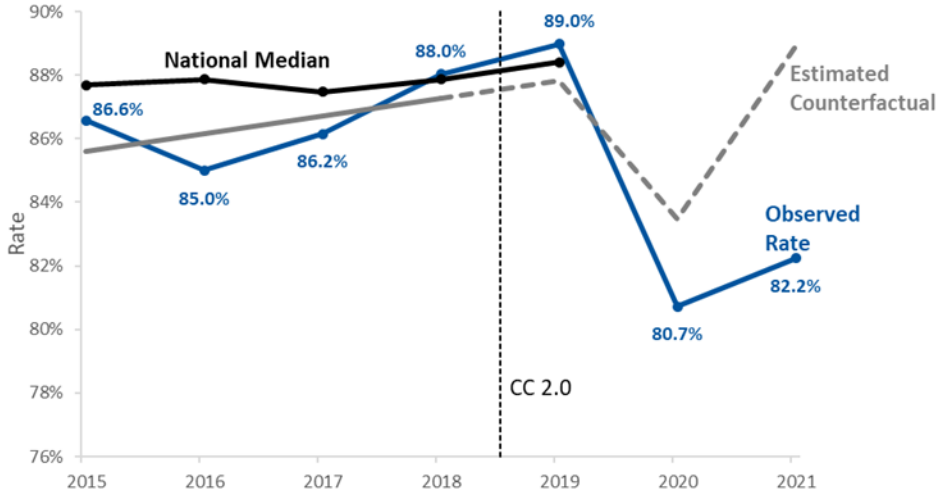


Table 5-5—Children and Adolescents' Access to Primary Care Practitioners (CAP)—CC Population, Primary ITS Model Results[1], 25 Months–6 Years (Measure 5a)

Variable	Estimate[2]	p-Value
Intercept	85.6%	<0.001***
Pre-CC 2.0 annual trend	0.6p.p.	0.433
Level change at implementation	5.1p.p.	0.154
Change in annual trend	-3.9p.p.	0.066*

*p< 0.1, **p < 0.05, ***p<0.001
[1]Note: Full model results are presented in Appendix A.
[2]p.p.=percentage point

7–11 years

Figure 5-5 and Table 5-6 show the rate of children's primary care visits among those ages 7–11 years had dropped for one year but began increasing until it had reached the national median during the pre-Centennial Care 2.0 period. The rate continued to increase into 2019 upon implementation of Centennial Care 2.0. However, the rate fell in 2020 and fell further in 2021, likely due to the COVID-19 PHE, with a decrease in the trend of 2.5 percentage points per year. Although every attempt was made to control for the impacts of the COVID-19 PHE, the decrease that began in 2020 and continued into 2021 suggests that the PHE, rather than Centennial Care 2.0, had a significant and lingering impact on the access to care for children 7 to 11 years of age. Table A-6 contains additional regression results for children aged seven to 11 years.

Figure 5-5—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Centennial Care Population, Observed Rate Compared to ITS Model Projections, 7–11 Years (Measure 5a)

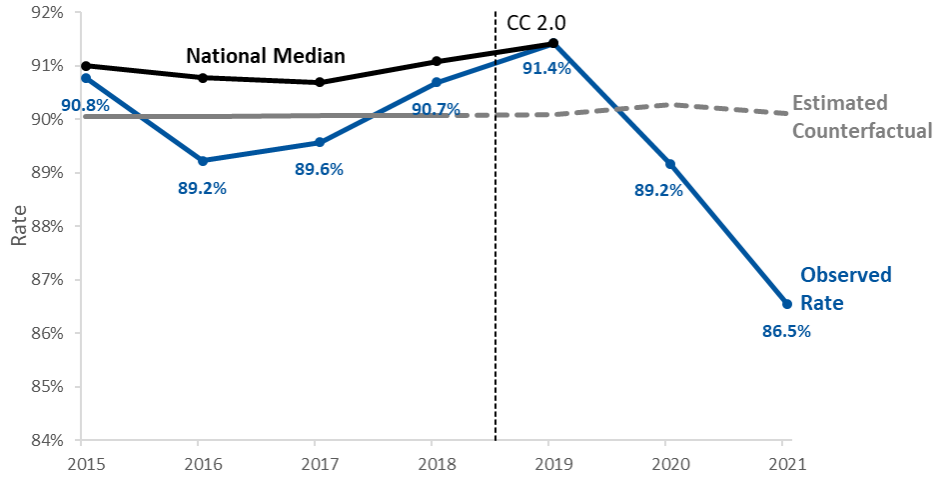


Table 5-6—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Centennial Care Population, Primary ITS Model Results[1], 7–11 Years (Measure 5a)

Variable	Estimate[2]	p-Value
Intercept	90.0%	<0.001***
Pre-CC 2.0 annual trend	0.0p.p.	0.985
Level change at implementation	3.8p.p.	0.159
Change in annual trend	-2.5p.p.	0.093*

*p< 0.1, **p < 0.05, ***p<0.001
[1]Note: Full model results are presented in Appendix A.
[2]p.p.=percentage point

12–19 years

Similar to the rate of primary care visits among children ages 7–11 years, the rate among children and adolescents ages 12–19 years exhibited similar rates and trends, with a decrease in the trend of 2.3 percentage points per year in the post-Centennial Care 2.0 period relative to the pre-Centennial Care 2.0 trend as demonstrated in Figure 5-6 and Table 5-7. Although every attempt was made to control for the impacts of the COVID-19 PHE, the precipitous drop that began in 2020 and continued into 2021 suggests that the PHE, rather than Centennial Care 2.0, had a significant and lingering impact on the access to care for children 12 to 19 years of age. Table A-7 contains additional regression results for children aged 12 to 19 years.

Figure 5-6—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Centennial Care Population, Observed Rate Compared to ITS Model Projections, 12–19 Years (Measure 5a)

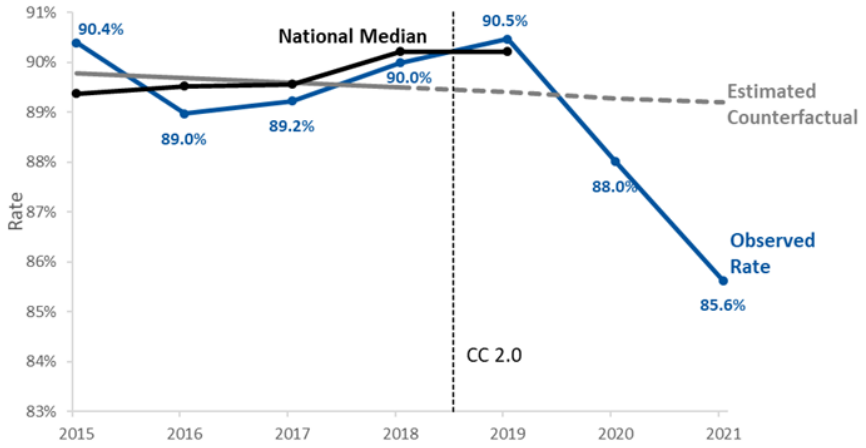


Table 5-7—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Centennial Care Population, Primary ITS Model Results[1], 12–19 Years (Measure 5a)

Variable	Estimate[2]	p-Value
Intercept	89.8%	<0.001***
Pre-CC 2.0 annual trend	-0.1p.p.	0.811
Level change at implementation	3.4p.p.	0.141
Change in annual trend	-2.3p.p.	0.074*

*p< 0.1, **p < 0.05, ***p<0.001
[1]Note: Full model results are presented in Appendix A.
[2]p.p.=percentage point

Measure 5a Conclusion: Does not support the hypothesis.

Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life (W34) (Measure 6)

Figure 5-7 and Table 5-8 show that the rate of well child visits for children ages 3 to 6 remained below the national median throughout the baseline period, prior to implementation of Centennial Care 2.0. Table 5-8 shows that after controlling for the initial impacts of COVID-19 in 2020, there was no significant change in either the level or the trend of the rate following implementation of Centennial Care 2.0. The rate increased to 61.9 percent in 2019 before declining to 52.3 percent in 2020 and returning to 59.4 percent in 2021. The observed rates in 2019 and 2020 were also higher than the projected rates, but the change in the level at implementation was not statistically significant. The drop in the rate during 2020 was likely the result of the COVID-19 PHE. The impact of the PHE may have held the rate down in 2021, however, insufficient data are available at this time to disentangle PHE impacts from the impact of Centennial Care 2.0. Table A-8 contains additional regression results for well-child visits.

Figure 5-7—Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life (W34), Observed Rates Compared to ITS Model Projections (Measure 6)

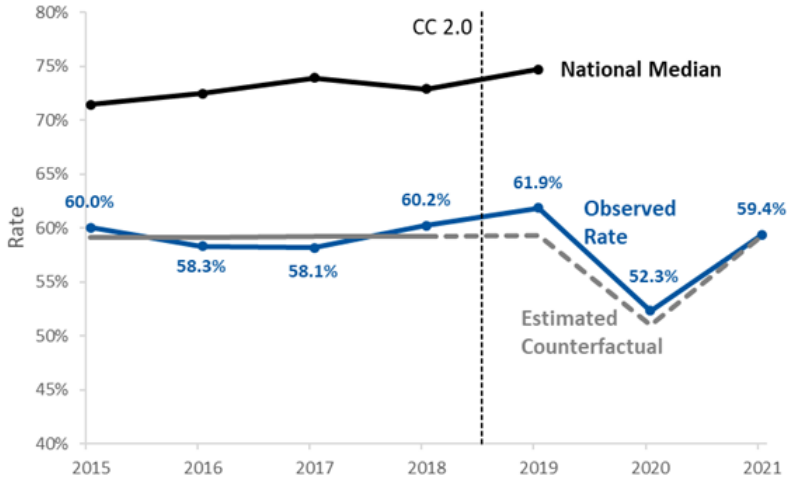


Table 5-8—Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life (W34), Primary ITS Model Results[1] (Measure 6)

Variable	Estimate[2]	p-Value
Intercept	59.1%	<0.001***
Pre-CC 2.0 annual trend	0.0p.p.	0.959
Level change at implementation	3.9p.p.	0.250
Change in annual trend	-1.3p.p.	0.375

*p< 0.1, **p < 0.05, ***p<0.001
[1]Note: Full model results are presented in Appendix A.
[2]p.p.=percentage point

Measure 6 Conclusion: Neither supports nor fails to support the hypothesis.

Research Question 2: Does engagement in a Health Home result in beneficiaries receiving more ambulatory/preventive health services?

Adults' Access to Preventive/Ambulatory Health Services (AAP)—Health Home Population (Measure 4b)

To assess the impact of the Health Home Program on rates of ambulatory/preventive health service visits, DiD analysis was used to evaluate the following measures:

- Adults' access to preventive/ambulatory health services (AAP)
- Children and adolescents' access to primary care practitioners (CAP)

Measures 4b and 5b were evaluated through a DiD analysis. For each evaluation year (2019–2021) the Health Home intervention group was matched with non-Health Home members, and baseline rates from 2017 (prior to expansion of the Health Home Program) were used to compare against rates in the evaluation year. Due to changing populations across evaluation years, the number of members included in the baseline period will vary slightly.

Rates of adults' access to preventive ambulatory health services increased significantly for those participating in a Health Home compared to the change in the non-Health Home group over the same time period. The change in rates among Health Home members was approximately 10 percent greater than expected given the change among non-Health Home members in each evaluation year. Overall, the rate increases ranged from 3.3 percentage points to 5.0 percentage points in the evaluation years for the Health Home group while the rate decreases ranged from 4.0 percentage points to 6.9 percentage points for the non-Health Home group (Table 5-9). Table A-9 contains additional regression results.

Table 5-9—Adults' Access to Preventive/Ambulatory Health Services (AAP)—Health Home Population (Measure 4b)

Evaluation Year	Group	Regression Adjusted Rates			
		Time Period[1]		Change[2]	Health Home Impact (p-Value)
		Baseline	Evaluation		
2019	Health Home	90.0% *N=1,463*	94.9% *N=1,420*	5.0p.p.	9.0p.p. (<0.001)
	Non-Health Home	90.9% *N=1,492*	86.8% *N=1,292*	-4.0p.p.	
2020	Health Home	88.3% *N=1,784*	91.6% *N=1,787*	3.3p.p.	10.2p.p. (<0.001)
	Non-Health Home	89.8% *N=1,769*	82.9% *N=1,732*	-6.9p.p.	
2021	Health Home	89.3% *N=1,774*	93.3% *N=1,878*	3.9p.p.	10.8p.p. (<0.001)
	Non-Health Home	89.6% *N=1,737*	82.7% *N=1,858*	-6.9p.p.	

[1]Note: N represents the denominator count.
[2]p.p.=percentage point

Measure 4b Conclusion: Supports the hypothesis.

Children and Adolescents' Access to Primary Care Practitioners (CAP)—Health Home Population (Measure 5b)

Table 5-10 shows the rate of children and adolescents' access to PCPs increased among Health Home members compared to the change for the non-Health Home members between the baseline period and each evaluation year. These differences were significant for the 2020 and 2021 evaluation years. Health Home participation impacted the rate by 1.3 percentage points in 2019, but that impact increased to 6.7 percentage points and 6.1 percentage points in 2020 and 2021, respectively. While the rate increases ranged from 1.2 percentage points to 2.8 percentage points between each baseline and evaluation year for the Health Home group, the decline in the rate of children and adolescents' access to PCPs declined for the non-Health Home ranged from 0.1 percentage points to 4.6 percentage points each year. Table A-10 contains additional regression results.

Table 5-10—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Health Home Population (Measure 5b)

Evaluation Year	Group	Regression Adjusted Rates			
		Time Period[1]		Change[2]	Health Home Impact (p-Value)
		Baseline	Evaluation		
2019	Health Home	95.4% *N=710*	96.5% *N=636*	1.2p.p.	1.3p.p. (0.380)
	Non-Health Home	93.9% *N=686*	93.8% *N=564*	-0.1p.p.	
2020	Health Home	95.0% *N=1,047*	97.9% *N=944*	2.8p.p.	6.7p.p. (<0.001)
	Non-Health Home	94.9% *N=1,053*	91.0% *N=900*	-3.9p.p.	
2021	Health Home	95.5% *N=1,301*	97.0% *N=1,115*	1.5p.p.	6.1p.p. (<0.001)
	Non-Health Home	93.8% *N=1,324*	89.2% *N=1,056*	-4.6p.p.	

[1]Note: N represents the denominator count. Although CAP was retired in HEDIS MY 2020, all CAP rates are generated using the HEDIS 2020 (MY 2019) specifications.
[2]p.p.=percentage point

Measure 5b Conclusion: Supports the hypothesis.

Hypothesis 4: Engagement in a Health Home and care coordination support integrative care interventions, which improve quality of care.

To assess the impact of the Health Home Program on quality of care, DiD analysis was used to evaluate the following measures:

- Diabetes screening for members with schizophrenia or bipolar disorder who are using antipsychotic medications (SSD)
- Anti-depressant medication management (AMM) Effective Acute Phase Treatment
- Anti-depressant medication management (AMM) Effective Continuation Phase Treatment
- 7-day follow up after hospitalization for mental illness (FUH)
- 30-day follow up after hospitalization for mental illness (FUH)

Measures 7 through 11 were evaluated through a DiD analysis. For each evaluation year (2019–2021) the Health Home intervention group was matched with non-Health Home members and baseline rates from 2017 (prior to

expansion of the Health Home Program) were used to compare against rates in the evaluation year. Due to changing populations across evaluation years, the number of members included in the baseline period will vary slightly.

Research Question 1: To what extent is Health Home engagement associated with improved disease management?

Diabetes Screening for Members with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications (SSD)—Health Home Population (Measure 7)

No statistically significant differences in the change in rates were observed between the Health Home and non-Health Home groups related to diabetes screening for members with schizophrenia or bipolar disorder who are using antipsychotic medications. In 2019, rates for the Health Home group declined by 3.3 percent and increased by 3.0 percent for the non-Health Home group. Diabetes screening rates for members with schizophrenia or bipolar disorder who are using antipsychotic medications declined from baseline to 2020 for both the Health Home and non-Health Home group by 7.4 percentage points and 7.9 percentage points, respectively. Healthcare Effectiveness Data and Information Set (HEDIS)®[5-3] benchmarks saw a similar decline of 5 percentage points from 2019 to 2020, indicating a possible COVID-19 impact. Rates remained steady between the baseline and evaluation periods for the 2021 Health Home and non-Health Home groups (Table 5-11). Table A-11 contains additional regression results.

Table 5-11—Diabetes Screening for Members with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications (SSD) (Measure 7)

Evaluation Year	Group	Regression Adjusted Rates			
		Time Period[1]		Change[2]	Health Home Impact (p-Value)
		Baseline	Evaluation		
2019	Health Home	79.8% *N=248*	76.6% *N=299*	-3.3p.p.	-6.3p.p. (0.306)
	Non-Health Home	79.9% *N=164*	82.9% *N=111*	3.0p.p.	
2020	Health Home	81.4% *N=279*	73.9% *N=345*	-7.4p.p.	0.4p.p. (0.876)
	Non-Health Home	83.5% *N=158*	75.7% *N=111*	-7.9p.p.	
2021	Health Home	80.7% *N=270*	81.7% *N=388*	1.0p.p.	1.8p.p. (0.754)
	Non-Health Home	82.7% *N=168*	81.9% *N=105*	-0.8p.p.	

[1]Note: N represents the denominator count.
[2]p.p.=percentage point

Measure 7 Conclusion: Neither supports nor fails to support the hypothesis.

Anti-Depressant Medication Management (AMM) Effective Acute Phase Treatment—Health Home Population (Measure 8)

The change in the percentage from baseline of Health Home members who remained on an antidepressant medication for at least 84 days was not statistically different from the non-Health Home group for any of the evaluation years. Table 5-12 show that while rates in 2019 declined for both groups, the Health Home group rate

5-3 HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

fell by 0.7 percentage points compared to 6.8 percentage points for the non-Health Home group. In 2020, the change in rates among Health Home members was approximately 6.5 percentage points less than expected given the change among non-Health Home members. The Health Home group saw a 10.4 percentage point increase from baseline to 2021 while the non-Health Home group saw an increase of 8.5 percentage points. Table A-12 contains additional regression results.

Table 5-12—Anti-Depressant Medication Management (AMM) Effective Acute Phase Treatment (Measure 8)

Evaluation Year	Group	Regression Adjusted Rates			
		Time Period[1]		Change[2]	Health Home Impact (p-Value)
		Baseline	Evaluation		
2019	Health Home	41.4% *N=133*	40.6% *N=197*	-0.7p.p.	6.1p.p. (0.498)
	Non-Health Home	45.2% *N=146*	38.4% *N=73*	-6.8p.p.	
2020	Health Home	41.0% *N=173*	42.5% *N=259*	1.4p.p.	-6.5p.p. (0.411)
	Non-Health Home	41.6% *N=178*	49.5% *N=103*	7.9p.p.	
2021	Health Home	41.2% *N=170*	51.6% *N=219*	10.4p.p.	1.9p.p. (0.811)
	Non-Health Home	48.2% *N=166*	56.7% *N=97*	8.5p.p.	

[1]Note: N represents the denominator count.
[2]p.p.=percentage point

Measure 8 Conclusion: Neither supports nor fails to support the hypothesis.

Anti-Depressant Medication Management (AMM) Effective Continuation Phase Treatment – Health Home Population (Measure 9)

Similar to Measure 8, Table 5-13 shows that the change in the percentage of Health Home members who remained on an antidepressant medication for at least 180 days was not statistically different from the non-Health Home group for any of the evaluation years. Directionality of the rate change was inconsistent across evaluation years for both groups. The Health Home group had a decrease in the change in rate in 2019 of 2.2 percentage points from the baseline year before having increases in the change in rates of 1.2 percentage points and 3.4 percentage points in 2020 and 2021 from the baseline, respectively. The non-Health Home group decreased by 8.9 percentage points and 4.9 percentage points from the baseline in 2019 and 2020, respectively. Rates increased from the baseline by 6.2 percentage points for the non-Health Home group in 2021. Table A-13 contains additional regression results.

Table 5-13—Anti-Depressant Medication Management (AMM) Effective Continuation Phase Treatment (Measure 9)

Evaluation Year	Group	Regression Adjusted Rates			
		Time Period[1]		Change[2]	Health Home Impact (p-Value)
		Baseline	Evaluation		
2019	Health Home	24.1% *N=133*	21.8% *N=197*	-2.2p.p.	6.7p.p. (0.416)
	Non-Health Home	29.5% *N=146*	20.5% *N=73*	-8.9p.p.	
2020	Health Home	24.3%	25.5%	1.2p.p.	6.1p.p.

Evaluation Year	Group	Regression Adjusted Rates Time Period[1] Baseline	Evaluation	Change[2]	Health Home Impact (p-Value)
		N=173	*N=259*		(0.382)
	Non-Health Home	29.2% *N=178*	24.3% *N=103*	-4.9p.p.	
2021	Health Home	27.6% *N=170*	31.1% *N=219*	3.4p.p.	-2.8p.p. (0.685)
	Non-Health Home	24.7% *N=166*	30.9% *N=97*	6.2p.p.	

[1]Note: N represents the denominator count.
[2]p.p.=percentage point

Measure 9 Conclusion: Neither supports nor fails to support the hypothesis.

Research Question 2: Does Health Home engagement result in increased follow up after hospitalizations for mental illness?

7-Day Follow Up After Hospitalization for Mental Illness (FUH)—Health Home Population (Measure 10)

The rates of 7-day follow up after hospitalizations for mental illness either decreased or remained steady for each evaluation period. Overall, the change in rates among the Health Home group was higher than the change in rates in the non-Health Home group. The change in rates among Health Home members was 4.1 percentage points, 3.0 percentage points, and 4.4 percentage points higher than expected given the change among non-Health Home members in 2019, 2020, and 2021, respectively; however, these changes were not statistically significant. Although the Health Home impact was positive in all evaluation years, the results were not statistically significant (Table 5-14). Table A-14 contains additional regression results for this measure.

Table 5-14—7-Day Follow Up After Hospitalizations for Mental Illness (FUH) (Measure 10)

Evaluation Year	Group	Regression Adjusted Rates Time Period[1] Baseline	Evaluation	Change[2]	Health Home Impact (p-Value)
2019	Health Home	41.4% *N=210*	41.1% *N=384*	-0.3p.p.	4.1p.p. (0.587)
	Non-Health Home	32.1% *N=165*	27.7% *N=65*	-4.4p.p.	
2020	Health Home	44.2% *N=258*	39.7% *N=408*	-4.5p.p.	3.0p.p. (0.525)
	Non-Health Home	27.7% *N=191*	20.3% *N=79*	-7.5p.p.	
2021	Health Home	41.6% *N=245*	42.4% *N=484*	0.7p.p.	4.4p.p. (0.581)
	Non-Health Home	37.5% *N=184*	33.8% *N=65*	-3.7p.p.	

[1]Note: N represents the denominator count.
[2]p.p.=percentage point

Measure 10 Conclusion: Neither support nor fail to support the hypothesis.

30-Day Follow-Up After Hospitalization for Mental Illness (FUH)—Health Home Population (Measure 11)

Similar to Measure 10, Table 5-15 shows the change in the percentage of Health Home members with follow up within 30 days after hospitalization for mental illness was not statistically different from the non-Health Home group for any of the evaluation years. Only the non-Health Home group in 2019 had an increase in the rate from baseline; all other time periods evaluated for both groups decreased in the rate of 30-day follow-up after hospitalization for mental illness. In 2019, the change in rate was 7.1 percent lower for the Health Home group and in 2020 and 2021, the change in rate was 5.6 percent and 3.0 percent higher than the non-Health Home group. Table A-15 contains additional regression results.

Table 5-15—30-Day Follow Up After Hospitalization for Mental Illness (FUH) (Measure 11)

Evaluation Year	Group	Regression Adjusted Rates			
		Time Period[1]		Change[2]	Health Home Impact (p-Value)
		Baseline	Evaluation		
2019	Health Home	67.6% *N=210*	63.5% *N=384*	-4.1p.p.	-7.1p.p. (0.381)
	Non-Health Home	57.0% *N=165*	60.0% *N=65*	3.0p.p.	
2020	Health Home	69.8% *N=258*	64.5% *N=408*	-5.3p.p.	5.6p.p. (0.517)
	Non-Health Home	47.6% *N=191*	36.7% *N=79*	-10.9p.p.	
2021	Health Home	69.4% *N=245*	65.9% *N=484*	-3.5p.p.	3.0p.p. (0.753)
	Non-Health Home	60.3% *N=184*	53.8% *N=65*	-6.5p.p.	

[1]Note: N represents the denominator count.
[2]p.p.=percentage point

Measure 11 Conclusion: Neither supports nor fails to support the hypothesis.

Hypothesis 5: Expanding member access to preventive care through the Centennial Home Visiting (CHV) Pilot Program and providing incentives through CR will encourage members to engage in preventive care services.

Research Question 1: Has the percentage of Centennial Care members participating in CR increased?

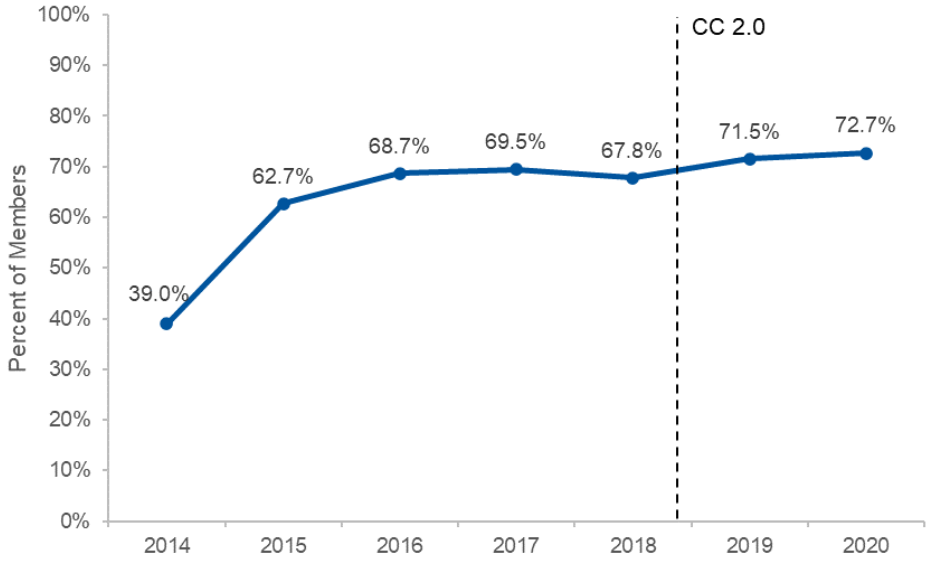
Centennial Rewards (CR) is a rewards program in which all Centennial Care members are enrolled. Participants earn points that can be used to purchase items by completing healthy activities, such as a prenatal care visit, flu shot, or HbA1c test. To participate, members must be engaged through multimedia communications and complete at least one healthy reward activity. To redeem rewards, members must complete a registration process including a health scan; about 30 percent of program participants redeem their rewards. The program was designed to control redemption costs by using gamification and Finity's "Register-to-Redeem" methodology similar to traditional loyalty programs (e.g., airline and credit card points programs.) The program is administered by Finity Communications, Inc.

Percentage of Centennial Care Members Participating in Centennial Rewards (CR) (Measure 12)

One goal of the Demonstration is to provide incentives to members to engage in preventive services by expanding CR participation. Figure 5-8 displays the percentage of Centennial Care members who participated in the CR program (i.e., members who were engaged through multimedia communications and completed at least one

healthy reward activity) between 2014 and 2020. Overall, the CR participation rate nearly doubled during this period, increasing from 39.0 percent in 2014 to 72.7 percent in 2020. In addition, since the implementation of Centennial Care 2.0 in 2019, the CR participation rate increased each year, from a baseline rate of 67.8 percent in 2018 to 72.7 percent in 2020. While the CR participation rate increased substantially from 2014 to 2020, there is still room for participation to increase as better contact information becomes available and new reward activities for all members are added to the program.

Figure 5-8—Percentage of Centennial Care Members Participating in Centennial Rewards (CR) (Measure 12) [5-4]



Measure 12 Conclusion: Supports the hypothesis.

Research Question 2: Are CR incentive-redeeming members likely to receive more preventive/ambulatory services on an annual basis than those who have not redeemed incentives in the 12-month period following the initial redemption?

Percentage of CR Participating Members with an Annual Preventive/Ambulatory Service (Measure 13)

Figure 5-9 and Table 5-16 display the percentage of CR participating members who were engaged in the program and completed a second preventive/ambulatory visit in the 12 months following an initial preventive/ambulatory visit between 2014 and 2020. Two groups are shown for comparison: members who redeemed CR incentives and members who did not redeem CR incentives. An interrupted time series analysis was conducted to test whether the rates changed following the implementation of Centennial Care 2.0 in 2019. Because there were no statistical adjustments applied to the comparison group to account for unobserved differences between the groups, such as propensity score weighting, it is possible these differences may account for the results. For example, members who redeem CR incentives may be more apt to take initiative in their healthcare, as they demonstrated in completing the process of redeeming rewards. This could bias the rate of completing a second preventive/ambulatory visit upwards for this group, while the group who does not redeem rewards may be less likely to have a second preventive visit, thereby biasing the rate downward.

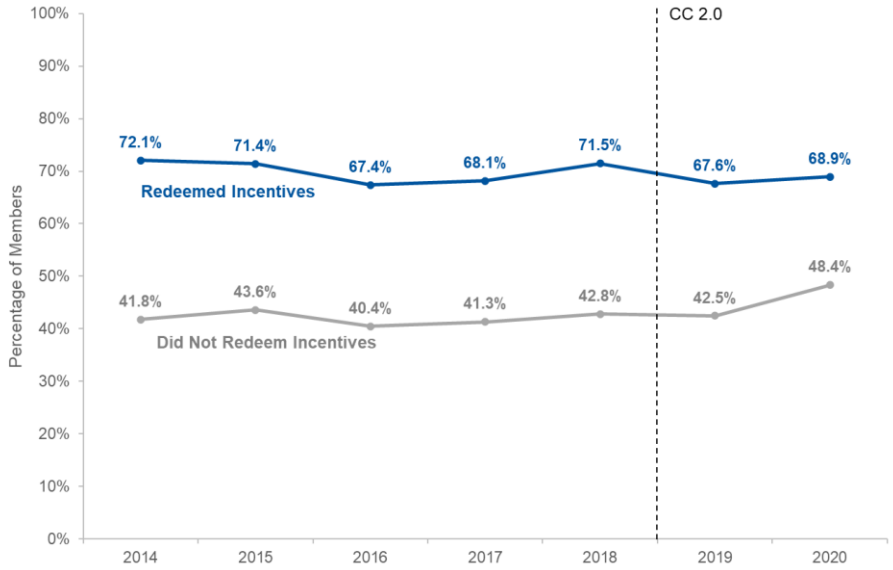
[5-4] Rates were provided by Finity Communications, Inc. and have not been independently verified or validated by HSAG.

Table 5-16—Percentage of Members With a Second Preventive/Ambulatory Visit, 2014–2020 (Measure 13) [5-5]

Year	Redeemed Incentives	Did Not Redeem Incentives	Difference Between Member Groups[1]
2014	72.1%	41.8%	30.3p.p.
2015	71.4%	43.6%	27.8p.p.
2016	67.4%	40.4%	27.0p.p.
2017	68.1%	41.3%	26.8p.p.
2018	71.5%	42.8%	28.6p.p.
2019	67.6%	42.5%	25.2p.p.
2020	68.9%	48.4%	20.6p.p.

[1]p.p.=percentage points.

Figure 5-9—Preventive/Ambulatory Service Usage by Centennial Rewards Incentive Redemption, 2014–2020



Overall, CR incentive-redeeming members were consistently more likely to seek preventive/ambulatory services than members who did not redeem incentives; between 2014 and 2020, the difference between preventive/ambulatory service usage for members who redeemed incentives versus members who did not was 27 percentage points on average. However, since the implementation of Centennial Care 2.0, this gap has narrowed from 30.3 percentage points in 2014 to 20.6 percentage points in 2020. In addition, following the implementation of Centennial Care 2.0 in 2019, the rate of preventive/ambulatory service usage decreased by 4 percentage points for incentive-redeeming members (from 71.5 percent in 2018 to 67.6 percent in 2019) while it increased by 6 percentage points for non-redeeming members (from 42.8 percent in 2018 to 48.4 percent in 2020). Rates in 2020 were impacted by disruptions in access to care caused by the COVID-19 PHE.

5-5 Rates were provided by Finity Communications, Inc. and have not been independently verified or validated by HSAG.

Table 5-17—Results of ITS Analysis on Preventive/Ambulatory Service Usage

Group	Average Rate of a 2nd Preventive/Ambulatory Visit		Level Change[1]	Difference in Level Change[1]	Slope Change	Difference in Slope Change
	2014–2018	2019–2020				
Members redeeming Incentives	70.1%	68.3%	-1.1p.p.	-1.6p.p. (p=0.698)	1.7p.p.	-4.2p.p. (p=0.334)
Members who did not Redeem Incentives	42.0%	45.4%	0.5p.p.		5.9p.p.	

[1]p.p.=percentage points.

The ITS model indicates that, while the immediate effect of the interruption on the incentive redeeming group was a 1.1 percentage point decrease in the level and the long-term effect was a 1.7 percentage point increase in the slope, the differences between the incentive-redeeming group and non-redeeming group level change and slope change were not significantly different (Table 5-17). However, these results may not solely reflect the impact of Centennial Care 2.0 implementation, as rates in 2019 and 2020 were likely impacted by disruptions in access to care caused by the COVID-19 PHE.

Measure 13 Conclusion: Neither supports nor fails to support the hypothesis.

Research Question 3: Does use of CR encourage members to improve their health and make healthy choices?

Percent of CR Users Responding Positively on Satisfaction Survey to Question Regarding if the Program Helped to Improve Their Health and Make Healthy Choices (Measure 14)

Table 5-18 shows the percentage of CR user satisfaction survey respondents who answered yes to the questions, *Has the program helped you improve your health?* and *Do the rewards encourage you to make healthy choices?* Between 2018 and 2020, the percentage of respondents answering yes to these questions remained consistently high at above 90 percent. Because there is one baseline data point prior to Centennial Care 2.0, baseline trends cannot be assessed, and therefore the results presented are descriptive in nature and no causal conclusions can be drawn. However, due to the similarity in rates between pre-CC 2.0 and post CC 2.0, results of this measure neither support nor fail to support the hypothesis.

Table 5-18—Percentage of Positive Satisfaction Survey Responses of Centennial Rewards Users, 2018–2020[5-6] (Measure 14)

Survey Question	2018	2019	2020
Has the program helped you improve your health?	93.9%	93.7%	93.8%
Do the rewards encourage you to make healthy choices?	96.8%	96.6%	96.6%

5-6 Rates were provided by Finity Communications, Inc. and have not been independently verified or validated by HSAG

Measure 14 Conclusion: Neither supports nor fails to support the hypothesis.

Research Question 4: Is the percentage of babies born with low birth weight (< 2,500 grams) to mothers participating in the Centennial Home Visiting (CHV) Pilot Program lower than the percentage of low-birth-weight babies born to Medicaid mothers who do not participate in the CHV Pilot Program?

Live Births Weighing Less Than 2,500 Grams (Low Birth Weight) (Measure 15)

The Centennial Home Visiting (CHV) Pilot Program was implemented in SFY 2020 to improve maternal and infant health outcomes in four counties. In 2020, CMS approved an amendment to the 1115 Demonstration Waiver that expanded services statewide. Throughout the evaluation period, the Early Childhood Education and Care Department (ECECD) has continued to revise and expand the CHV program. HSAG assessed data provided by the New Mexico Human Services Department (HSD) regarding deliveries among CHV and non-CHV program participants.

Table 5-19 shows the rate of low birthweight babies among CHV and non-CHV participating mothers.[5-7] Since the CHV Pilot Program began in 2019, rates for the CHV group were unavailable in 2018. Statistical analysis was conducted through logistic regression comparing the rate of low birthweight deliveries between CHV and non-CHV members for each year controlling for members' Chronic Illness and Disability Payment System (CDPS) risk scores.

The regression adjusted rate of low-birth weight babies among non-CHV members in 2018 was 4.6 percent but this rate increased to over 6 percent by 2020. Although there were few CHV members in each year, the regression adjusted rate of low-birth-weight deliveries was nearly triple the non-CHV group in 2019, which was statistically significant at the 0.05 level in 2019. The regression adjusted rates among the CHV group declined considerably throughout the study period, falling from 15.5 percent in 2019 to 4.9 percent in 2021, which was 1.6 percentage points lower than the non-CHV group.

Table 5-19—Comparison of Low-Birth-Weight Deliveries Between CHV and Non-CHV Members

	CHV Members		Non-CHV		
Year	N+	Adjusted Rate	N+	Adjusted Rate	p-Value
2018	--	--	13,967	4.6%	--
2019	36	15.5%	14,014	5.7%	0.009**
2020	69	9.6%	13,556	6.4%	0.226
2021	72	4.9%	13,102	6.5%	0.553

*p< 0.1, **p < 0.05, ***p<0.001

+ N represents the denominator count.

Measure 15 Conclusion: Does not support the hypothesis but trending favorably.

5-7 To control for differences in age and risk profile between the CHV and non-CHV group, statistical testing was conducted using logistic regression controlling for weighted risk score. Reported rates are derived from the model and therefore adjusted for mother's weighted risk score.

Aim Two: Manage the pace at which costs are increasing while sustaining or improving quality, services, and eligibility

Hypothesis 1: Incentivizing hospitals to improve health of members and quality of services and increasing the number of providers with value-based purchasing (VBP) contracts will manage costs while sustaining or improving quality.

Research Question 1: Has the number of providers with VBP contracts increased?

Total Number of Providers with VBP Contracts (Measure 16)

Measure 16 addresses Hypothesis 1 by assessing the number of providers with VBP contracts in the year prior to and the years following the Centennial Care 2.0 implementation. Although this measure does not directly address the hypothesis that costs will be managed or quality will be improved, this serves as a process measure to evaluate whether more providers have VBP contracts and can inform the hypothesis (under the implicit assumption that VBP contracts will manage costs or improve quality).

Table 5-20 and Figure 5-10 display the total number of Centennial Care provider groups with VBP contracts between 2018 and 2021 for each managed care organization (MCO) and aggregated program wide. During this period, the number of provider groups with VBP contracts increased for individual MCOs and Centennial Care as a whole. In 2018, prior to the implementation of Centennial Care 2.0, a total of 145 provider groups had VBP contracts, which increased by 170 percent to 392 provider groups in 2021. The largest annual increase in program wide VBP provider groups, 73 percent, occurred between 2018 and 2019.

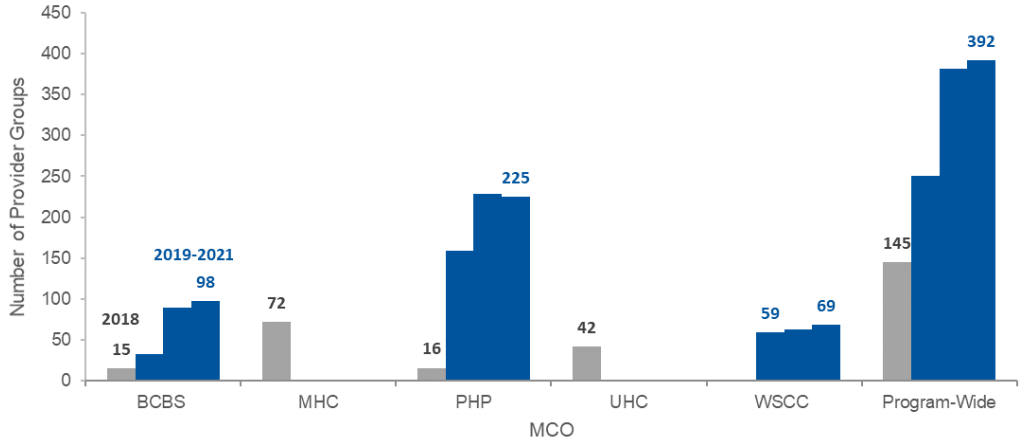
Table 5-20—Number of Provider Groups With VBP Contracts, 2018–2021 (Measure 16)

MCO	2018	2019	2020	2021
Blue Cross Blue Shield (BCBS)	15	33	90	98
Molina Healthcare of New Mexico, Inc. (MHC)	72	--	--	---
Presbyterian Health Plan (PHP)	16	159	228	225
UnitedHealthcare of New Mexico, Inc. (UHC)	42	--	--	-
Western Sky Community Care (WSCC)	--	59	63	69
Program-Wide	**145**	**251**	**381**	**392**

Note: -- is displayed for years in which an MCO was not contracted with Centennial Care.

Figure 5-10—Number of Provider Groups With VBP Contracts, 2018–2021

Blue bars represent years 2019–2021, after the implementation of Centennial Care 2.0.
Gray bars represent baseline values in 2018, prior to the implementation of Centennial Care 2.0.



Measure 16 Conclusion: Supports the hypothesis.

Research Question 2: Has the number of providers participating in VBP arrangements, who meet quality metric targets, increased?

Number/Percentage of Providers Meeting Quality Threshold (Measure 17)

Measure 17 assesses the percentage of providers with VBP contracts meeting quality metric targets. Quality metric data were provided at the provider group level primarily consisting of multiple practitioners. Table 5-21 display the percentage of providers with VBP contracts who reported quality metrics and met at least one quality metric target between 2019 and 2021 for each MCO and aggregated program wide. Overall, the percentage of provider groups meeting quality metric targets increased from 84.6 percent in 2019 to 85.7 percent in 2021. The COVID-19 PHE likely impacted quality metric rates in 2020 and 2021. While the majority of provider groups met at least one quality metric target in all three years, provider groups across the Centennial Care Program met approximately 50 percent of quality metric targets on average (Table 5-22).

Note that the denominator for Measure 17 was originally intended to be all Centennial Care providers with VBP contracts. However, because not all Centennial Care 2.0-contracted VBP provider groups reported quality metrics (in particular, quality metric data were not available for LTSS providers), the denominator has been altered to be the total number of VBP provider groups who reported quality metrics in order to more accurately reflect the rate of providers meeting quality metrics. Because there were no data related to meeting quality targets prior to Centennial Care 2.0, results presented are descriptive in nature and no causal conclusions can be drawn.

Table 5-21—Percentage of Provider Groups With VBP Contracts Who Met the Quality Threshold, 2019–2021

MCO	Year	Number of Provider Groups Meeting at Least One Quality Metric Target	Total Number of Provider Groups Reporting Quality Metrics	Percentage
BCBS	2019	21	24	87.5%
	2020	23	27	85.2%
	2021	27	29	93.1%

MCO	Year	Number of Provider Groups Meeting at Least One Quality Metric Target	Total Number of Provider Groups Reporting Quality Metrics	Percentage
PHP	2019	101	117	86.3%
	2020	101	124	81.5%
	2021	101	112	90.2%
WSCC	2019	21	28	75.0%
	2020	29	38	76.3%
	2021	34	48	70.8%
Program-Wide	**2019**	**143**	**169**	**84.6%**
	2020	**153**	**189**	**81.0%**
	2021	**162**	**189**	**85.7%**

Note: Only metrics with 10 or more attributed members are included.

Table 5-22—Average Percentage of Quality Metric Targets Met by Provider Groups, 2019–2021

MCO	Year	Average Percentage of Quality Metric Targets Met	Interquartile Range
BCBS	2019	34.5%	38.8%
	2020	33.0%	33.3%
	2021	43.9%	16.7%
PHP	2019	65.4%	50.0%
	2020	43.5%	36.8%
	2021	47.3%	38.1%
WSCC	2019	38.0%	58.9%
	2020	43.5%	70.0%
	2021	35.6%	60.0%
Program-Wide	**2019**	**56.5%**	**75.0%**
	2020	**42.0%**	**40.0%**
	2021	**43.8%**	**38.6%**

Note: Only metrics with 10 or more attributed members are included.

Measure 17 Conclusion: Insufficient data to draw a conclusion.

Research Question 3: Has the amount paid in VBP arrangements increased?

Percentage of Total Payments That Are for Providers in VBP Arrangements (Measure 18)

Table 5-23 shows the amount paid in VBP arrangements between 2017 and 2021 as a total dollar amount and a percentage of total healthcare expenditures, while Figure 5-11 shows the percentage paid in VBP arrangements as a percentage of total healthcare expenditures during the same period. Overall, the percentage of expenditures attributed to VBP arrangements increased, from about 27 percent prior to the implementation of Centennial Care 2.0 to 62 percent in 2021. BCBS and PHP increased their VBP payments as a percentage of total expenditures during this period by 18 percent and 58 percent, respectively. WSCC's VBP payments declined from 36 percent of total expenditures in 2019 to 31 percent in 2021. While the largest increase in program wide VBP payments

occurred when Centennial Care 2.0 was implemented in 2019 (an increase from 27 percent of total expenditures in 2018 to 48 percent in 2019), VBP payments continued to increase in 2020 and 2021.

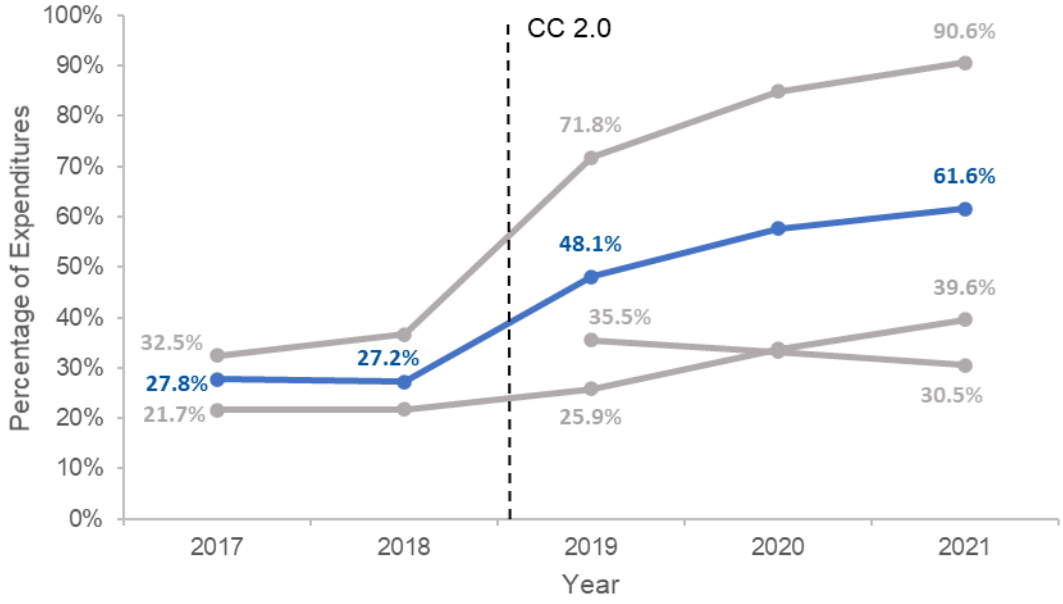
Table 5-23—Amount Paid in VBP Arrangements and Percentage of Total Healthcare Expenditures, 2017–2021 (Measure 18)

MCO	2017	2018	2019	2020	2021
BCBS	$142,867,926 (21.7%)	$155,099,593 (21.7%)	$359,402,770 (25.9%)	$498,356,927 (33.7%)	$555,148,255 (39.6%)
MHC	$154,810,895 (15.1%)	$155,412,079 (15.8%)	--	--	--
PHP	$247,460,730 (32.5%)	$288,290,867 (36.6%)	$1,033,496,822 (71.8%)	$1,347,642,959 (84.8%)	$1,287,303,731 (90.6%)
UHC	$243,629,551 (61.5%)	$150,381,151 (57.1%)	--	--	--
WSCC	--	--	$91,490,320 (35.5%)	$107,256,516 (33.2%)	$102,222,053 (30.5%)
Program-Wide	**$788,769,102 (27.8%)**	**$749,183,690 (27.2%)**	**$1,484,389,913 (48.1%)**	**$1,953,256,402 (57.6%)**	**$1,944,674,039 (61.6%)**

*Note: -- is displayed for years in which an MCO was not contracted with Centennial Care.

Figure 5-11—Percentage of Total Healthcare Expenditures Paid in VBP Arrangements, 2017–2021

The blue line represents the total for all MCOs.
Gray lines represent each individual MCO (only MCOs that contracted through 2021 are displayed).



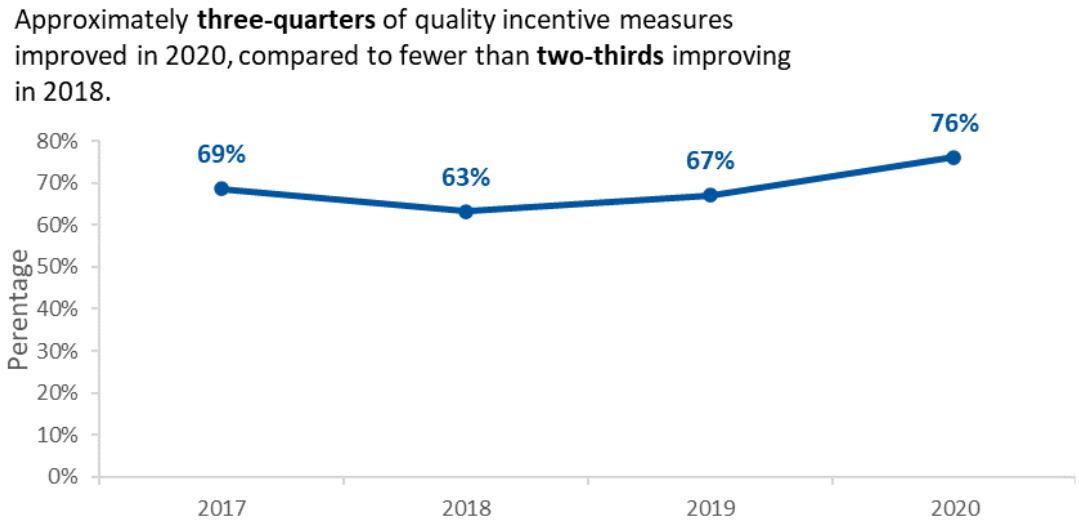
Measure 18 Conclusion: Supports the hypothesis.

Research Question 4: Has reported performance of Domain 1 measures in the Safety Net Care Pool (SNCP) Hospital Quality Improvement Program been maintained or improved?

Percentage of Qualified Domain 1 SNCP Hospital Quality Incentive Measures That Have Maintained or Improved Their Reported Performance Rates Over the Previous Year (Measure 19)

HSAG assessed the percentage of quality incentive measures that improved year-over-year. Data for 2017 through 2020 were supplied, covering two years prior to Centennial Care 2.0 and two years following implementation. Figure 5-12 below shows that the percentage generally increased following the implementation of Centennial Care 2.0 relative to the baseline rates in 2017 and 2018. Because there was no comparison group, results presented are descriptive in nature and neither support nor fail to support the hypothesis.

Figure 5-12—Percentage of Qualified Domain 1 SNCP Hospital Quality Incentive Measures That Have Maintained or Improved Their Reported Performance Rates Over the Previous Year (Measure 19)



Measure 19 Conclusion: Neither supports nor fails to support the hypothesis.

Do cost trends align with expected reimbursement and benefit changes?

The goal of the financial analysis of Centennial Care 2.0 is to compare the costs to the State for the programs covered under the 1115 Demonstration Waiver against the estimated expected costs had the 1115 Demonstration Waiver not been implemented. Expected expenditures were estimated based on changes in member demographics, population health condition-based risk score, and the medical cost price index (CPI).[5-8, 5-9] Total actual expenditure costs for providing care to members covered by the 1115 Demonstration Waiver were compared to the estimated expected expenditures which are calculated by applying annual demographic and inflation factors to the baseline costs for 2013. (See the Financial Analysis Trend and Cost Development

5-8 U.S. Bureau of Labor Statistics. CHRONIC ILLNESS AND DISABILITY PAYMENT SYSTEM (CDPS) Information and Overview. Available at https://www.bls.gov/cpi/tables/supplemental-files/home.htm. CDPS information available at: https://hwsph.ucsd.edu/research/programs-groups/cdps.html#Using-CDPS-Risk-Scores. Accessed on: Jun 9, 2022.

5-9 UC San Diego. Chronic Illness and Disability Payment System (CDPS). Available at: https://hwsph.ucsd.edu/research/programs-groups/cdps.html#Using-CDPS-Risk-Scores. Accessed on July 13, 2022.

Methodology section in Appendix A for additional details on adjustment factor development.) Note that the cost analyses do not refer to nor attempt to replicate the formal Budget Neutrality test required under the Section 1115 Demonstration Waiver program, which sets a fixed target under which waiver expenditures must fall that was set at the time the waiver was approved.

Claims cost are calculated and analyzed at two levels:

- Per member per month (PMPM) basis by dividing the total expenditures by the total enrolled members for a given time period.
- Per utilizing member per month (PUMPM) basis which is calculated by dividing the total expenditures by the total members who utilized services during the review period.

Each of these measures is based on expenditures unadjusted for year-to-year demographic changes. Costs are reviewed on a PMPM or PUMPM basis to ensure comparability as the total number of members change over time.

Both unadjusted and adjusted expenditures and expenditure trends were reviewed. Adjustment involved normalizing expenditures to account for known changes such as demographics, health condition-based risk, and inflation. By making these adjustments, all known and quantifiable variations in each analysis period are removed, leading to a more accurate comparison across time periods.

Costs are normalized by dividing the unadjusted cost PMPM by the calculated area, age/gender, and health condition risk factors. Estimated counterfactual costs (estimated expenditures had the Demonstration Waiver not been implemented) were calculated by applying each normalization factor as well as including the annual medical CPI percentage from the U.S. Bureau of Labor Statistics.

To get a better understanding of how costs changed over time, several trend measures were developed.

- **Cumulative Unadjusted Trend from the Baseline:** Represents the total annual growth in the cost of care since 2013. The growth rate is calculated by comparing the annual PMPM for each year of the Demonstration to the 2013 baseline. For example, assume expenditures increased from $100.00 in 2013 to $104.00 in 2014, a trend increase of 4 percent; then to $106.08 from 2014 to 2015, a trend increase of 2 percent; then fell to $105.02 from 2015 and 2016, a trend decrease of 1 percent. The annual changes are multiplied together to determine the total cumulative trend. In this example the cumulative trend would be 5 percent.
- **Annualized Unadjusted Trend from the Baseline:** The average annual growth in cost of care between the baseline (2013) and each year of the Demonstration, adjusted to smooth the trend across the represented time period. (See the Methodology section for additional details.)
- **Annualized Normalized Trend from the Baseline:** Average annual growth in cost of care adjusted for known variances between years based on #2 above.
- **Year-Over-Year Unadjusted Trend:** Annual growth in cost of care from year to year.

Costs are assessed in relation to changes in quality metrics between pre-Centennial Care 2.0 and post-implementation of the demonstration. Measures 20 and 21 show that although per-member per-month costs were lower than projected, costs were increasing at a higher rate than expected in 2020 and 2021 given historical trends and changes in the population. Overall, these increases in costs appear to be justified by certain program successes and the challenges brought by the COVID-19 PHE. For example, the Health Home program (measures 4b, 5b) and peer support services (measures 34 through 37) showed success despite the challenges of the PHE. The use of data, technology, and person-centered care (Aim Three) also showed improvements through increased usage of continuous NFLOC approvals (measure 22), increased telemedicine usage even before the PHE accelerated its

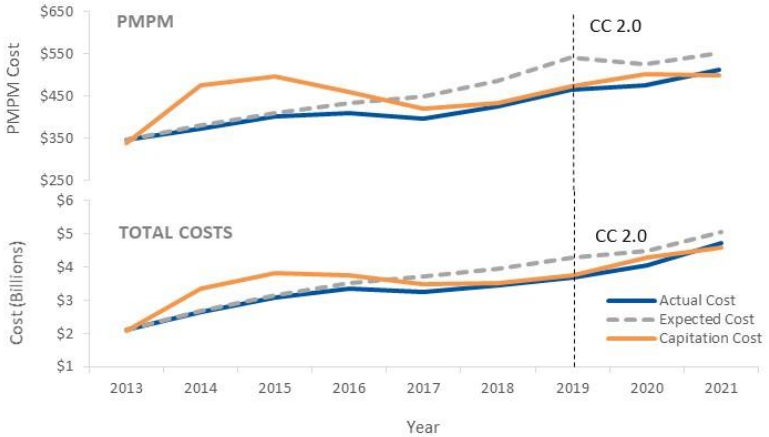
adoption (measures 23 and 24), member rating of health care (measure 25), and electronic visit verification (measure 28).

Cost Per Member Trend (Measure 20)

The analysis contained here-in is based on the total actual expenditure costs for providing care to members covered by the 1115 Demonstration Waiver compared to the estimated expected expenditures calculated by applying annual demographic and inflation factors to the baseline costs for 2013. (See the Methodology section for additional details on adjustment factor development.) The cost analyses do not refer to nor attempt to replicate the formal Budget Neutrality test required under the Section 1115 Demonstration Waiver program, which sets a fixed target under which waiver expenditures must fall that was set at the time the waiver was approved.

Figure 5-13 displays the PMPM claim/encounter costs and total expenditures from the baseline in 2013 through 2021 for the capitated cost, actual incurred cost and the expected (counterfactual) costs. Both the actual and counterfactual costs and the actual and counterfactual PMPM costs increased from 2013 through 2021. Prior to 2018 the capitation cost is higher for both the PMPM and total expenditure than the actual incurred costs. The difference in the higher capitated costs is being driven by a large capitation rate paid to a single managed care organization that had the majority of the non-acute inpatient members. Beginning in 2018, the managed care organization with the highest capitation rate left the market. Capitation rate data, developed by the state's actuarial partners, utilized by HSAG are based on historical claims with any adjustments based on the expected financial impacts due to policy, provider reimbursement, and benefit changes. The capitation rates shown in this analysis do not include risk corridor adjustments that were in effect from 2014 to 2016, nor do the capitation rates include extra payments made to MCOs outside of the capitation payments in 2021. Since 2018, the capitation costs have shown minimal variance between the actual and capitated costs thereby suggesting the projected adjustments in the capitation rates have sufficiently accounted for the impact of financial changes due to policy, provider reimbursement, and benefit changes. Starting in 2021, capitation rates were slightly below the actual incurred costs to the MCO's, however, both have been less than the expected costs in the event that Centennial Care had not been implemented, including Centennial Care 2.0. The variance between the actual incurred costs and capitated costs may lead to higher future capitation rate increases. The gap between the actual and expected cost has also narrowed in 2021, however the cost to the State through the capitation arrangement is below both the actual and expected costs. Table A-16 and A-17 contain additional data points for PMPM costs and total costs

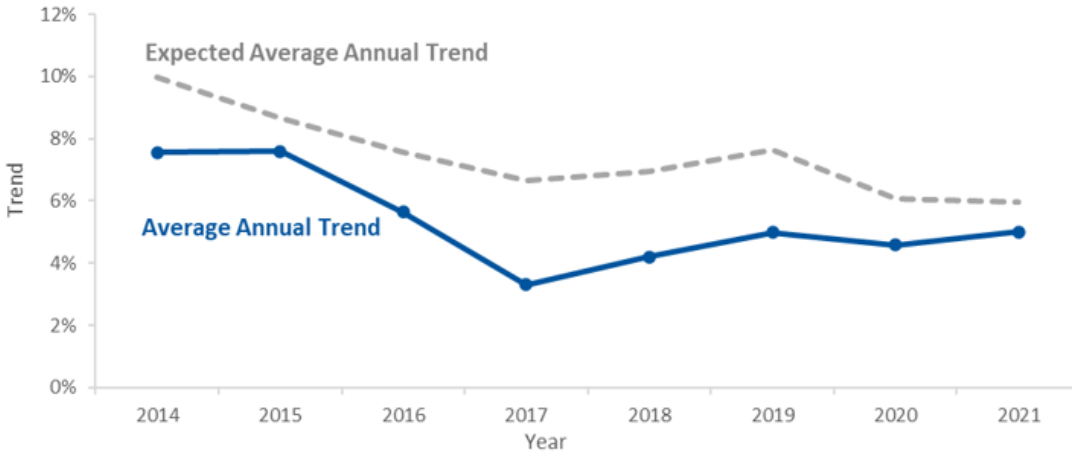
Figure 5-13—Per Member Per Month Cost and Total Cost



Note: The capitation rates shown in this analysis do not include risk corridor adjustments that were in effect from 2014 to 2016, nor do the capitation rates include extra payments made to MCOs outside of the capitation payments in 2021.

Figure 5-14 shows several trend calculations, based on changes from 2013 (not shown in the figure). The average annualized trend decreased throughout the life of the Centennial Care Demonstration, from the baseline of 7.2 percent to 4.1 percent. The average annualized trend has increased during Centennial Care 2.0, from 4.1 percent at the end of Centennial Care in 2018 to 5.7 percent in 2021 but has decreased from 7.2 percent in 2014.

Figure 5-14—Cost Per Member Trends



Changes to the demographics of the population also impacted the per member trends. With the expansion population growing throughout the Demonstration, the Medicaid program has seen a substantial decrease in the Temporary Assistance for Needy Families (TANF) population as a percentage of the total population. The average age of the TANF population has also increased from 11.4 years in 2013 to 15.4 years in 2021. The average age of the entire enrolled population during 2013 was 21.2 years; as of 2021, the average age has increased to 26.8 years. The growth of the expansion population has also led to a substantial shift in the distribution by population aid category and age. The population also saw an average annual increase in CDPS (version 6.5) condition-based risk scores of 2.5 percent. The member distribution by geographic region did not change substantially from 2013 to 2021.

The COVID-19 PHE had substantive impacts throughout the health care system, including on the case-mix of Medicaid recipients and their risk profile. To measure the changes in the case-mix from one year to the next throughout the demonstration period, we applied a year over year trend calculation. The year over year trend change is calculated by taking the difference between the year over year trend for year t+1 minus the year over year trend for year t.

Looking at the year over year trend changes from 2016 to 2021, both the age and area factors remained relatively stable with negligible changes during the PHE (Panels A and B of Figure 5-15). Panel C of Figure 5-15 shows that from 2016 to 2019, the year over year trend changes for the CDPS risk factors for the population and the CDPS risk factors for the utilizing population also remained relatively stable. However, in 2020 at the onset of the PHE, the year over year trend change for the CDPS risk factors for the population and the CDPS risk factors for the utilizing population decreased by 14.5 percent and 10.2 percent respectively. This decrease in CDPS risk factor trends is most likely the result of fewer identified conditions in 2020 due to the PHE as well as shutdowns across the state causing members to not be able to see their healthcare professionals as often, if at all. The following year in 2021, the year over year trend change for the CDPS risk factors for the population and the CDPS risk factors for the utilizing population increased by 10.5 percent and 5.2 percent respectively. The increase in the population CDPS risk factor and utilizing population CDPS risk factor trends for 2021 are most likely due

to the increase in availability of non-essential services and easing of stay-at-home orders due to the PHE slowed and members could more easily see their healthcare provider.

Figure 5-15—Year-over-Year Trend Changes

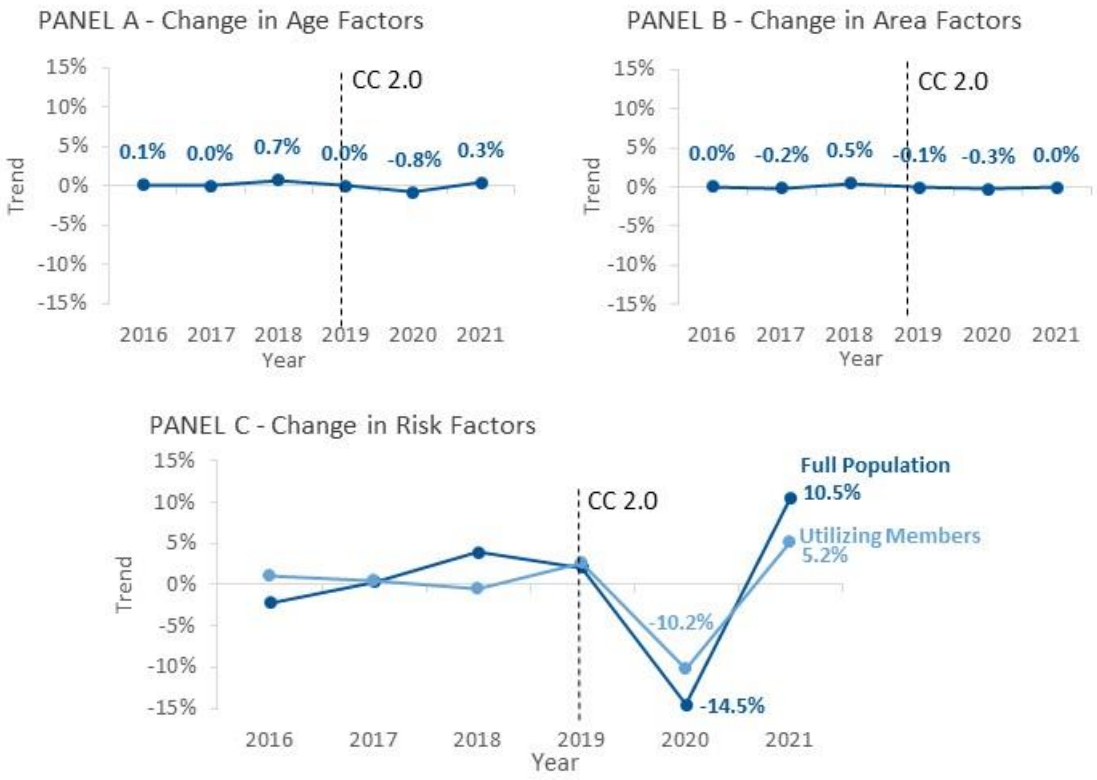


Table 5-24 shows an overall increase in membership between 2019 and 2020 (measured at the end of the year), particularly among working-age adults. This increase is largely attributable to the PHE. Membership among males aged 35 to 49 increased by 7.4 percent and increased 5.6 percent among females.

Table 5-24—Enrollment by Age and Gender Following the COVID-19 PHE

	2019		2020		Percent Change	
Age	Male	Female	Male	Female	Male	Female
0 - 12	117,490	112,848	115,256	110,630	-1.9%	-2.0%
13 - 18	51,260	50,042	52,741	51,317	2.9%	2.5%
19 - 34	84,010	113,218	87,682	115,596	4.4%	2.1%
35 - 49	53,362	65,931	57,317	69,647	7.4%	5.6%
50 - 64	43,786	49,540	45,622	51,287	4.2%	3.5%
65+	11,440	18,481	11,589	18,803	1.3%	1.7%

Based on data from the U.S. Bureau of Labor Statistics, prices for medical care were 23.56 percent higher in 2021 compared to 2013 (a $23.56 difference in value per $100 of spending), indicating a medical care average inflation rate of 2.7 percent per year. The medical care inflation rate was greater than the overall annual inflation rate of 1.9 percent during this same period. The medical CPI is used to account for changes to cost due to inflationary

factors. CPI does not account for New Mexico Medicaid-specific policy changes that had a fiscal impact. HSAG is not aware of any policy changes between 2019 and 2021 that had a fiscal impact that would have changed the analysis.

Employing the normalization process as described in the methodology section, factors were developed to quantify the change in risk, age-band/gender, area, and inflation from one Demonstration year to the next. These factors were then applied to the baseline period to calculate the expected average quarterly costs that are displayed in Figure 5-13 and the corresponding expected average quarterly trends in Figure 5-14. Table A-18 contains additional data for cost per member trends.

Table 5-25 shows the impacts of each of the known changes in the cost and demographic variables from 2013 to 2021. The annual impact of each known driver is applied to the PMPM claims cost from the baseline of 2013 to calculate the counterfactual claims PMPM. Both the average annual trend and the expected average annual trend decreased from the baseline period in 2013, to 2021 and the average annual trend is below the expected average annual trend for the same period. The calculated counterfactual claims trend incorporating all known external impacts was 6 percent, comparing this to the annualized paid claims trend of 6.0 percent achieved by the 1115 Demonstration Waiver, the program is currently achieving an estimated savings in claims cost of 0.9 percent, thereby supporting the hypothesis.

Table 5-25—Cost Per Member Trend Normalized Trend Walkdown (Measure 20)

Trend Component	2013 to 2021
Average Annual Normalized Trend	2.7%
Average Annual Aging Trend	0.6%
Average Annual Area Trend	-0.3%
Average Annual Risk Trend	2.5%
CPI Annual Trend 2013-2021	2.7%
Counterfactual Claims Trend	6.0%
Savings Below Expected Counterfactual	0.9%
Annualized Paid Claims Trend	5.0%

Measure 20 Conclusion: Supports the hypothesis.

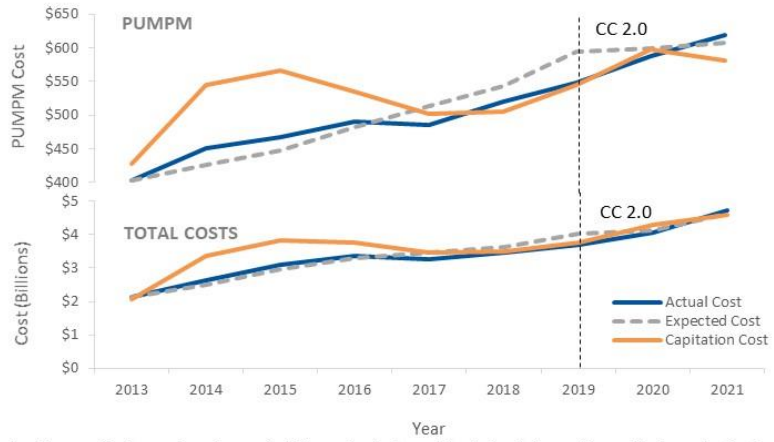
Cost Per User Trend (Measure 21)

The analysis contained here-in is based on the total actual expenditure costs for providing care to members covered by the 1115 Demonstration Waiver compared to the estimated expected expenditures calculated by applying annual demographic and inflation factors to the baseline costs for 2018. (See the Methodology section for additional details on adjustment factor development.) The cost analyses do not refer to nor attempt to replicate the formal Budget Neutrality test required under the Section 1115 Demonstration Waiver program, which sets a fixed target under which waiver expenditures must fall that was set at the time the waiver was approved.

Figure 5-16 displays the PUMPM claims costs and total expenditures from the baseline in 2013 through 2021 for the capitated cost, actual incurred cost and the expected (counterfactual) costs. A utilizing member month is any month in a calendar year during which a member incurred a claim or encounter. Prior to 2018 the capitation cost is higher for both the PMPM and total expenditure than the actual incurred costs. The difference in the higher capitated costs is being driven by a large capitation rate paid to a single managed care organization that had the majority of the non-acute inpatient members. Beginning in 2018, the managed care organization with the highest

capitation rate left the market. Capitation rate data, developed by the state's actuarial partners, utilized by HSAG, are based on historical claims with any adjustments based on the expected financial impacts due to policy, provider reimbursement, and benefit changes. The capitation rates shown in this analysis do not include risk corridor adjustments that were in effect from 2014 to 2016, nor do the capitation rates include extra payments made to MCOs outside of the capitation payments in 2021. Since 2018, the capitation costs have shown minimal variance between the actual and capitated costs thereby suggesting the projected adjustments in the capitation rates have sufficiently accounted for the impact of financial changes due to policy, provider reimbursement, and benefit changes. Given that measure 21 is focused on utilizing members (i.e., members with at least one claim/encounter during the year), actual costs would be expected to be higher than capitated costs due to absence of non-utilizing members in the claims cost per month calculation. The capitation costs have come in lower than the counterfactual costs for 2021 while the actual costs are higher than the counterfactual costs in 2021. Table A-19 and A-20 contain additional data points.

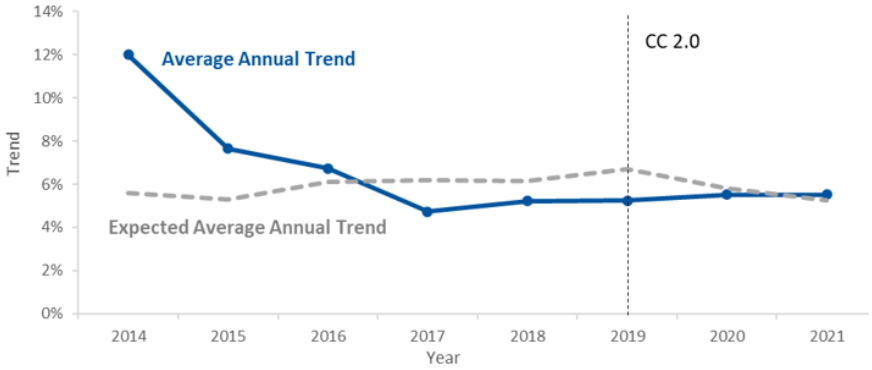
Figure 5-16—Per Utilizing Member Per Month Cost and Total Cost



Note: The capitation rates shown in this analysis do not include risk corridor adjustments that were in effect from 2014 to 2016, nor do the capitation rates include extra payments made to MCOs outside of the capitation payments in 2021.

Figure 5-17 shows two trend calculations, based on changes from 2013 (not shown in figure). The average annualized trend decreased throughout the life of the Centennial Care 1.0 Demonstration, from the baseline of 11.6 percent to 5.2 percent. The average annualized trend has increased during Centennial Care 2.0, from 5.2 percent at the end of Centennial Care in 2018 to 5.5 percent in 2021 but has decreased from 11.6 percent in 2014. Table A-21 contains additional data for cost per utilizing member trends.

Figure 5-17—Cost Per Utilizing Member Trends



Changes to the demographics of the population also impacted the per utilizing member trends. The CDPS (version 6.5) condition-based risk score for the utilizing population was substantially higher than the enrolled population throughout calendar year 2014 to 2016 causing the average annual trend to be higher than the expected average annual trend for those years. The growth of the expansion population throughout the Demonstration and economic impacts from the COVID-19 PHE has led to a substantial shift in the distribution by population aid category and age. The PHE increased the number of children and working-age adults participating in Medicaid. The average age of the expansion population for utilizing members decreased from 44.4 in 2014 to 39.1 in 2021. The average age of the entire utilizing population during 2013 was 22.2 years; as of 2021, the average age had increased to 26.9 years. The member distribution by geographic region did not change substantially from 2013 to 2021.

Based on data from the U.S. Bureau of Labor Statistics, prices for medical care were 23.56 percent higher in 2021 compared to 2013 (a $23.56 difference in value per $100 of spending), indicating a medical care average inflation rate of 2.7 percent per year. The medical care inflation rate was greater than the overall annual inflation rate of 1.9 percent during this same period. The medical CPI is used to account for changes to cost due to inflationary factors. CPI does not account for NM Medicaid-specific policy changes that had a fiscal impact. HSAG is not aware of any policy changes between 2019 and 2021 that had a fiscal impact that would have changed the analysis.

Employing the normalization process as described in the methodology section, factors were developed to quantify the change in risk, age-band/gender, area, and inflation from one Demonstration year to the next. These factors were then applied to the baseline period to calculate the expected average quarterly costs that are displayed in Figure 5-16 and the corresponding expected average quarterly trends in Figure 5-17,

Table 5-26 shows the impacts of each of the known changes in the cost and demographic variables from 2013 to 2021. The annual impact of each known driver is applied to the PMPM claims cost from the baseline of 2013 to calculate the counterfactual claims PMPM. Both the average annual trend and the expected average annual trend decreased from the baseline in 2013, to 2021, and the average annual trend was higher than the expected average annual trend for the same period. The calculated counterfactual claims trend incorporating all known external impacts was 5.3 percent. The annualized paid claims trend achieved by the 1115 Demonstration Waiver was higher at 5.5 percent for the utilizing population, thereby this does not support the hypothesis.

Table 5-26—Cost Per User Trend Normalized Trend Walkdown (Measure 21)

Trend Component	2013 to 2021
Average Annual Normalized Trend	3.2%
Average Annual Aging Trend	0.3%
Average Annual Area Trend	0.0%
Average Annual Risk Trend	2.2%
CPI Annual Trend 2013-2021	2.7%
Counterfactual Claims Trend	5.3%
Costs Above Expected Counterfactual	0.2%
Annualized Paid Claims Trend	5.5%

Measure 21 Conclusion: Does not support the hypothesis.

Aim Three: Streamline processes and modernize the Centennial Care health delivery system through use of data, technology, and person-centered care

Hypothesis 1: The Demonstration will relieve administrative burden by implementing a continuous Nursing Facility Level of Care (NFLOC) approval with specific criteria for members whose condition is not expected to change over time.

Research Question 1: Has the number of continuous NFLOC approvals increased during the Demonstration?

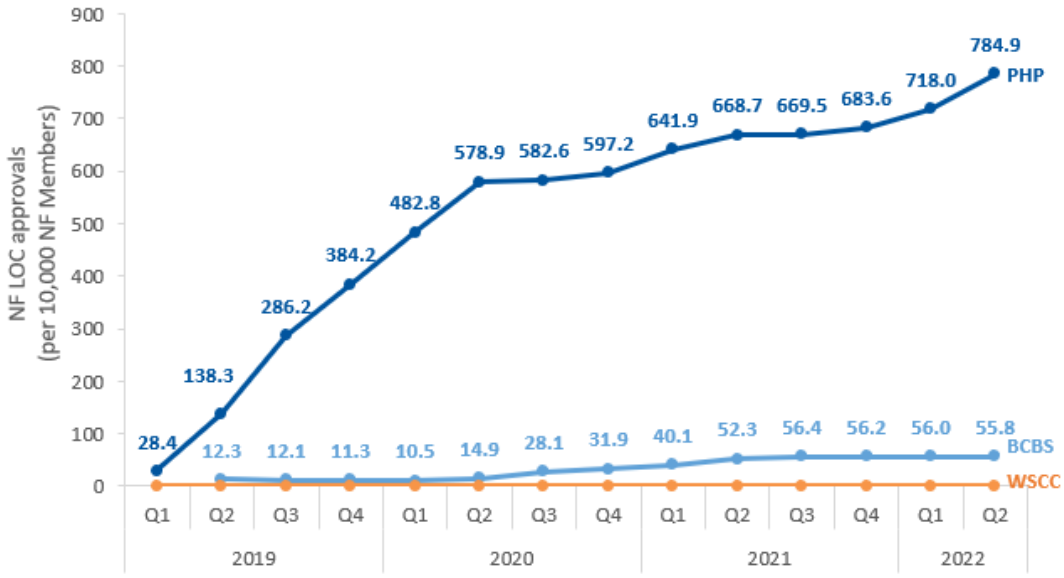
Rate of continuous NF LOC approvals per 10,000 Nursing Facility (NF) Members (Measure 22)

Rates of continuous NF LOC approvals have increased over time since the implementation of Centennial Care – particularly among Presbyterian Health Plan NF members, as shown below in Figure 5-18.[5-10]

From 2019 to 2021, Presbyterian Health Plan consistently reported the highest rates of NF LOC approvals among NF members. Over that timeframe, the rate steadily increased from 28.4 approvals per 10,000 NF members to 683.6 approvals per 10,000 NF members in Q4 2021. Though also increasing from 2019 to 2021, Blue Cross Blue Shield reported fewer than 57 continuous NF LOC approvals per 10,000 NF members for any given quarter during that period.

5-10 Note: Data for Presbyterian Health Plan and Blue Cross Blue Shield from 2019-2021 was obtained from a summary report of open ended LTC spans. NF members were limited to those with home and community-based waivers, excluding waivers for medically fragile and developmentally disabled.

Figure 5-18—Number of Continuous NFLOC Approvals



Measure 22 Conclusion: Supports the hypothesis

Hypothesis 2: The use of technology and continuous quality improvement (CQI) processes align with increased access to services and member satisfaction.

Research Question 1: Has the number of telemedicine providers increased during Centennial Care 2.0?

Number of Telemedicine Providers (Measure 23)

Table 5-27 and Figure 5-19 display the annual number of telemedicine providers between 2013 and 2021. The baseline number of providers from 2013 to 2018, prior to the implementation of Centennial Care 2.0, was 241 per year on average. In 2021 the number of providers was 8,722, suggesting a substantial increase following implementation of Centennial Care 2.0. However, the COVID-19 PHE beginning in 2020 had a substantial impact on the number of providers delivering care through telemedicine that cannot be isolated from the effects of the Demonstration, given the available data. The most accurate estimate of the impact of Centennial Care 2.0 is the number of telemedicine providers in 2019, during the first year of Centennial Care 2.0 and preceding the PHE; that number was 617, a 156 percent increase over the 2013–2018 average and a 55 percent increase over the previous year.

In addition, Figure 5-27 shows the percentage difference between the actual and projected (i.e., estimated counterfactual) number of providers using a linear regression model of the baseline (2013–2018), along with the *p*-values associated with hypothesis testing of a difference between the actual and estimated counterfactual. Figure 5-27 shows the estimated counterfactual as a gray line. The 2019 count of providers was 44 percent higher than the estimated counterfactual, indicating an increase that could be due to the Demonstration. After the onset of COVID-19, the numbers of providers in 2020 and 2021 were about 1,800 percent and 1,500 percent higher than predicted, respectively.

Table 5-27—Number of Telemedicine Providers, 2013–2021 (Measure 23)

Year	Number of Providers	Year-Over-Year Change	Projected Number of Providers	Difference Between Actual and Projected (p-Value)
2013	126	--	--	--
2014	174	38%	--	--
2015	196	13%	--	--
2016	212	8%	--	--
2017	338	59%	--	--
2018	398	18%	--	--
2019	617	55%	427	44% (0.016)
2020	9,087	1,373%	481	1,789% (<0.001)
2021	8,722	-4%	534	1,533% (<0.001)

Note: "—" represents numbers that cannot be calculated or are not applicable.

Figure 5-19—Number of Telemedicine Providers, 2013–2021

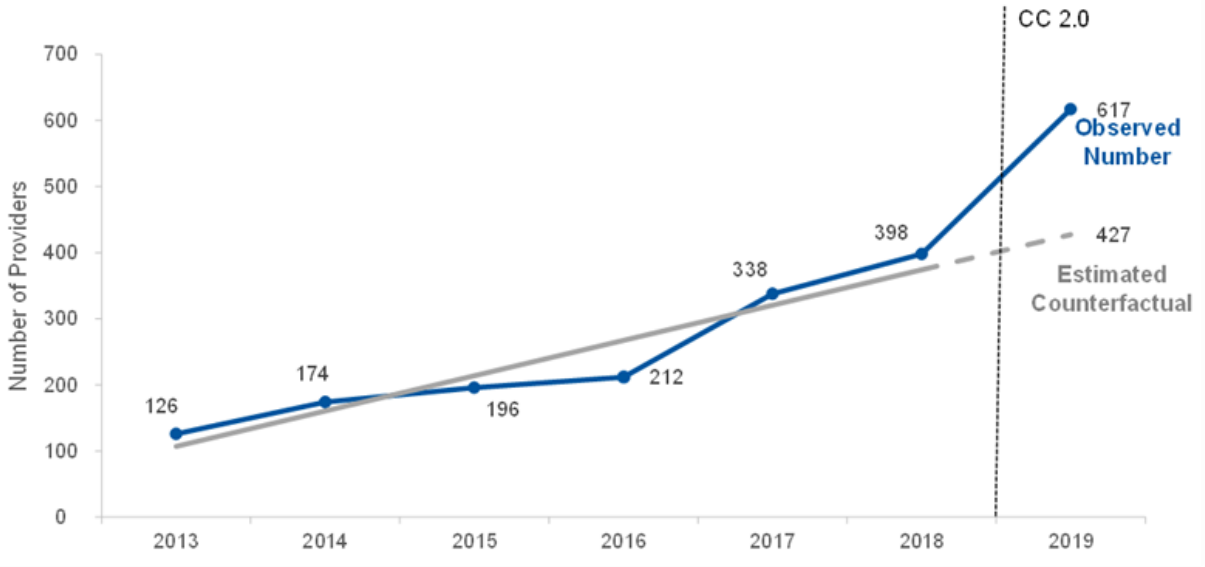
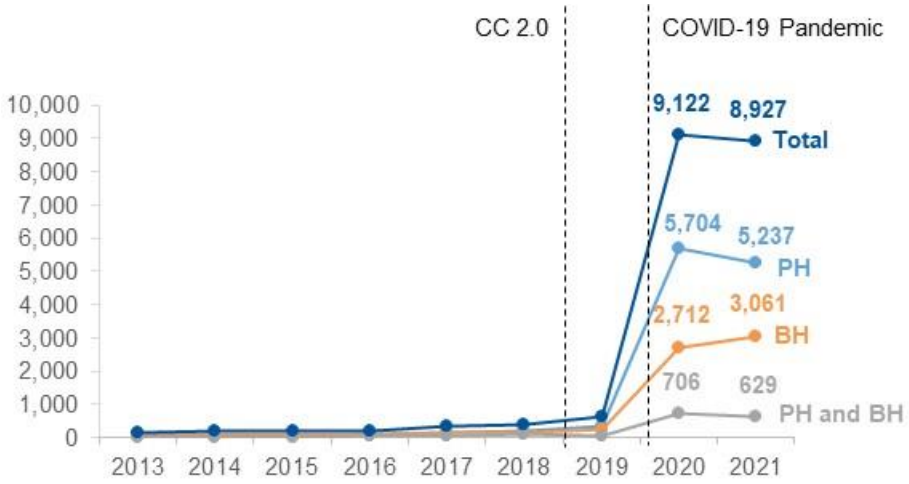


Figure 5-20 shows that over half (5,237 out of 8,927) of these telemedicine providers billed exclusively physical health claims in 2020 and 2021. Only 7 percent (629 out of 8,927) of telemedicine providers billed both physical health and behavioral health services in 2021.

Figure 5-20—Number of Telemedicine Providers by Type of HealthCare



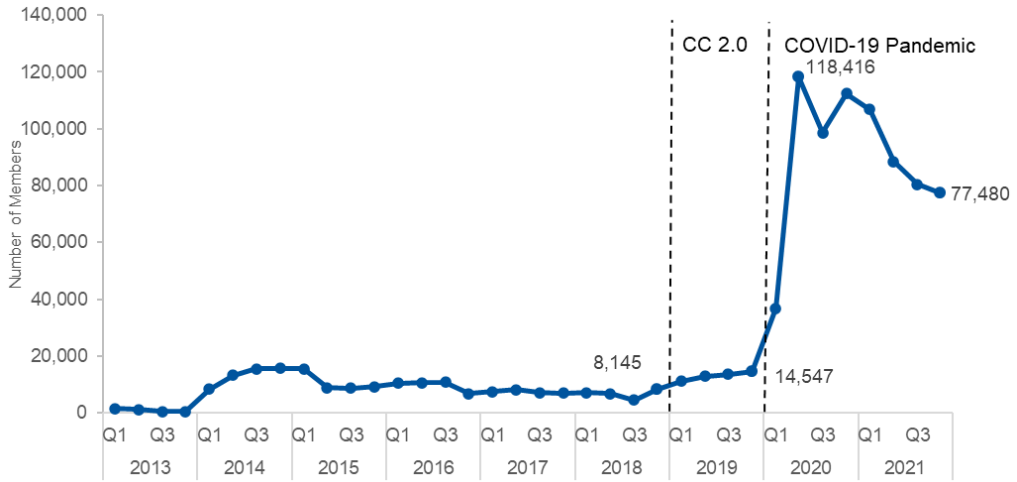
Measure 23 Conclusion: 2019 data supports the hypothesis.

Research Question 2: Has the number of unduplicated members with a telemedicine visit increased during Centennial Care 2.0?

Number of Members Receiving Telemedicine Services (Measure 24)

Figure 5-21 displays the quarterly number of members with a telemedicine visit between 2013 and 2021. The baseline number of members from 2013 to 2018, prior to the implementation of Centennial Care 2.0, was 8,109 per quarter on average. In 2019, prior to the start of the COVID-19 PHE, the quarterly average was 13,080 members, a 61 percent increase over the 2013–2018 quarterly average and a 95 percent increase over the 2018 quarterly average.

Figure 5-21—Number of Members With a Telemedicine Visit, 2013–2021



In 2020 and 2021, the total number of members utilizing telemedicine services increased dramatically. The significant growth in the utilization is most likely attributable to the PHE response with an average quarterly increase to approximately 90,000 members in 2020 and 2021. However, telemedicine utilization per thousand

members also increased significantly from approximately 10-12 visits per thousand members in January and February 2020 to a peak of approximately 200 visits per thousand members in April 2020 (Figure 5-22), which suggests an increase in the proportion of members utilizing telemedicine services. By the end of 2021, utilization had decreased to approximately 100 visits per thousand members, still up significantly from pre-COVID levels.

Figure 5-22—Monthly Utilization of Telemedicine Services per 1,000 Members, 2018–2021

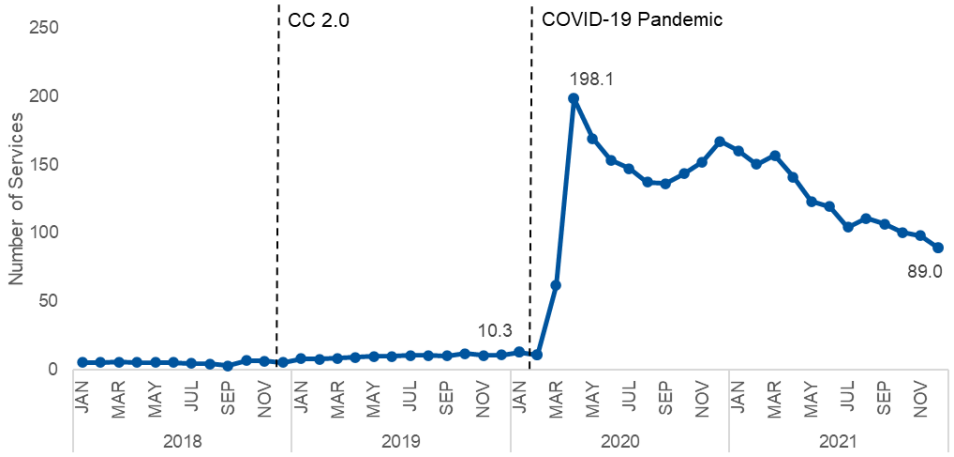
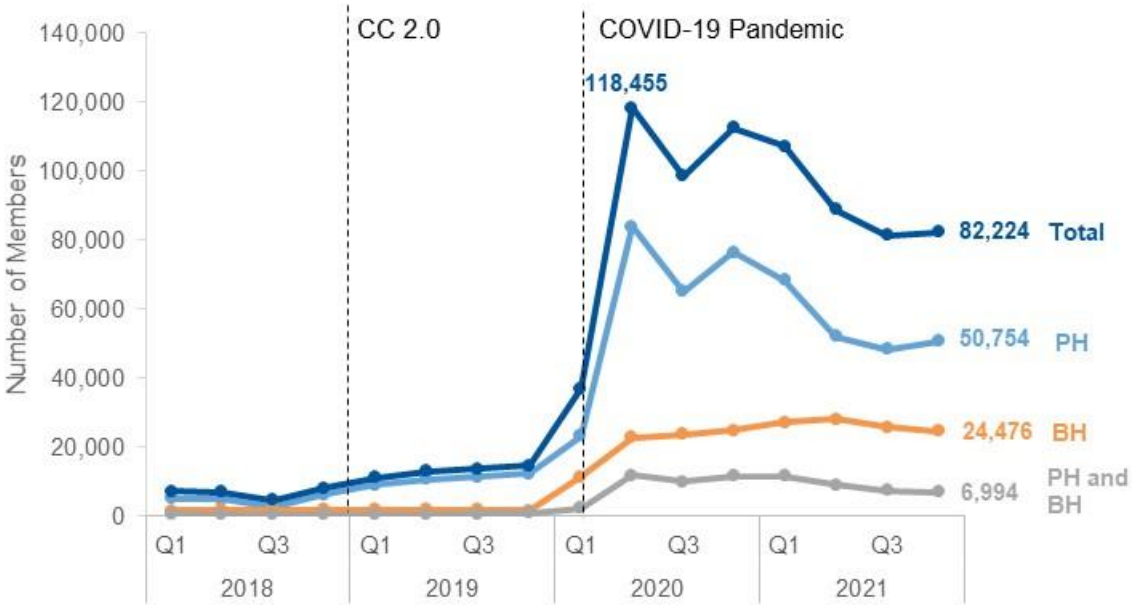


Figure 5-23 shows the number of members utilizing telemedicine services by physical and behavioral health quarterly. In the last quarter evaluated (Q4 2021), about 6 in 10 members who used telehealth services used telemedicine services for physical health only. Approximately 3 in 10 members who used telehealth services used telemedicine exclusively for behavioral health and 1 in 10 (8.5 percent) used telemedicine for both physical and behavioral health services.

Figure 5-23—Number of Telemedicine Members by Type of Healthcare



Measure 24 Conclusion: 2019 data supports the hypothesis.

Research Question 3: Has member satisfaction increased during Centennial Care 2.0?

Consumer Assessment of Healthcare Providers and Systems (CAHPS)®[5-11] Health Plan Surveys are a set of standardized surveys that assess beneficiary experience with care. CAHPS surveys were administered by each MCO annually. To accurately evaluate changes in member experience following the implementation of Centennial Care 2.0, HSAG applied the results from each report to the previous year (e.g., 2019 member experience is reflected in the 2020 CAHPS report). HSAG used the results from these surveys to analyze three measures: member rating of health care, member rating of health plan, and member rating of personal doctor.[5-12] Table 5-29 shows the positive responses for adult and pediatric members statewide for the three CAHPS survey questions analyzed. Statewide rates were calculated by weighting plan-specific rates by MCO enrollment each year, as shown in Table 5-28.

Table 5-28—MCO Enrollment by Year

	2014	2015	2016	2017	2018	2019
BCBS						
Adult	73,914	81,851	90,239	86,998	100,141	140,785
Child	45,131	48,287	53,122	52,021	60,732	97,629
PHP						
Adult	83,625	100,129	111,370	108,125	176,499	211,927
Child	117,283	117,587	118,722	111,092	131,611	163,944

Only BCBS and PHP were included in this analysis due to continuity of plan participation across Centennial Care and Centennial Care 2.0. HSAG anticipates data for legacy plans will be available for inclusion in the Summative Evaluation Report. MCO-specific results are presented in Appendix A for BCBS and PHP. As shown in Table 5-29, prior to the introduction of Centennial Care 2.0 in 2019, statewide rates remained relatively consistent across the three measures for adults and children, with satisfaction among children being higher than satisfaction among adults. BCBS and PHP rates, shown in Appendix A (Table A-22 and A-23), followed a similar pattern.

5-11 CAHPS® is a registered trademark of the Agency for Healthcare Research and Quality (AHRQ).

5-12 Ratings are given on a scale of 0 to 10, and top-box coded where a high rating is 8+9+10. Therefore, percentages shown for measure 25-27. represent the percentage of respondents indicating a rating of either 8, 9, or 10. Additional details of measure definitions can be found in Appendix C: Measure Specifications.

Table 5-29—Statewide Rates for CAHPS Survey Questions

	2014	2015	2016	2017	2018		2019 Trend Model[1] 2019	Predicted	(P-value)
Member rating of health care (measure 25)									
Adult	73.8%	76.6%	72.8%	74.7%	71.0%		77.5%	71.9%	(0.008)
	(N=482)	(N=401)	(N=488)	(N=452)	(N=407)		(N=301)		
Child	85.4%	84.5%	86.6%	84.9%	84.8%		88.0%	85.1%	(0.254)
	(N=460)	(N=412)	(N=472)	(N=506)	(N=508)		(N=324)		
Member rating of health plan (measure 26)									
Adult	77.0%	79.5%	76.8%	76.4%	77.1%		78.2%	76.5%	(0.267)
	(N=659)	(N=563)	(N=664)	(N=626)	(N=564)		(N=453)		
Child	87.4%	86.5%	88.3%	86.6%	87.0%		87.2%	86.8%	(0.579)
	(N=665)	(N=597)	(N=665)	(N=690)	(N=686)		(N=541)		
Member rating of personal doctor (measure 27)									
Adult	81.5%	81.3%	81.5%	80.9%	80.9%		84.6%	80.5%	(0.103)
	(N=501)	(N=421)	(N=512)	(N=464)	(N=432)		(N=342)		
Child	87.3%	87.7%	89.7%	90.1%	89.3%		90.8%	90.7%	(0.845)
	(N=584)	(N=507)	(N=565)	(N=593)	(N=577)		(N=455)		

Note: Rates are provided by the MCOs and have not been independently validated by HSAG.
To accurately evaluate changes in member experience following the implementation of CC 2.0, HSAG applied the results from each report to the previous year (e.g. 2019 member experience is reflected in the 2020 CAHPS report).
[1]Actual vs projected shows the difference between observed rates during the evaluation period compared to the projected rate had the baseline trend continued.

Member Rating of Healthcare (Measure 25)

After the introduction of Centennial Care 2.0, member rating of health care increased across both the adult and child populations. As displayed in Table 5-29, adult members' rating of health care significantly increased from 71.0 percent in 2018 to 77.5 percent in 2019, 5.6 percentage points higher than the predicted value if the trend in the baseline period had continued. Pediatric member rating of health care also increased in 2019 compared to 2018 to 88.0 percent, 2.9 percentage points higher than the predicted value.

Measure 25 Conclusion: Supports the hypothesis.

Member Rating of Health Plan (Measure 26)

Member rating of health plan for adult and pediatric members also increased in 2019 after the introduction of Centennial Care 2.0. For both adult and pediatric members, the 2019 actual value was about 1 to 2 percentage points higher than the predicted value if the trend in the baseline period had continued as seen in Table 5-29.

Measure 26 Conclusion: Neither supports nor fails to support the hypothesis.

Member Rating of Personal Doctor (Measure 27)

Member rating of personal doctor for both adult and pediatric members increased in 2019 after the introduction of Centennial Care 2.0. As displayed in Table 5-29, adult members' satisfaction with their personal doctor increased from 80.9 percent in 2018 to 84.6 in 2019, greater than 4 percentage points higher than the expected value. The rating of children's personal doctor remained relatively similar, increasing from 89.3 percent in 2018 to 90.8 percent in 2019, 0.1 percentage points higher than the expected value if the baseline trend had continued.

Measure 27 Conclusion: Neither supports nor fails to support the hypothesis.

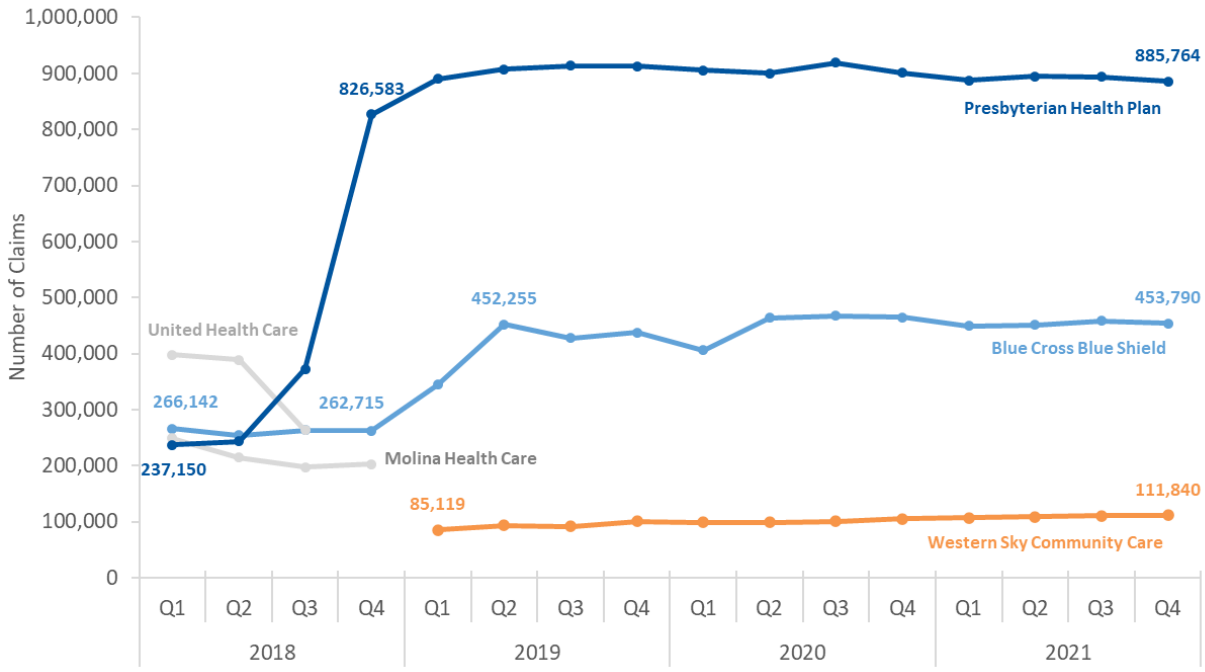
Hypothesis 3: Implementation of electronic visit verification (EVV) is associated with increased accuracy in reporting services rendered.

Research Question 1: Has the number of claims submitted through EVV increased?

Number of Submitted Claims Through EVV (Measure 28)

Figure 5-24 displays the number of claims submitted through EVV between 2018 and 2021 for each MCO. During this time period, PHP submitted the highest number of claims through EVV, beginning with 237,150 and 243,417 claims in quarter 1 (Q1) and Q2 2018 and jumping to 890,451 claims in Q1 2019. BCBS experienced a similar increase from 262,715 claims in Q4 2018 and reaching 452,255 claims by Q2 2019. The number of claims submitted through EVV increased slightly from 85,119 claims in 2019 to 111,840 claims in 2021 for WSCC.

Figure 5-24—Number of Submitted Claims Through EVV (Measure 28)



Measure 28 Conclusion: Supports the hypothesis.

Research Question 2: Has the proportion of paid or unpaid hours retrieved due to false reporting decreased?

Percentage of Paid or Unpaid Hours Retrieved Due to False Reporting (Measure 29)

No plan reported having paid or unpaid hours for this measure, excluding PHP, which reported 86, 168, and 112 paid or unpaid hours retrieved due to false reporting for Q1 through Q3 2020, respectively. Because there were no data prior to Centennial Care 2.0 and limited data during the evaluation period with a high prevalence of zero hours reported, results are descriptive in nature and cannot provide causal conclusions regarding hypothesis support.

Measure 29 Conclusion: Insufficient data to draw a conclusion.

Aim Four: Improved quality of care and outcomes for Medicaid beneficiaries With a SUD

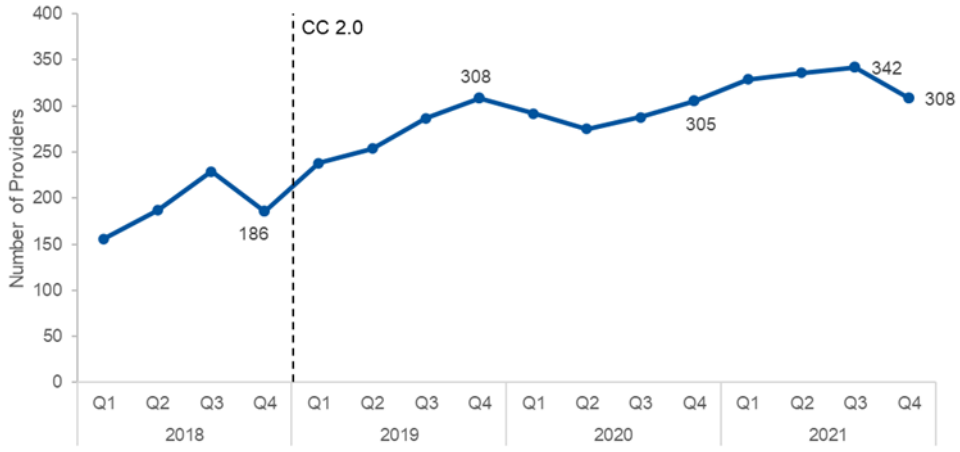
Hypothesis 1: The Demonstration will increase the number of providers that provide substance use disorder (SUD) screening, which will result in an increase in the number of individuals screened and the percentage of individuals who initiate treatment for alcohol and other drug (AOD) dependence treatment.

Research Question 1: Did the number of behavioral health and physical health providers who screen beneficiaries for SUD increase?

Number of Providers Who Provide SUD Screening (Measure 30)

Figure 5-25 displays the quarterly number of Centennial Care providers who provided SUD screening between 2018 and 2021. Providers for this measure were identified using claims/encounter data. Overall, the quarterly average number of providers increased 73 percent during Centennial Care 2.0, from 190 providers per quarter in 2018 (prior to the Demonstration) to 329 providers per quarter in 2021. However, after reaching a peak of 342 providers in 2021 Q3, the number of providers decreased to 308 in Q4 2021. This decline may be due to insufficient data runout for Q4 but should be monitored to assess if the trend continues into 2022.

Figure 5-25—Quarterly Number of Providers Who Provided SUD Screening, 2018–2021



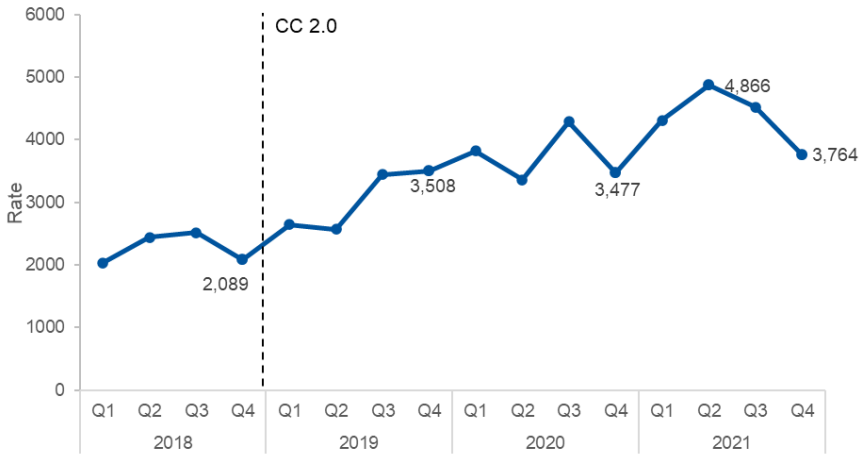
Measure 30 Conclusion: Supports the hypothesis.

Research Question 2: Did the number of individuals screened for SUD increase?

Number of Individuals Screened for SUD (Measure 31)

Figure 5-26 displays the quarterly number of Centennial Care members who were screened for SUD between 2018 and 2021. Members for this measure were identified using claims/encounter data. Overall, the quarterly average number of members increased 92 percent during Centennial Care 2.0, from an average of 2,270 members per quarter in 2018 (prior to the Demonstration) to 4,367 members per quarter in 2021. However, after reaching a peak of 4,866 total members in Q2 2021, the number of members decreased each quarter to 3,764 in Q4 2021. This decline may be due to in part to a resurgence of the COVID-19 PHE in the second half of 2021, and/or incomplete Q4 data and should be monitored to assess if the trend continues into 2022 with additional data run-out.

Figure 5-26—Quarterly Number of Members Screened for SUD, 2018–2021



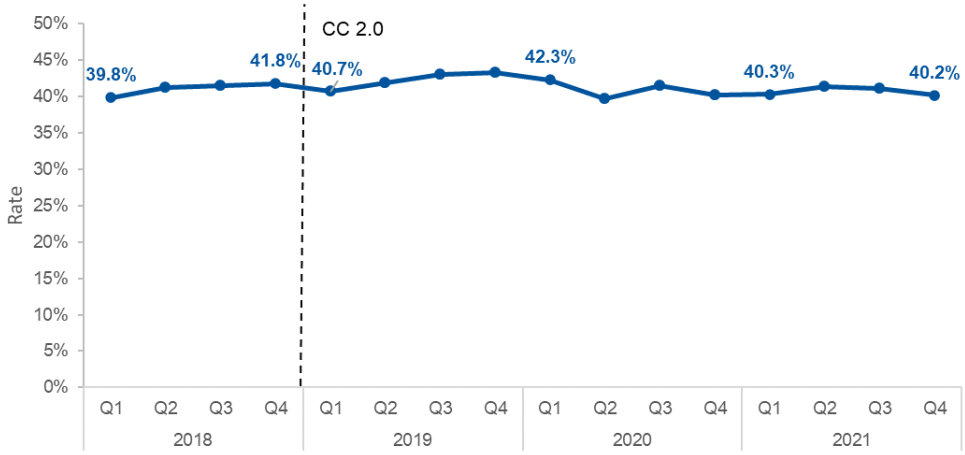
Measure 31 Conclusion: Supports the hypothesis.

Research Question 3: Has the percentage of individuals with a SUD who received any SUD related service increased?

Percentage of Individuals with a SUD Diagnosis Who Received Any SUD Service During the Measurement Year (Measure 32)

Measure 32 assesses the percentage of individuals with a SUD who received any SUD-related service using claims/encounter data. Figure 5-27 displays that this percentage remained steady each quarter between 2018 and 2021. There was no appreciable increase in the percentage of members with a SUD diagnosis receiving SUD services following the implementation of Centennial Care 2.0 in 2019.

Figure 5-27—Percentage of Members Diagnosed With a SUD Who Received SUD Services, 2018–2021



Measure 32 Conclusion: Does not support the hypothesis.

Research Question 4: Did the percentage of individuals who initiated AOD abuse and dependence treatment increase?

Initiation of AOD Abuse or Dependence Treatment (IET) (Measure 33)

Measure 33 uses claims/encounter data to assess the percentage of individuals initiating AOD abuse or dependence treatment through a comparison of projected rates covering a two-year baseline period (2017–2018) to each evaluation year (2019–2021).[5-13]

Figure 5-28 and Table 5-30 show that the observed rates fell below the projected rates had the baseline trend continued into the Centennial Care 2.0 Demonstration period. This difference was statistically significant as shown by the small p-values (e.g., all below 0.05) in Table 5-30. This is primarily driven by a short baseline period within which to estimate a counterfactual trend, with an increase in rates between 2017 and 2018, which led to estimated counterfactual rates that are likely too high. The national median as illustrated by the black line in Figure 5-28 showed a very similar pattern and supports the hypothesis of an inflated estimated counterfactual. While these findings suggest that rates during Centennial Care 2.0 fell below what was expected, the Centennial Care 2.0 rates tracked alongside national trends.

[5-13] Technical specifications for measure calculation cover a measurement period of one year; as such quarterly rates to support an interrupted time series analysis could not be calculated in a manner to compare against national benchmarks.

Figure 5-28—Initiation of AOD Abuse or Dependence Treatment (IET) (Measure 33)

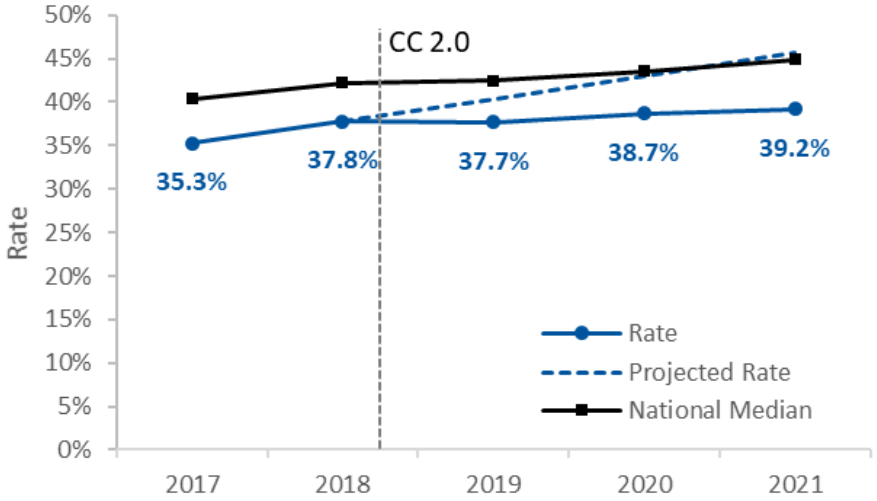


Table 5-30—Initiation of AOD Abuse or Dependence Treatment (IET) (Measure 33)

Year	Denominator	Rate	Projected Rate	p-Value
2017	27,850	35.3%	--	--
2018	26,706	37.8%	--	--
2019	27,596	37.7%	40.4%	<0.001
2020	27,411	38.7%	43.0%	<0.001
2021	31,241	39.2%	45.7%	<0.001

Note: "—" represents numbers that cannot not calculated or are not applicable.

Measure 33 Conclusion: Does not support the hypothesis but trending favorably.

Hypothesis 2: The Demonstration will increase peer support services which will result in more individuals engaging in and retained in AOD abuse and dependence treatment.

Four measures were calculated using claims/encounter data to assess whether peer support services increased the number of individuals engaging and remaining in AOD abuse and dependence treatment. One measure used an ITS approach (Measure 34) and three were evaluated using a DiD approach (Measures 35, 36, and 37).

The DiD approach compared the change in rates among a group receiving peer support services against those not receiving peer support services. Baseline rates from 2018 (prior to the Centennial Care 2.0 Demonstration) were used to compare against rates in the evaluation year. Due to changing populations across evaluation year, the number of members included in the baseline period will vary slightly. To control for systematic differences in profiles between the two groups, HSAG controlled for members' baseline risk score in the DiD models.

Research Question 1: Has the percentage of individuals with a SUD diagnosis who received peer support services increased?

Percentage of Individuals with a SUD Diagnosis Who Received Peer Support (Measure 34)

Figure 5-29 compares the observed rate to the estimated counterfactual rate (the rate in the absence of the SUD elements of Centennial Care 2.0) from an interrupted time series analysis controlling for seasonality and peak COVID-19-affected quarters (Q2 2020 through Q1 2021). The dotted gray line represents the estimated

counterfactual had Centennial Care 2.0 not been implemented. The interrupted time series analysis also produces predicted results for the post-intervention period, which are not shown on Figure 5-29, but are discussed below in Table 5-31.

Figure 5-29—Percentage of Individuals With a SUD Diagnosis who Received Peer Support, Observed Rates Compared to ITS Model Projections (Measure 34)

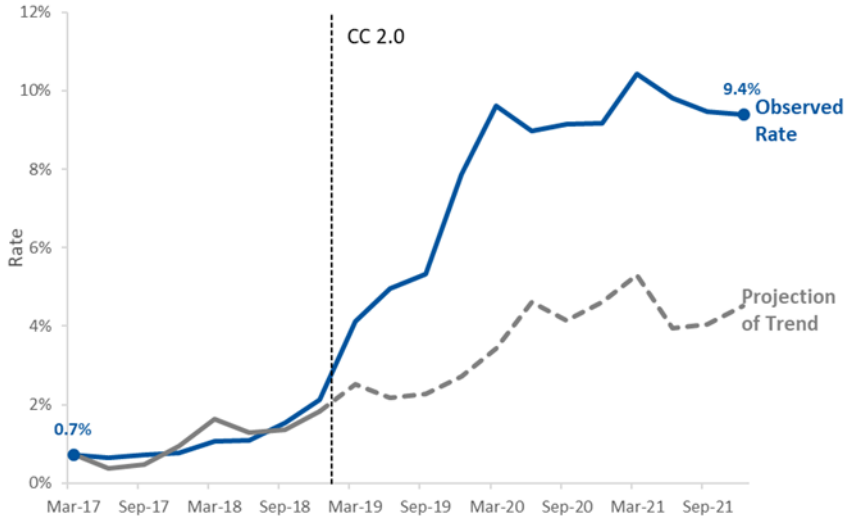


Table 5-31 presents key statistical results from the interrupted time series analysis after accounting for the trends during the baseline and evaluation periods, seasonality, and the peak COVID-19-affected quarters (full model results can be found in Appendix A). The results show that the percentage of individuals with a SUD diagnosis who received peer support increased significantly by 2.8 percentage points upon implementation of Centennial Care 2.0 in Q1 2019. While the trend in the rate increased by 0.3 percentage points per quarter following the implementation of Centennial Care 2.0 relative to the trend in the baseline period, this difference was not statistically significant. The results are consistent with a small but significant increase in the percentage of individuals with a SUD diagnosis receiving peer support occurring shortly after the implementation of Centennial Care 2.0; however, outside of that jump in rate in Q1 2019, the broader trend in the measure did not change significantly. Table A-27 and A-28 contain additional regression results.

Table 5-31—Percentage of Individuals With a SUD Diagnosis Who Received Peer Support, Primary ITS Results[1]

Variable	Estimate[2]	p-Value
Intercept	0.7%	0.317
Pre-CC 2.0 quarterly trend	0.2p.p.	0.199
Level change at implementation	2.8 p.p.	0.014**
Change in quarterly trend	0.3 p.p.	0.169

*p< 0.1, **p < 0.05, ***p<0.001
[1]Note: Full model results are presented in Appendix A.
[2]p.p.=percentage point.

Measure 34 Conclusion: Supports the hypothesis.

Research Question 2: Does receiving peer support increase the percentage of individuals engaged in AOD abuse and dependence treatment?

Engagement of AOD Abuse or Dependence Treatment (IET) (Measure 35)

Measure 35 was evaluated using a DiD model to compare changes in rates between the baseline period (2018) and each evaluation year among a peer support group and non-peer support group.

As displayed in Table 5-32, the rate of individuals receiving peer support and engaging in AOD abuse and dependence treatment increased by over 7 percentage points relative to the comparison group in each evaluation year. These increases were statistically significant at the 0.05 level. These results demonstrate that individuals receiving peer support had a significantly higher likelihood of engaging in AOD abuse and dependence treatment in each demonstration year compared to those not receiving peer support services. Moreover, these results represent meaningful changes, from approximately 23 percent to over 26 percent in each year, an equivalent change from the 90th national percentile to over the 95th percentile. The rates for the peer support group in each evaluation year are approximately double that of the non-peer support group, after controlling for differences in members' baseline risk scores. Table A-24 contains additional regression results.

Table 5-32—Engagement of AOD Abuse or Dependence Treatment (IET) (Measure 35)

		Regression Adjusted Rates			
		Time Period[1]			Peer Support Impact
Evaluation Year	Group	Baseline	Evaluation	Change[2]	(p-Value)
2019	Peer Support	23.5% *N=231*	32.9% *N=692*	9.3p.p.	11.2 p.p. (0.002)
	Non-Peer Support	17.5% *N=26,475*	15.6% *N=25,690*	-1.8 p.p.	
2020	Peer Support	23.0% *N=231*	27.3% *N=860*	4.2 p.p.	7.0 p.p. (0.025)
	Non-Peer Support	17.2% *N=26,475*	14.4% *N=22,599*	-2.8 p.p.	
2021	Peer Support	23.4% *N=231*	26.8% *N=1,377*	3.4 p.p.	7.3 p.p. (0.010)
	Non-Peer Support	17.4% *N=26,475*	13.5% *N=23,595*	-3.9 p.p.	

[1]Note: N represents the denominator count.
[2]p.p.=percentage point

Measure 35 Conclusion: Supports the hypothesis.

Research Question 3: Does receiving peer support increase the treatment tenure for individuals receiving AOD abuse and dependence treatment?

Average Length of Stay (ALOS) (Measure 36)

Members in AOD abuse and dependence treatment receiving peer support had a longer tenure of treatment than members not receiving peer support, even after controlling for differences in risk score at baseline. However, this effect appeared to decrease over time as displayed in Table 5-33. For the 2019 evaluation group, peer support members increased their average treatment tenure by 119 days between the baseline and evaluation year relative to the non-peer support comparison group. Although this effect decreased for the 2020 evaluation group, the estimated impact of 38 days remained statistically significant. For the 2021 evaluation group, members receiving

peer support increased treatment tenure by 19 days between the baseline and evaluation year relative to the comparison group; however, this impact was not statistically significant at a standard level. Table A-25 contains additional regression results.

Table 5-33—Average Length of Stay (Days) (Measure 36)

Evaluation Year	Group	Regression Adjusted Rates		Change	Peer Support Impact (p-Value)
		Time Period[1]			
		Baseline	Evaluation		
2019	Peer Support	232 *N=135*	341 *N=460*	109	119 (<0.001)
	Non-Peer Support	94 *N=12,285*	85 *N=11,856*	-10	
2020	Peer Support	230 *N=135*	250 *N=960*	19	38 (<0.001)
	Non-Peer Support	93 *N=12,285*	75 *N=11,636*	-18	
2021	Peer Support	230 *N=135*	232 *N=1,076*	2	19 (0.100)
	Non-Peer Support	93 *N=12,285*	76 *N=11,694*	-17	

[1]Note: N represents the denominator count.

Measure 36 Conclusion: Supports the hypothesis.

Research Question 4: Does receiving peer support increase the treatment tenure for medication assisted treatment (MAT) for opioid use disorder (OUD)?

Continuity of Pharmacotherapy for OUD (Measure 37)

Analysis of Measure 37 utilizing claims/encounter data shows that after Centennial Care 2.0, the percentage of members with continuity of pharmacotherapy for OUD increased significantly among the peer support group compared to the change in the comparison group over the same time period as displayed in Table 5-34. Between the baseline period and each evaluation year, the peer support group increased by 17.7 percent to 22.5 percent, while the non-peer support comparison group remained relatively unchanged after controlling for members' baseline risk scores. These differences are statistically significant at the 0.05 level. Table A-26 contains additional regression results.

Table 5-34—Continuity of Pharmacotherapy for OUD (Measure 37)

Evaluation Year	Group	Regression Adjusted Rates		Change[2]	Peer Support Impact (p-Value)
		Time Period[1]			
		Baseline	Evaluation		
2019	Peer Support	20.9% *N=51*	38.6% *N=361*	17.7p.p.	17.4p.p. (0.022)
	Non-Peer Support	27.3% *N=11,196*	27.6% *N=11,937*	0.3p.p.	
2020	Peer Support	19.1% *N=51*	41.6% *N=2,130*	22.5p.p.	22.9p.p. (0.002)
	Non-Peer Support	25.9% *N=11,196*	25.5% *N=11,402*	-0.5p.p.	
2021	Peer Support	18.8% *N=51*	38.2% *N=4,028*	19.5p.p.	19.9p.p. (0.005)

Evaluation Year	Group	Regression Adjusted Rates			
		Time Period[1]		Change[2]	Peer Support Impact (p-Value)
		Baseline	Evaluation		
	Non-Peer Support	25.6% *N=11,196*	25.2% *N=10,395*	-0.4p.p.	

[1]Note: N represents the denominator count.
[2]p.p.=percentage point

Measure 37 Conclusion: Supports the hypothesis.

Hypothesis 3: The Demonstration will improve access to a comprehensive continuum of SUD care which will result in decreased utilization of ED and inpatient hospitalization and SUD inpatient readmissions.

Research Question 1: Has the continuum of services available for individuals with a SUD expanded in terms of which services are available?

Continuum of Services Available (Measure 38)

This measure aims to answer the question of whether the continuum of services available for individuals with a SUD has expanded in terms of which services are available using MCO reports. Data for this measure were reported by individual MCOs (BCBS, PHP, and WSCC). Only data post-Centennial Care 2.0 was available and therefore a comparison of facilities and services post-Centennial Care 2.0 to pre-Centennial Care 2.0 could not be made, nor a definitive conclusion on whether there was an expansion of services as a result of the demonstration. However, there are some notable trends in the number of providers reported by facility type as displayed in Table 5-35.

Table 5-35—Number of Providers Reported Across All MCOs During Q4 2021

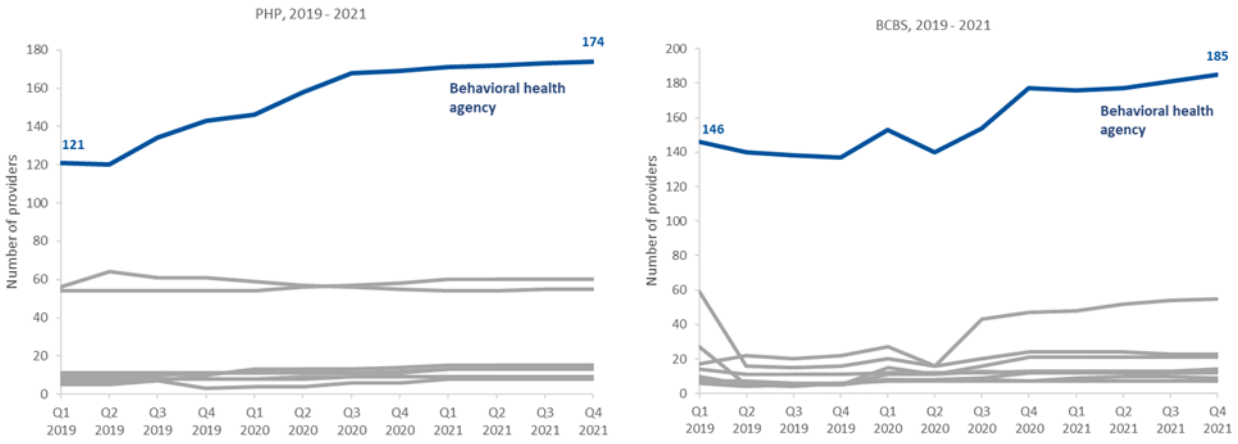
Facility Type	Number of Providers
Accredited Residential Facility (ARTC) - Juvenile, BH	24
Accredited Residential Facility (ARTC) - Adult, SUD	15
Behavioral Health Agency	553
Community Mental Health Center	36
Core Service Agency (CSA)	97
FQHC/RHC providing BH Services	250
Hospital, Psychiatric	28
Hospital, Psychiatric Unit in General Hospital	31
IHS or 638 Tribal Facility providing BH Services	116
OTC/Methadone Clinic	40
Residential Treatment Center, Joint Commission Certified	17
Residential Treatment Center, Non-Joint Commission Certified	9
Treatment Foster Care I (TFC I)	26
Treatment Foster Care II (TFC II)	9
Psychiatric Emergency Services	0
Accredited Residential Facility (ARTC)	24
Residential Non-Joint Commission Group Home (GH)	0
Rural Health Centers	0

Facility Type	Number of Providers
School Based Health Services[1]	0

[1]School Based Health Services providers could not be identified separately from FQHCs.

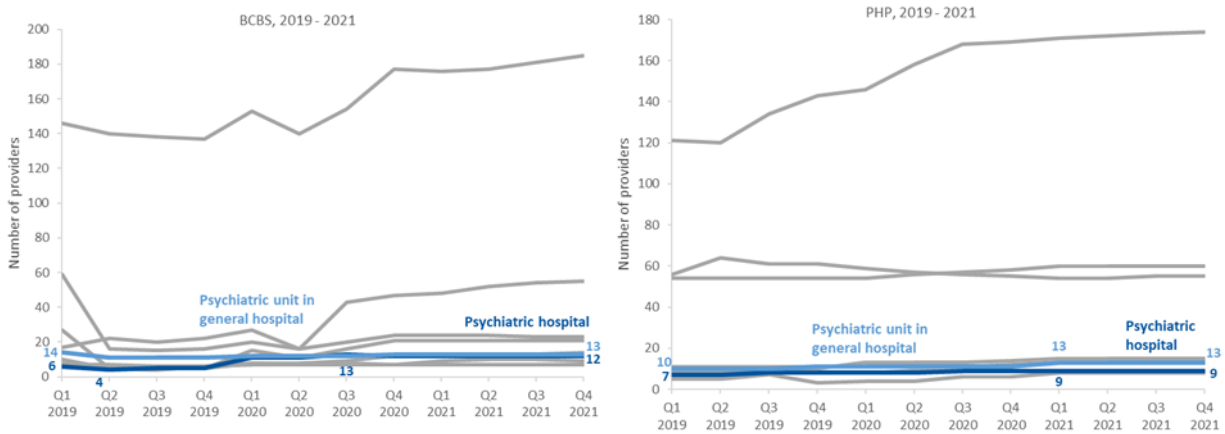
As shown in Figure 5-30, BCBS reported 146 providers in Q1 2019 compared to 185 providers in Q4 2021, an approximately 27 percent increase. PHP reported an increase of 43.8 percent, from 121 providers in Q1 2019 to 174 providers by the end of 2021.

Figure 5-30—Number of Behavioral Health Agency Providers, 2018–2021, PHP and BCBS



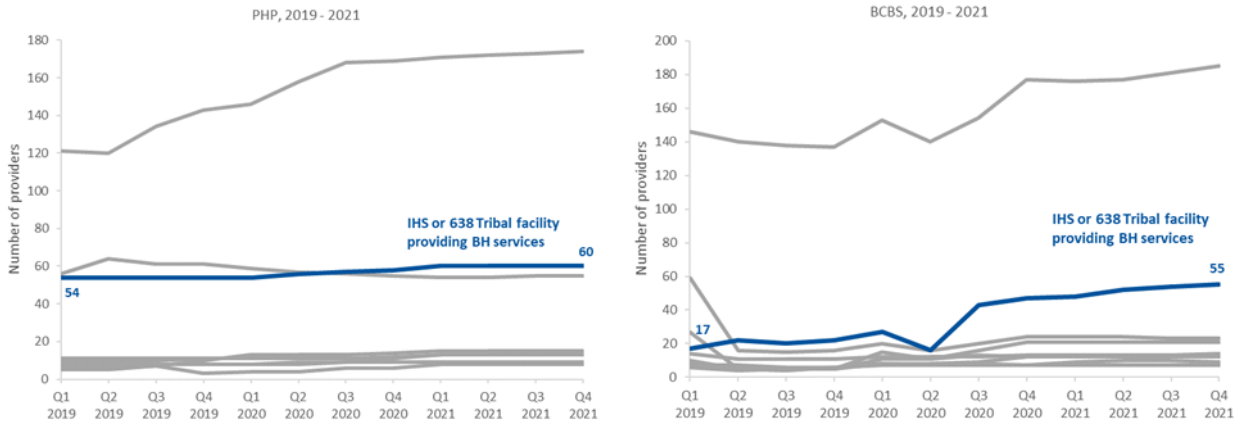
As shown in Figure 5-31, BCBS psychiatric units in a general hospital reported 14 providers in Q1 2019 and remained steady thereafter. Psychiatric hospital facilities reported four providers in Q2 2019; this number increased to 13 in Q3 2020 and remained steady at 12 from Q4 2020 through 2021. PHP psychiatric hospitals and psychiatric units in general hospitals reported seven and 10 providers, respectively, in 2019, and increased to nine and 13 providers, respectively, in 2021.

Figure 5-31—Number of Psychiatric Unit Providers, 2018–2021, PHP and BCBS



BCBS IHS or 638 Tribal Facilities providing behavioral health services showed an increase in the number of providers in the latter half of 2020 and 2021 (Figure 5-32). PHP IHS or 638 Tribal Facilities providing behavioral health services increased by approximately 11.1 percent, starting at 54 providers in 2019 and increasing to 60 providers by the end of 2021.

Figure 5-32—Number of Tribal Facility Providers, 2018–2021, PHP and BCBS



PHP ARTCs demonstrated a slight increase in the number of providers from seven providers in 2019 to 15 providers in 2021 (Figure 5-33)

Figure 5-33—Number of Accredited Residential Facility Providers, 2018–2021, PHP

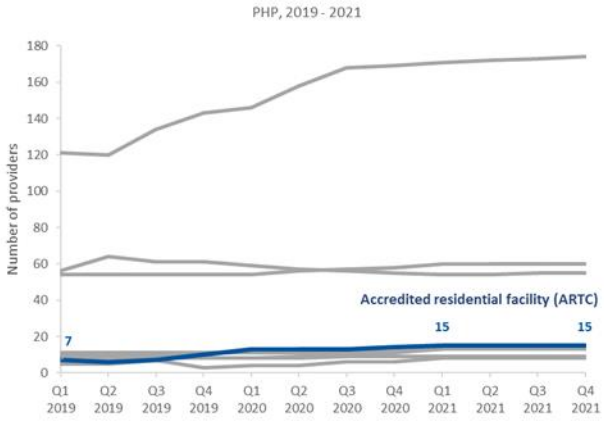


Figure 5-34 shows that during the Centennial Care 2.0 period, WSCC behavioral health agencies exhibited an approximately 27 percent increase in the number of providers during this period; 152 providers were reported in Q1 2019, dropped to 125 providers the following quarter, then increased to 194 providers by the end of 2021. Joint Commission-certified residential treatment centers also showed evidence of expansion, with eight providers reported in Q1 2019 and gradually expanding to 17 providers in the last quarter of 2020 (Figure 5-35).

Figure 5-34—Number of Behavioral Health Agency Providers, 2019–2021, WSCC

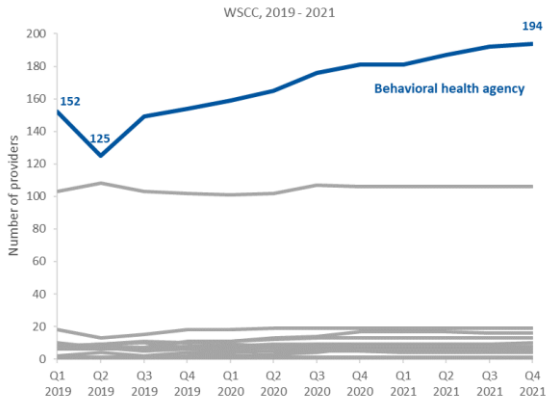
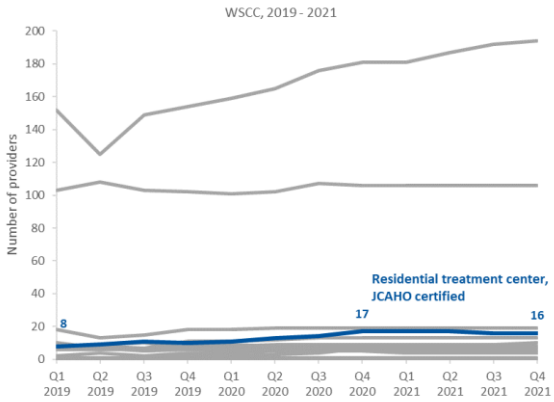
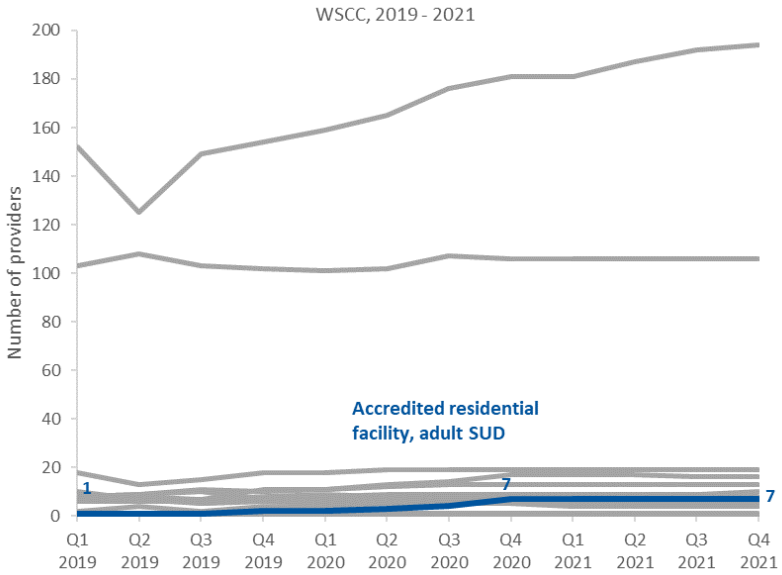


Figure 5-35—Number of Residential Treatment Center, Joint Commission Certified Providers, 2019–2021, WSCC



Accredited residential facilities for adult SUD also grew from one provider in the Q1 2019 to seven providers by the last quarter of 2020 and through 2021 (Figure 5-36).

Figure 5-36—Number of Accredited Residential Facility, Adult SUD Providers, 2019–2021, WSCC



Although the number of behavioral health *facilities* associated with each MCO has generally increased during the evaluation period, HSAG could not reliably identify a significant increase in the number and variety of different *services* following the implementation of Centennial Care 2.0 in 2019, which is the focus of the research question.

Measure 38 Conclusion: Neither supports nor fails to support the hypothesis.

Research Question 2: Has capacity for ambulatory SUD services increased?

Number of Providers and Capacity for Ambulatory SUD Services (Measure 39)

Measure 39 uses claims/encounter data to assess the provider capacity for ambulatory SUD services by estimating the projected capacity among all providers covering SUD services throughout the Centennial Care 2.0 approval period. MCOs supplied HSAG with lists of providers who offered SUD services between 2018 and 2021. Because of the change in plan composition in 2019, only two plans (BCBS and PHP) provided data for 2018. WSCC began providing data in 2019.

To estimate changes in provider capacity following the Centennial Care 2.0 Demonstration, HSAG relied exclusively on the provider lists supplied by the MCOs and administrative claims/encounter data. HSAG calculated the average provider Medicaid panel size in the year prior to Centennial Care 2.0 (2018) and used this to estimate maximum Medicaid panel size for new providers going forward. HSAG then analyzed the actual panel size in each year of the Demonstration (2019–2021) and compared the actual to the projected. This comparison was done separately for existing providers (i.e., those who had been providing SUD services in 2018) and new providers (i.e., those who had *not* provided SUD services in 2018).

Differences between actual and projected panel sizes may arise for a variety of reasons. Among the new provider group, lower panel sizes than projected may be a result of reluctance of providers to take on a large number of Medicaid members, saturation of the Medicaid market, or providers operating in geographic areas with few Medicaid members. Higher-than-projected panel sizes may be a result of pent-up demand or new providers operating in geographic areas with few providers and/or a high concentration of Medicaid members.

Table 5-36 shows that in 2018, SUD providers saw an average of 191 Medicaid members. In 2019, existing providers saw an average of 214, suggesting these providers were taking on more Medicaid patients than the year prior; however, among the new provider group, the average panel size was only 72. Although the root cause of this discrepancy is unclear,[5-14] it does suggest that added capacity of new SUD providers did not correspond to a proportional increase in the number of members served. Similarly, new providers only saw an average of 84 members in 2020 and 94 in 2021. Meanwhile, existing providers saw an average of 184 members in 2020 (a decline compared to the previous two years, but likely driven by the COVID-19 PHE, and 198 members in 2021.

Table 5-36— Number of Providers and Capacity for Ambulatory SUD Services (Measure 39)

Year	Provider Group	Number of Providers	Average Panel Size	Total Panel Size	Projected Capacity	Percent of Projected Capacity
2018	All providers	5,381	191	1,026,771	N/A	N/A
2019	Existing providers	5,035	214	1,078,221	960,749	112%
2019	New providers	3,965	72	285,639	756,578	38%
2020	Existing providers	5,311	184	978,130	1,013,414	97%
2020	New providers	4,350	84	366,012	830,042	44%
2021	Existing providers	4,957	198	983,575	945,866	104%
2021	All providers	5,826	94	549,849	1,111,683	49%
2019	**All providers**	**9,000**	**152**	**1,363,860**	**1,717,327**	**79%**

[5-14] This discrepancy could be a result of new providers coming from MCOs that no longer operated in 2019 and thus switched which MCOs they accepted.

2020	All providers	9,661	139	1,344,142	1,843,456	73%
2021	All providers	10,783	142	1,533,424	2,057,549	75%

Analysis shows that providers who had been supplying SUD services for Medicaid members in 2018 (either for BCBS or PHP) had generally maintained or increased their capacity during Centennial Care 2.0. However, SUD providers who had not contracted with BCBS or PHP in 2018 had a much smaller panel size from 2019–2021, suggesting the capacity added was less than half of the projected capacity (between 38 percent and 49 percent). Because of incomplete data prior to Centennial Care 2.0, it is unclear whether the smaller panel size among providers who were not contracted with BCBS or PHP in 2018 would have been expected in the event these providers had similarly small panel sizes in 2018 under a plan that had left Centennial Care in 2019. However, while the realized capacity is less than expected due to smaller panel sizes, the potential capacity as measured by the number of Medicaid members who could receive services from the expanded number of providers has increased substantially. The available data were insufficient to determine whether the smaller panel sizes for new providers are due to decisions by the new providers to see fewer Medicaid patients than previous providers, or if there are external reasons, such as a satiated demand for services, or a difference in member profile such as more acute/complex cases or longer treatment periods. In any event, the number of providers and the number of members receiving services have expanded since the implementation of Centennial Care 2.0, and the evidence supports the hypothesis.

Measure 39 Conclusion: Supports the hypothesis.

Research Question 3: Has the utilization of emergency departments (EDs) by individuals with SUD decreased?

Figure 5-37 and Figure 5-41 compare the observed rate to projections from an ITS analysis controlling for seasonality and peak COVID-19-affected quarters (Q2 2020 through Q1 2021). The dotted gray line represents the predicted rate had the baseline trend (solid gray line) continued into the evaluation period.

Percentage of ED Visits of Individuals With SUD Diagnoses (Measure 40)

Figure 5-37 shows that the projected rates from the ITS model track closely with the observed rates calculated using claims/encounter data. This suggests there were minimal changes in the percentage of ED visits that were from members with a SUD diagnosis following the start of Centennial Care 2.0 in 2019.

Figure 5-37—Percentage of ED Visits of Individuals With SUD Diagnoses, Observed Rates Compared to ITS Model Projections (Measure 40)

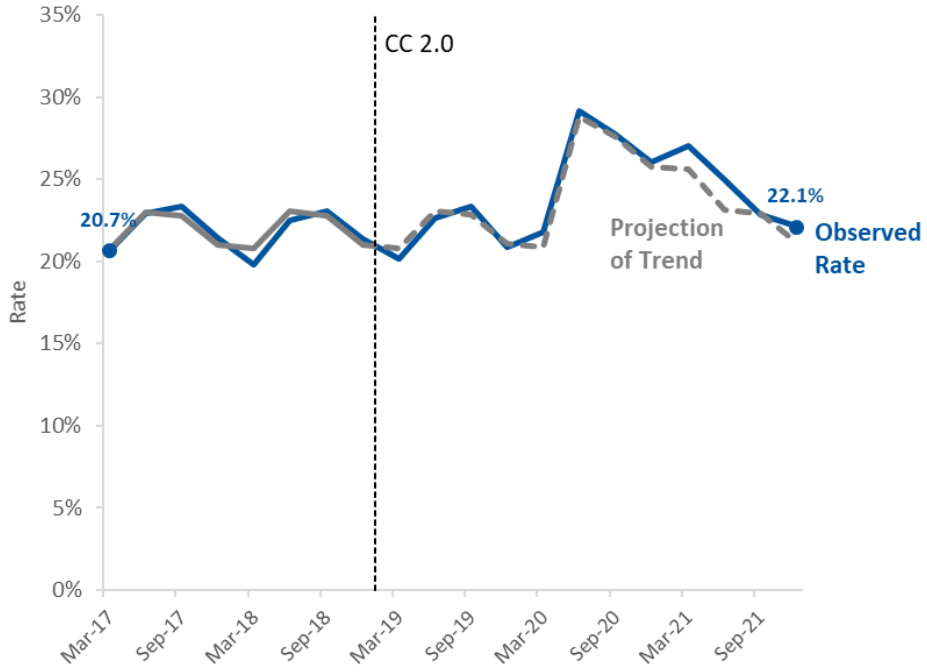


Table 5-37 corroborates the findings illustrated in Figure 5-37. The results show that the percentage of ED visits from individuals with a SUD diagnosis did not substantively change upon implementation of Centennial Care 2.0 in Q1 2019, after controlling for seasonality and peak COVID-19 PHE-affected quarters. While the trend in the rate increased by 0.1 percentage points per quarter following the implementation of Centennial Care 2.0 relative to the trend in the baseline period, this difference was not statistically significant. Tables A-29 and A-30 contain additional regression results.

Table 5-37—Percentage of ED Visits of Individuals With SUD Diagnoses, Primary ITS Model Results[1] (Measure 40)

Variable	Estimate	p-Value
Intercept	20.7%	<0.001 ***
Pre-CC 2.0 quarterly trend	0.0%	0.928
Level change at implementation	-0.4%	0.553
Change in quarterly trend	0.1%	0.341

*p< 0.1, **p < 0.05, ***p<0.001

[1]Note: Full model results are presented in Appendix X.

Measure 40 Conclusion: Neither supports nor fails to support the hypothesis.

Research Question 4: Has the utilization of inpatient hospital settings for SUD-related treatment decreased?

Percentage of Inpatient Admissions for SUD-Related Treatment (Measure 41)

Similar to Measure 40, Figure 5-38 shows that the projected rates from the ITS model track closely with the observed rates. This suggests there were minimal changes in the percentage of inpatient (IP) admissions for SUD related treatment following the start of Centennial Care 2.0 in 2019. Furthermore, although rates were generally

increasing over time, there was not a substantive increase in the rate beyond what might be expected from historical seasonality and trends during the COVID-19 PHE when substance usage was increasing.

Figure 5-38—Percentage of Inpatient Admissions for SUD-Related Treatment, Observed Rates Compared to ITS Model Projections (Measure 41)

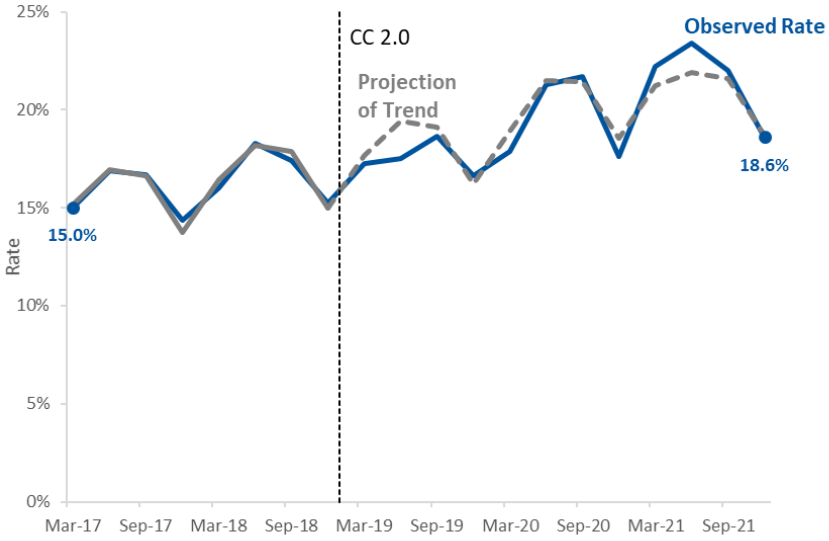


Table 5-38 shows that, although there was a significant upward trend during the pre-intervention period of 0.3 percent per quarter, this trend continued generally unchanged into the Centennial Care 2.0 period (increasing by 0.1 percentage points, which was not statistically significant). The average rate after implementation declined by 1.1 percent but was not statistically significant. Tables A-31 and A-32 contain additional regression results.

Table 5-38—Percentage of Inpatient Admissions for SUD-Related Treatment, Primary ITS Model Results[1] (Measure 41)

Variable	Estimate	p-Value	
Intercept	15.2%	<0.001	***
Pre-CC 2.0 quarterly trend	0.3%	0.039	**
Level change at implementation	-1.1%	0.201	
Change in quarterly trend	0.1%	0.345	

*p< 0.1, **p < 0.05, ***p<0.001
[1]Note: Full model results are presented in Appendix A.

Measure 41 Conclusion: Neither supports nor fails to support the hypothesis.

Research Question 5: Has the utilization of inpatient hospital settings for withdrawal management decreased?

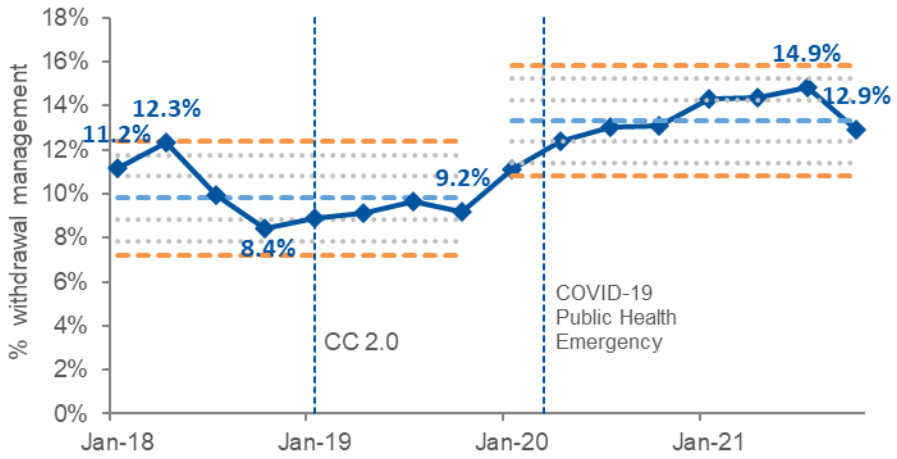
Percentage of Inpatient Admissions of Individuals With a SUD for Withdrawal Management (Measure 42)

Measure 42 uses claims/encounter data to assess whether inpatient admissions for withdrawal management decreased. A statistical process control chart was used to assess variation over time in this measure.

Figure 5-39 shows that the percentage of inpatient admissions of individuals with a SUD for withdrawal management increased steadily beginning in Q1 2020, shifting the average by approximately 3 percentage points from 10 percent to 13 percent (a 30 percent relative increase).

During Q1 of the baseline year (2018), 11.2 percent of individuals with a SUD had an inpatient admission for withdrawal management; this increased to 12.3 percent in Q2, before dropping to 8.4 percent by Q4. In 2019, the rate remained steady around 9.2 percent, before gradually increasing to 14.9 percent by Q3 2021. In the last quarter of 2021, the rate began to decline again to around 12.9 percent.

Figure 5-39—Percentage of Inpatient Admissions of Individuals With a SUD for Withdrawal Management, 2018–2021 (Measure 42)



Measure 42 Conclusion: Does not support the hypothesis.

Research Question 6: Have inpatient SUD readmissions decreased for individuals with SUD diagnoses?

7-Day and 30-Day Inpatient and Residential SUD Readmission Rates (Measure 43)

Figure 5-40 shows that the projected rate of 7-day SUD readmissions was higher than the observed rates following Centennial Care 2.0; however, as shown in Table 5-39, these differences were not statistically significant. While both the level change at implementation and the change in quarterly trend declined (by 0.7 percentage points and 0.2 percentage points, respectively), these changes were not statistically significant.

Figure 5-40—7-Day Inpatient and Residential SUD Readmission Rates, Observed Rates Compared to ITS Model Projections (Measure 43)

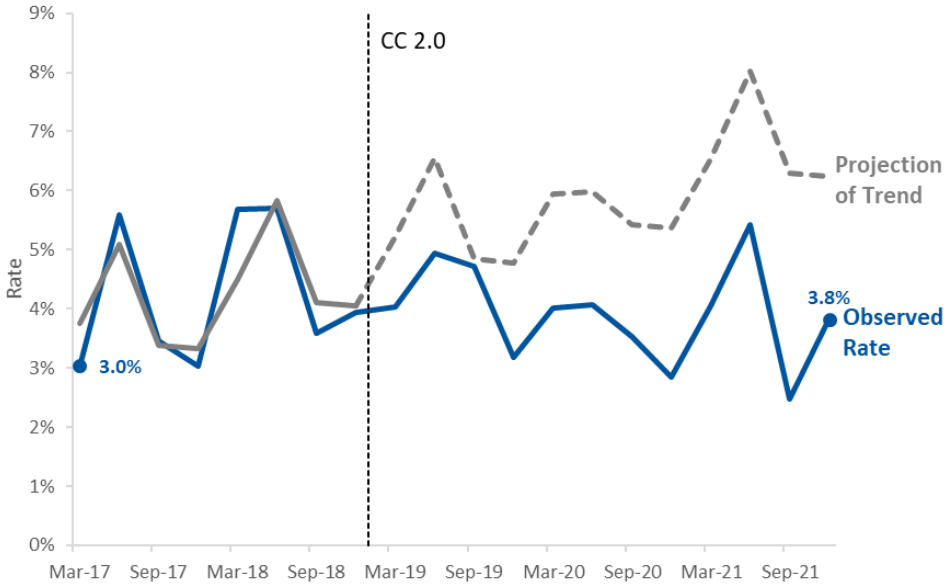


Table 5-39—7-Day Inpatient and Residential SUD Readmission Rates, Primary ITS Model Results[1] (Measure 43)

Variable	Estimate[2]	p-Value
Intercept	3.8%	<0.001***
Pre-CC 2.0 quarterly trend	0.2p.p.	0.152
Level change at implementation	-0.7p.p.	0.324
Change in quarterly trend	-0.2p.p.	0.156

*p< 0.1, **p < 0.05, ***p<0.001
[1]Note: Full model results are presented in Appendix A.
[2]p.p.=percentage point

Figure 5-41 shows that the projected rate of 30-day SUD readmissions was higher than the observed rates following Centennial Care 2.0, which had begun to decline. The quarterly trend prior to Centennial Care 2.0 was an increase of 0.5 percent per quarter, whereas afterwards, the trend changed by a decline of 0.7 percentage points (to an overall decline of 0.2 percentage points per quarter). Table 5-40 demonstrates this change in the trend was statistically significant, suggesting that the start of Centennial Care 2.0 in Q1 2019 led to a reversal of the upward trend in 30-day SUD-related readmission rates.

Figure 5-41—30-Day Inpatient and Residential SUD Readmission Rates, Observed Rates Compared to ITS Model Projections (Measure 43)

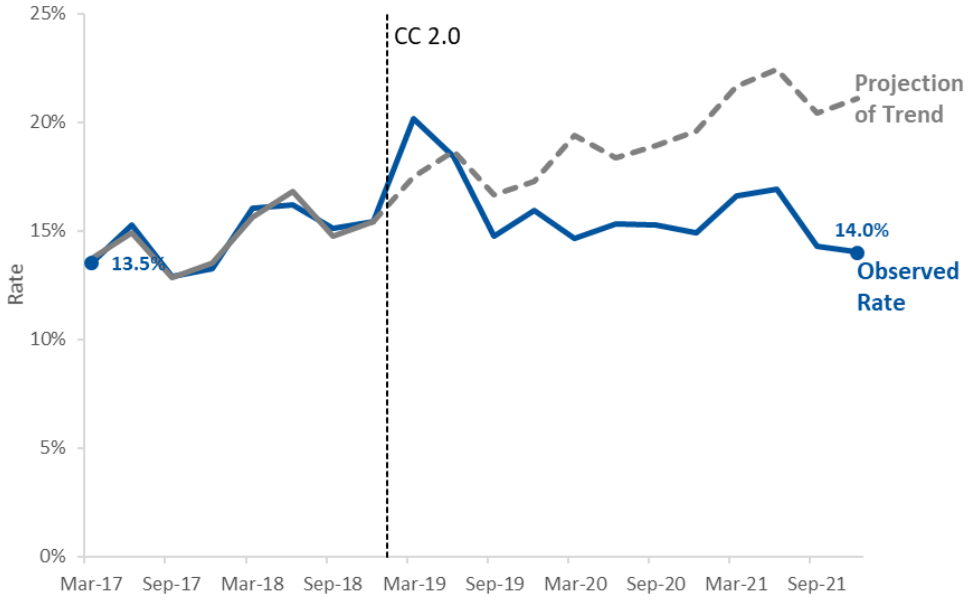


Table 5-40—30-Day Inpatient and Residential SUD Readmission Rates, Primary ITS Model Results[1] (Measure 43)

Variable	Estimate[2]	p-Value
Intercept	13.7%	<0.001***
Pre-CC 2.0 quarterly trend	0.5p.p.	0.022**
Level change at implementation	1.2p.p.	0.254
Change in quarterly trend	-0.7p.p.	0.004**

*p< 0.1, **p < 0.05, ***p<0.001
[1]Note: Full model results are presented in Appendix A.
[2]p.p.=percentage point

Although the results of 7-day readmissions were not statistically significant, both coefficients of interest from the ITS (level change at implementation and change in quarterly trend) were in the favorable direction of reducing rates. Evaluating 30-day readmissions, ITS results suggest that Centennial Care 2.0 stabilized and slightly reversed an increasing trend in the rate. Tables A-33 through A-43 contain additional regression results for this measure.

Measure 43 Conclusion: Supports the hypothesis.

Research Question 7: Have increasing trends in total cost of care been slowed for individuals with SUD diagnoses?

The goal of the financial analysis of Centennial Care 2.0 is to compare the costs to the State for the programs covered under the 1115 Demonstration Waiver against the estimated expected costs had the 1115 Demonstration Waiver not been implemented. Expected expenditures were estimated based on changes in member demographics, population health condition-based risk score, and the medical CPI.[5-15,5-16] The medical CPI is used to account for changes to cost due to inflationary factors. CPI does not account for NM Medicaid-specific policy changes that had a fiscal impact. HSAG is not aware of any policy changes between 2019 and 2021 that had a fiscal impact that would have changed the analysis. Using claims/encounter data, total actual expenditure costs for providing care to members covered by the 1115 Demonstration Waiver were compared to the estimated expected expenditures which are calculated by applying annual demographic and inflation factors to the baseline costs for 2013. (See the Financial Analysis Trend and Cost Development Methodology section for additional details on adjustment factor development.) Note that the cost analyses do not refer to nor attempt to replicate the formal Budget Neutrality test required under the Section 1115 Demonstration Waiver program, which sets a fixed target under which waiver expenditures must fall that was set at the time the waiver was approved.

Claims cost are calculated and analyzed at two levels:

- PMPM basis by dividing the total expenditures by the total member months for the total enrolled members for a given time period.
- PUMPM basis which is calculated by dividing the total expenditures by the total member months for the total members who utilized services during the review period.

Each of these measures is based on expenditures unadjusted for year-to-year demographic changes. Costs are reviewed on a PMPM or PUMPM basis to ensure comparability as the total number of members change over time.

Both unadjusted and adjusted expenditures and expenditure trends were reviewed. Adjustment involved normalizing expenditures to account for known changes such as demographics, health condition-based risk, and inflation. By making these adjustments, all known and quantifiable variations in each analysis period are removed, leading to a more accurate comparison across time periods.

Costs are normalized by dividing the unadjusted cost PMPM by the calculated area, age/gender, and health condition risk factors. Estimated counterfactual costs (estimated expenditures had the Demonstration Waiver not been implemented) were calculated by applying each normalization factor as well as including the annual medical CPI percentage from the U.S. Bureau of Labor Statistics.

To get a better understanding of how costs changed over time, several trend measures were developed.

- **Cumulative Unadjusted Trend from the Baseline**: Represents the total annual growth in the cost of care since 2013. The growth rate is calculated by comparing the annual PMPM for each year of the Demonstration to the 2013 baseline. For example, assume expenditures increased from $100.00 in 2013 to $104.00 in 2014, a trend increase of 4 percent; then to $106.08 from 2014 to 2015, a trend increase of 2 percent; then fell to $105.02 from 2015 and 2016, a trend decrease of 1 percent. The annual changes are

5-15 U.S. Bureau of Labor Statistics. Available at https://www.bls.gov/cpi/tables/supplemental-files/home.htm. Accessed on: Jun 9, 2022.
5-16 UC San Diego. Chronic Illness and Disability Payment System (CDPS). Available at: https://hwsph.ucsd.edu/research/programs-groups/cdps.html#Using-CDPS-Risk-Scores. Accessed on July 13, 2022.

multiplied together to determine the total cumulative trend. In this example the cumulative trend would be 5 percent.

- **Annualized Unadjusted Trend from the Baseline**: The average annual growth in cost of care between the baseline (2013) and each year of the Demonstration, adjusted to smooth the trend across the represented time period. (See the Methodology section for additional details.)
- **Annualized Normalized Trend from the Baseline**: Average annual growth in cost of care adjusted for known variances between years based on #2 above.
- **Year-Over-Year Unadjusted Trend**: Annual growth in cost of care from year to year.

Total and PMPM Cost (Medical, Behavioral and Pharmacy) for Members With a SUD Diagnosis (Measure 44)

Two measures are used to assess Research Question 7 for Hypothesis 3: Have increasing trends in total cost of care been slowed for individuals with SUD diagnoses? The analysis of these measures is based on the total actual expenditure costs for providing care to SUD diagnosed members covered by the 1115 Demonstration Waiver compared to the estimated expected expenditures calculated by applying annual demographic and inflation factors to the baseline costs for 2018. (See the Methodology section for additional details on adjustment factor development.) The cost analyses do not refer to nor attempt to replicate the formal Budget Neutrality test required under the Section 1115 Demonstration Waiver program, which sets a fixed target under which waiver expenditures must fall that was set at the time the waiver was approved.

Figure 5-42 displays the per member per month costs and total expenditures from the baseline Q1 2018 through the Q4 2021 for the actual incurred cost and the expected (counterfactual) costs for members with a SUD diagnosis. All of the actual and counterfactual total costs and the capitated, actual, and counterfactual PMPM costs increased from Q1 2018 through Q4 2021. Table A-39 contains additional data.

Figure 5-42—Per Member Per Month Cost and Total Cost for Members with SUD Diagnosis

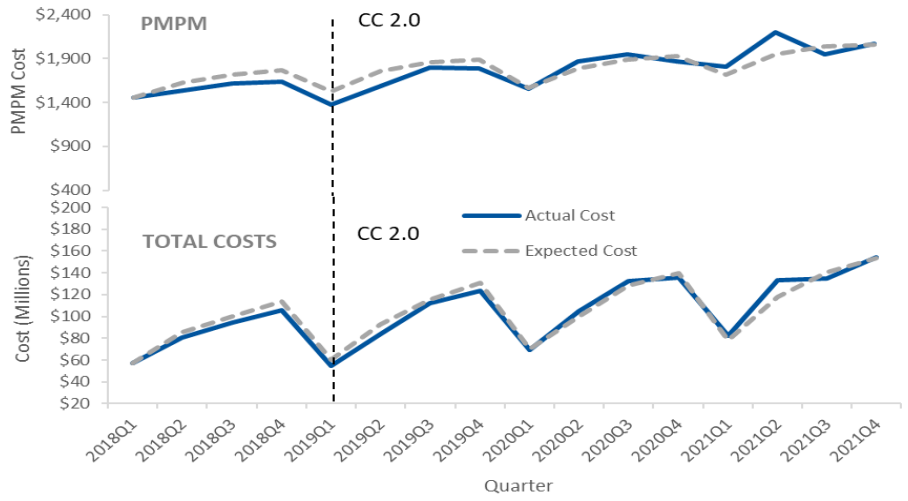
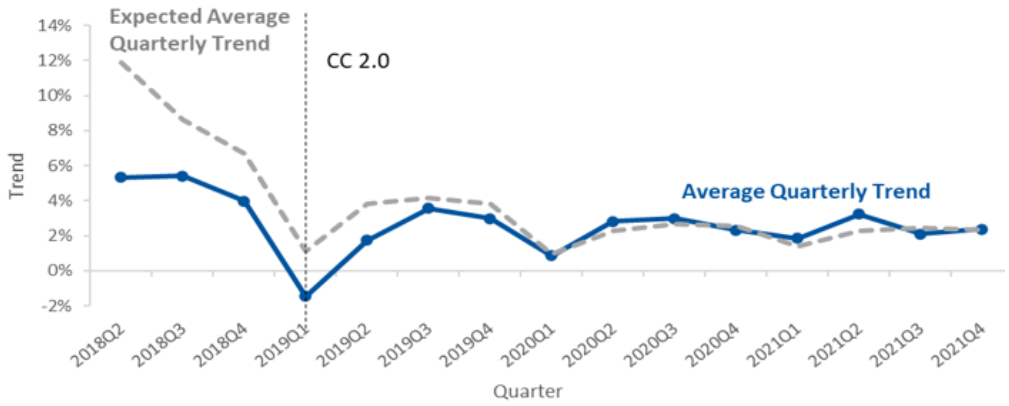


Figure 5-43 shows two trend calculations based on changes from Q1 2018 (not shown in figure). The average quarterly trend decreased throughout the review period, from the baseline of 5.3 percent in Q2 2018 to 2.4 percent in Q4 2021.

Figure 5-43—Cost Per Member Trends for Members with SUD Diagnosis



Changes to the demographics of the SUD diagnosed population also impacted the per member trends. Members were flagged and included in the SUD diagnosed population based on the first month in a calendar year and any subsequent enrolled months. SUD diagnosed flags were reset January 1 each calendar year in the analysis. Over the entire review period of Q1 2018 through Q4 2021, most members with a SUD diagnosis fell in the expansion population, followed by the TANF population. The average age of the expansion population for a member with a SUD diagnosis increased from 36.8 in Q1 2018 to 38.8 in Q4 2021. The average age of the TANF population for a member with a SUD diagnosis increased slightly from 30.2 in Q1 2018 to 30.8 in Q4 2021. The population also saw an average quarterly increase in CDPS (version 6.5) condition-based risk scores relative to the baseline of Q1 2018, resulting in an increase of 1.3 percent. The member distribution by geographic region did not change substantially from 2018 to 2021.

Based on data from the U.S. Bureau of Labor Statistics, prices for medical care were 8.37 percent higher in 2021 compared to 2018 (an $8.37 difference in value per $100 of spending), indicating a medical care average inflation rate of 2.7 percent per year. The medical care inflation rate was slightly greater than the overall annual inflation rate of 2.6 percent during this same period. The medical CPI is used to account for changes to cost due to inflationary factors. CPI does not account for NM Medicaid-specific policy changes that had a fiscal impact. HSAG is not aware of any policy changes between 2019 and 2021 that had a fiscal impact that would have changed the analysis.

Employing the normalization process as described in the methodology section, factors were developed to quantify the change in risk, age-band/gender, area, and inflation from one Demonstration year to the next. These factors were then applied to the baseline period to calculate the expected average quarterly costs that are displayed in Figure 5-42 and the corresponding expected average quarterly trends in Figure 5-43. Table A-40 contains additional data.

Measure 44 focuses on a subset of the population utilizing services analyzed in Measure 21. Therefore, the higher utilizing member cost trends are not outside of normal expectations as the costs are limited a select subset of the population, members who have had a SUD diagnosis.

Table 5-41 shows the impacts of each of the known changes in the cost and demographic variables from Q1 2018 to Q4 2021. The quarterly impact of each known driver was applied to the PMPM claims cost from the baseline of Q1 2018 to calculate the counterfactual claims PMPM. The calculated counterfactual claims trend incorporating changes for risk, age-band/gender, area, and inflation was 2.3 percent. The quarterly paid claims trend achieved by the 1115 Demonstration Waiver was slightly higher at 2.4 percent. The hypothesis related to this measure is not directly related to costs, therefore this measure is not strictly applicable to this hypothesis.

Table 5-41—Total and PMPM Cost (Medical, Behavioral, and Pharmacy), for Members with SUD Diagnosis Normalized Trend Walkdown (Measure 44)

Trend Component	Q1 2018 to Q4 2021
Average Quarterly Normalized Trend	1.1%
Average Quarterly Aging Trend	0.1%
Average Quarterly Area Trend	0.1%
Average Quarterly Risk Trend	1.3%
CPI Quarterly Trend 2018-2021	0.6%
Counterfactual Claims Trend	2.3%
Costs Above Expected Counterfactual	0.1%
Quarterly Paid Claims Trend	2.4%

Measure 44 Conclusion: N/A

Total and PMPM Cost (Medical, Behavioral and Pharmacy) for Members With a SUD Diagnosis by Source of Care (Measure 45)

Figure 5-44 displays the breakdown by source of care for per member per month costs and total expenditures from Figure 5-42 in measure 44. Data are displayed below for the baseline from Q1 2018 through Q4 2021 for the actual incurred cost and the expected (counterfactual) costs for both SUD and non-SUD claims costs for members with a SUD diagnosis broken out by source of care. Both the total costs and the PMPM costs increased from Q1 2018 through Q4 2021, with the exception of the pharmacy PMPM, which decreased slightly. Tables A-41 through A-50 contains specific data points for each source of care.

Figure 5-44—Per Member Per Month Cost and Total Cost for Members with SUD Diagnosis by Source of Care

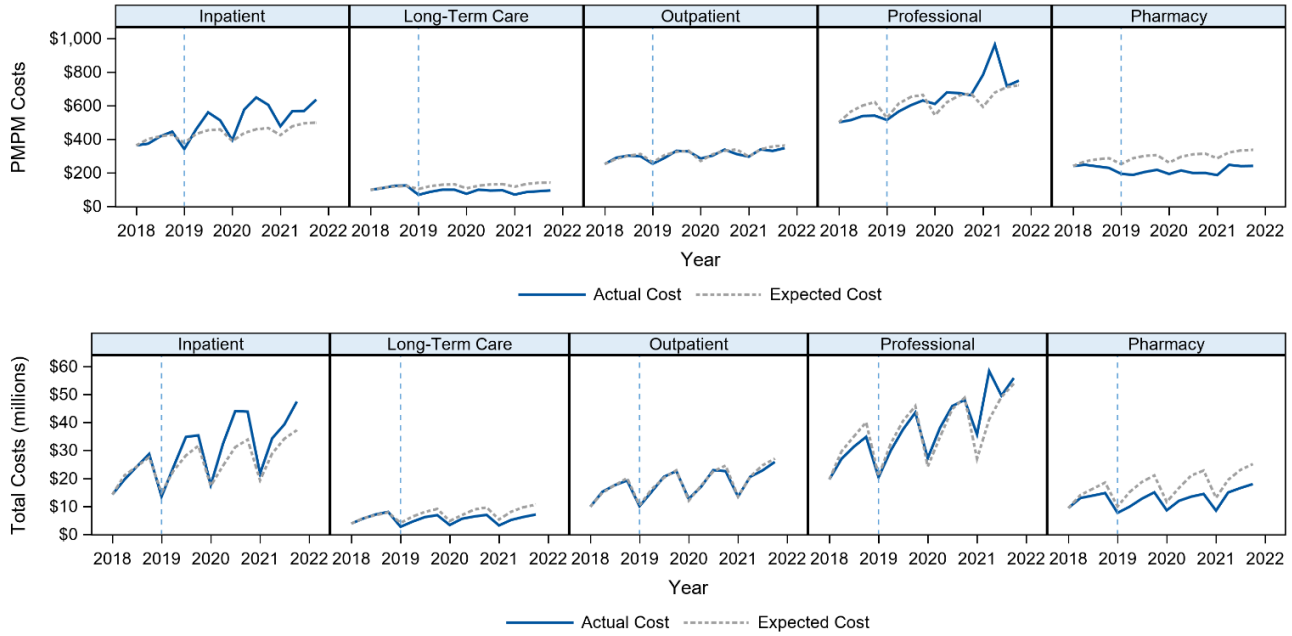
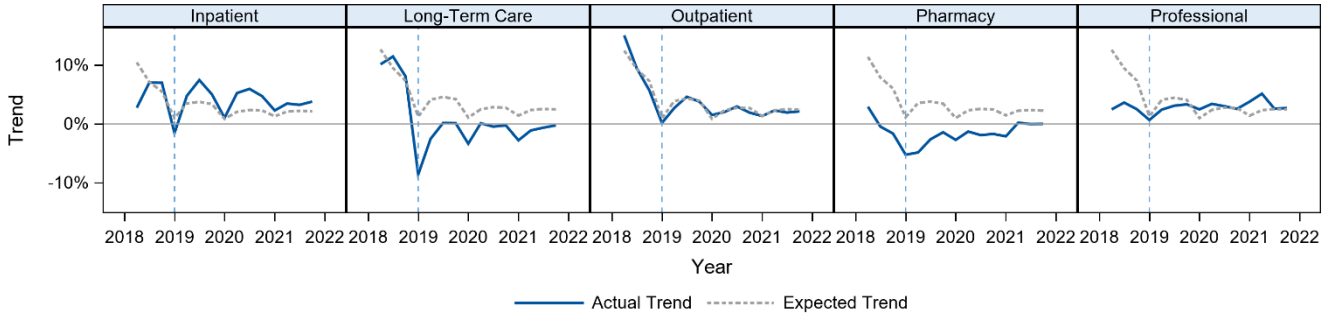


Figure 5-45 shows two trend calculations for the PMPM actual and expected cost based on changes from Q1 2018 for each source of care. The weighted combination of these trends by their respective expenditures equates to the total trend displayed in Figure 5-43 in measure 44.

Figure 5-45—Percentage Change in Annual PMPM Costs for Members with SUD Diagnosis by Source of Care



Based on data from the U.S. Bureau of Labor Statistics, prices for medical care were 8.37 percent higher in 2021 compared to 2018 (an $8.37 difference in value per $100 of spending), indicating a medical care average inflation rate of 2.7 percent per year. The medical care inflation rate was slightly greater than the overall annual inflation rate of 2.6 percent during this same period. The medical CPI is used to account for changes to cost due to inflationary factors. CPI does not account for NM Medicaid-specific policy changes that had a fiscal impact. HSAG is not aware of any policy changes between 2019 and 2021 that had a fiscal impact that would have changed the analysis.

Employing the normalization process as described in the methodology section, factors were developed to quantify the change in risk, age-band/gender, area, and inflation from one Demonstration year to the next. These factors were then applied to the baseline period to calculate the expected average quarterly costs that are displayed in Figure 5-42 and the corresponding expected average quarterly trends in Figure 5-43.Tables A-51 through A-55 contain specific data points for each source of care.

For inpatient and professional sources of care, the average quarterly trends in Q4 2021 are higher than the average quarterly trends in Q1 2018 and are also higher than the expected average quarterly trends. For long-term care and pharmacy sources of care, the average quarterly trends in Q4 2021 are lower than the average quarterly trends in Q1 2018 and are also lower than the expected average quarterly trends. For outpatient source of care, the average quarterly trends in Q4 2021 are lower than the average quarterly trends in Q1 2018 and are equal to the expected average quarterly trend.

Table 5-42 shows the quarterly paid claims trends from Q1 2018 to Q4 2021 by source of care and to the total calculated in measure 44. The hypothesis related to this measure is not directly related to costs, therefore this measure is not strictly applicable to this hypothesis.

Table 5-42—Total and PMPM Cost (Medical, Behavioral, Pharmacy), for Members with SUD Diagnosis by SUD Source of Care, Source of Care Comparison to Total (Measure 45)

Source of Care	Quarterly Paid Claims Trend
Inpatient	3.8%
Long Term Care	-0.2%
Outpatient	2.1%
Professional	2.7%

Source of Care	Quarterly Paid Claims Trend
Pharmacy	0.0%
Total	2.4%

Measure 45 Conclusion: N/A

Research Question 8: Have SUD costs for individuals with SUD diagnoses changed proportionally as expected with increased identification and engagement in treatment?

Total and PMPM Cost for SUD Services for Members With a SUD Diagnosis (Measure 46)

Two measures are used to assess Research Question 8 for Hypothesis 3: Have SUD costs for individuals with SUD diagnoses changed proportionally as expected with increased identification and engagement in treatment? The analysis of these measures is based on the total actual expenditure costs for providing care to SUD diagnosed members covered by the 1115 Demonstration Waiver compared to the estimated expected expenditures calculated by applying annual demographic and inflation factors to the baseline costs for 2018. (See the Methodology section for additional details on adjustment factor development.) The cost analyses do not refer to nor attempt to replicate the formal Budget Neutrality test required under the Section 1115 Demonstration Waiver program, which sets a fixed target under which waiver expenditures must fall that was set at the time the waiver was approved.

Figure 5-46 displays the per member per month costs and total expenditures from the baseline Q1 2018 through Q4 2021 for the capitated cost, actual incurred cost and the expected (counterfactual) costs for SUD services for members with a SUD diagnosis. All of the actual and counterfactual total costs and the actual and counterfactual PMPM costs increased from Q1 2018 through Q4 2021. Table A-56 contains specific data points for each time period.

Figure 5-46—Per Member Per Month Cost and Total Cost for SUD Services for Members with SUD Diagnosis

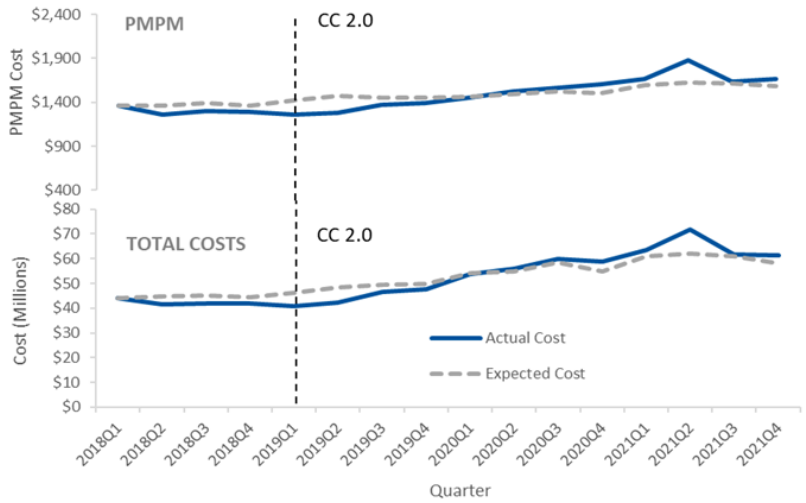
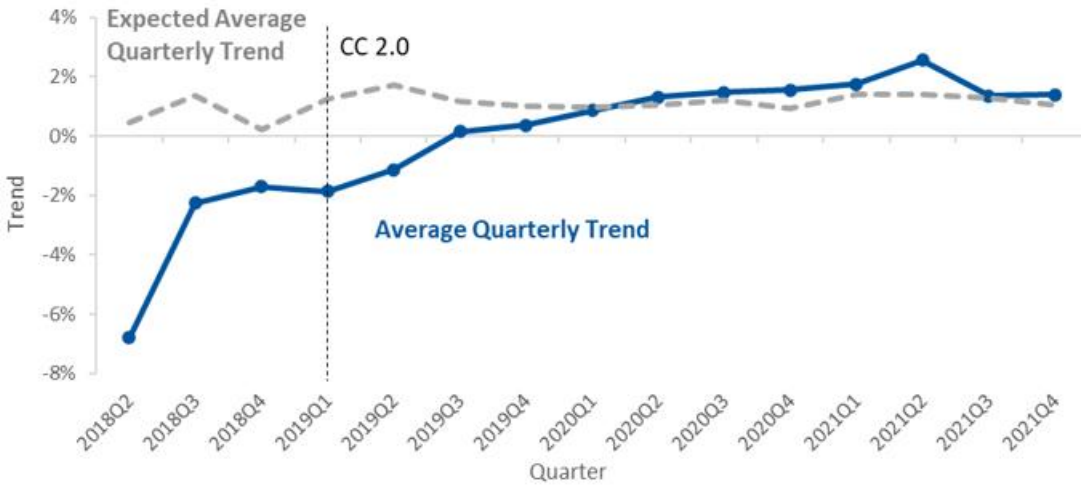


Figure 5-47 shows two trend calculations based on changes from Q1 2018. The average quarterly trend is less than or close to the expected quarterly trend from the beginning of 2018 through Q1 2020 and Q3 2021. The average quarterly trend was greater than the expected quarterly trend Q2 of 2020 through Q2 of 2021 and Q4

2021. The average quarterly trend increased during Centennial Care 2.0, from -1.9 percent in the beginning of 2019 to 1.4 percent at the end of 2021.

Figure 5-47—Cost Per Member Trends for SUD Services for Members with SUD Diagnosis



Changes to the demographics of the SUD diagnosed population also impacted the per member trends. Over the entire review period of Q1 2018 through Q4 2021, most members with a SUD service fell in the expansion population, followed by the TANF population. The average age of the expansion population for a SUD service for a member with a SUD diagnosis has increased from 36.4 in Q1 2018 to 37.8 in Q4 2021. The average age of the TANF population for a SUD service for a member with a SUD diagnosis increased from 30.2 in Q1 2018 to 32.3 in Q4 2021. The average quarterly CDPS (version 6.5) condition-based risk for the population only increased slightly at 0.2 percent from 2018 to 2021. The member distribution by geographic region did not change substantially from 2018 to 2021.

Based on data from the U.S. Bureau of Labor Statistics, prices for medical care were 8.37 percent higher in 2021 compared to 2018 (an $8.37 difference in value per $100 of spending), indicating a medical care average inflation rate of 2.7 percent per year. The medical care inflation rate was slightly greater than the overall annual inflation rate of 2.6 percent during this same period. The medical CPI is used to account for changes to cost due to inflationary factors. CPI does not account for NM Medicaid-specific policy changes that had a fiscal impact. HSAG is not aware of any policy changes between 2019 and 2021 that had a fiscal impact that would have changed the analysis.

Employing the normalization process as described in the methodology section, factors were developed to quantify the change in risk, age-band/gender, area, and inflation from one Demonstration year to the next. These factors were then applied to the baseline period to calculate the expected average quarterly costs that are displayed in Figure 5-56 and the corresponding expected average quarterly trends in Figure 5-47. Additional data points can be found in Table A-57.

Measure 46 focuses on a subset of the population utilizing services analyzed in Measure 44. Therefore, the higher utilizing member cost trends are not outside of normal expectations as the costs are limited a select subset of the population, members who have had a SUD diagnosis.

Table 5-43 shows the impacts of each of the known changes in the cost and demographic variables from Q1 2018 to Q4 2021. The quarterly impact of each known driver is applied to the PMPM claims cost from the baseline of Q1 2018 to calculate the counterfactual claims PMPM. The calculated counterfactual claims trend incorporating

changes for risk, age-band/gender, area, and inflation was 1.0 percent. The actual quarterly paid claims trend achieved by the 1115 Demonstration Waiver was slightly higher at 1.4 percent, meaning after adjusting for measurable demographic changes, the actual costs increased more than predicted costs. The hypothesis related to this measure is not directly related to costs, therefore this measure is not strictly applicable to this hypothesis.

Table 5-43—Total PMPM Cost for SUD Services for Members with SUD Diagnosis Normalized Trend Walkdown (Measure 46)

Trend Component	Q1 2018 to Q4 2021
Average Quarterly Normalized Trend	1.7%
Average Quarterly Aging Trend	0.0%
Average Quarterly Area Trend	0.0%
Average Quarterly Risk Trend	0.2%
CPI Quarterly Trend 2018-2021	0.6%
Counterfactual Claims Trend	1.0%
Costs Above Expected Counterfactual	0.4%
Quarterly Paid Claims Trend	1.4%

Measure 46 Conclusion: N/A

Total and PMPM Cost for SUD Services by Type of Care (IP, OP, RX, etc.) (Measure 47)

Figure 5-48 displays breakdown by source of care for the per member per month costs and total expenditures from Figure 5-46 in measure 46. Data is displayed below for the baseline in Q12018 through Q4 2021 for the actual incurred cost and the expected (counterfactual) costs for SUD services for members with a SUD diagnosis broken out by source of care. Both the total costs and the PMPM costs increased from Q1 2018 through Q4 2021, except Long-Term Care PMPM and Pharmacy PMPM sources of care, which decreased. Tables A-58 through A-67 contains specific data points for each source of care.

Figure 5-48—Per Member Per Month Cost and Total Cost for SUD Services for Members with SUD Diagnosis, by Source of Care

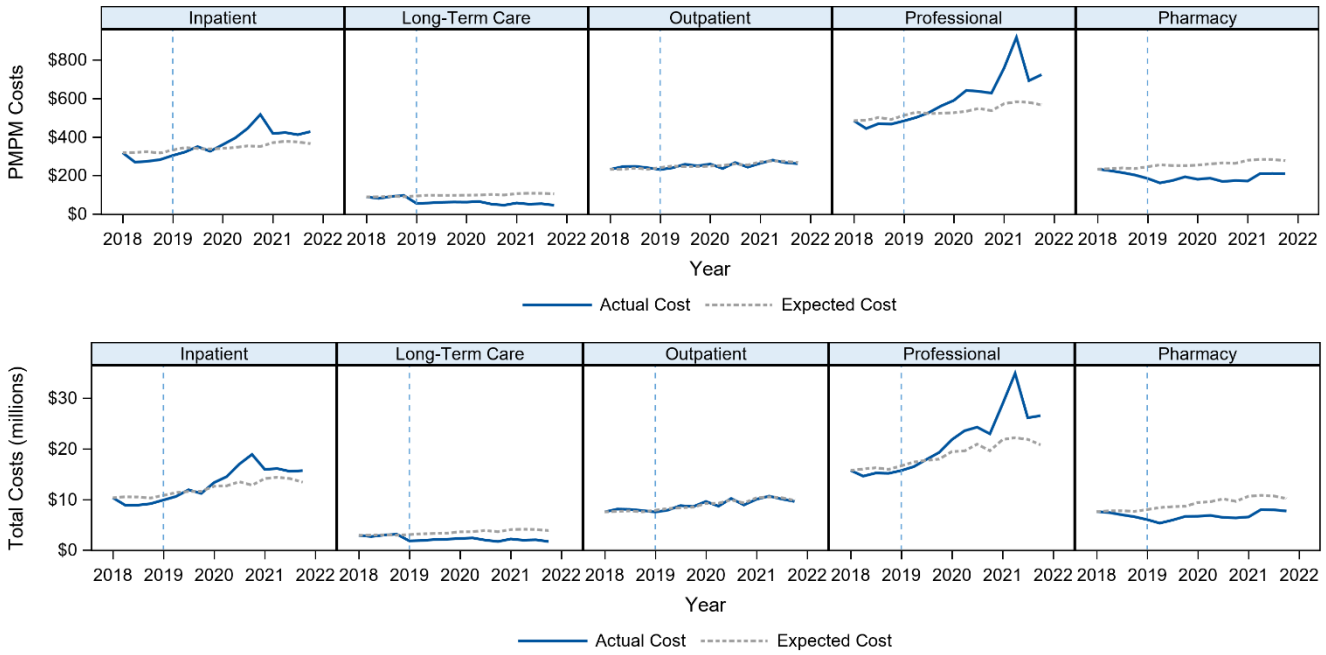
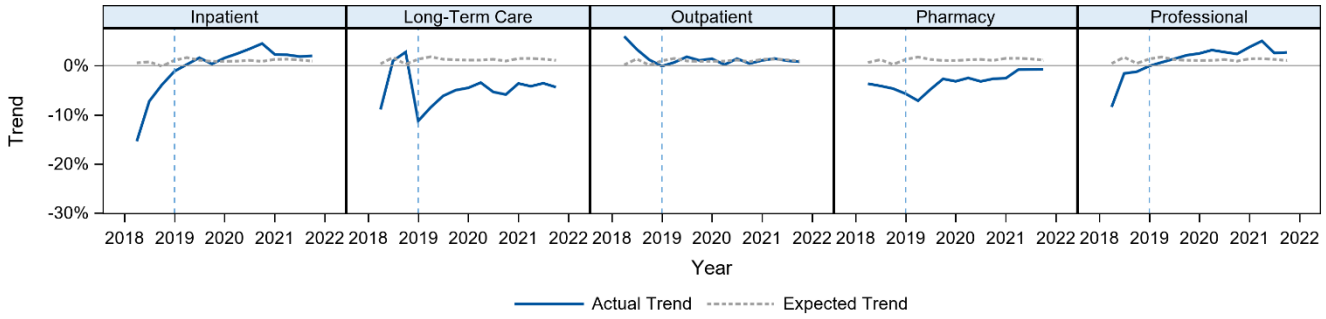


Figure 5-49 shows two trend calculations for the PMPM actual and expected cost outlined in Figure 5-48 based on changes from Q1 2018 (not shown in figure) for each source of care. The weighted combination of these trends by their respective expenditure equates to the total trend displayed in Figure 5-47 from measure 46. The average quarterly trends increased for all sources of care during Centennial Care 2.0. The average quarterly trends were less than the expected quarterly trends during Centennial Care 2.0 for Long-Term Care and Pharmacy but were greater than the expected quarterly trends for Inpatient, Outpatient, and Professional sources of care. Tables A-68 through A-72 contain data points for each source of care.

Figure 5-49—Percentage Change in Annual PMPM Costs for SUD Services for Members with SUD Diagnosis, by Source of Care



Based on data from the U.S. Bureau of Labor Statistics, prices for medical care were 8.37 percent higher in 2021 compared to 2018 (an $8.37 difference in value per $100 of spending), indicating a medical care average inflation rate of 2.7 percent per year. The medical care inflation rate was slightly greater than the overall annual inflation rate of 2.6 percent during this same period. The medical CPI is used to account for changes to cost due to inflationary factors. CPI does not account for NM Medicaid-specific policy changes that had a fiscal impact.

HSAG is not aware of any policy changes between 2019 and 2021 that had a fiscal impact that would have changed the analysis.

Employing the normalization process as described in the methodology section, factors were developed to quantify the change in risk, age-band/gender, area, and inflation from one Demonstration year to the next. These factors were then applied to the baseline period to calculate the expected average quarterly costs that are displayed in Figure 5-46 and the corresponding expected average quarterly trends in Figure 5-47.

For all sources of care, inpatient, long-term care, outpatient, pharmacy, and professional, the average quarterly trends in Q4 2021 are higher than the average quarterly trends in Q1 2018. The average quarterly trends for inpatient and professional sources of care are also higher than the expected average quarterly trends (based on the population and CPI changes but excluding any policy changes outside of the waiver). The average quarterly trends for long-term care and pharmacy sources of care are lower than the expected average quarterly trends. The average quarterly trend for outpatient source of care is equal to the expected average quarterly trend.

Table 5-44 shows the comparison of the average quarterly paid claims trends from Q1 2018 to Q4 2021 by source of care and to the total. The hypothesis related to this measure is not directly related to costs, therefore this measure is not strictly applicable to this hypothesis.

Table 5-44—Total and PMPM Cost for SUD Services by Type of Care (IP, OP, RX, etc.) Source of Care Comparison to Total (Measure 47)

Source of Care	Quarterly Paid Claims Trend
Inpatient	2.0%
Long Term Care	-4.4%
Outpatient	0.8%
Professional	2.7%
Pharmacy	-0.7%
Total	1.4%

Measure 47 Conclusion: N/A

Hypothesis 4: The Demonstration will increase the number of individuals with fully delegated care coordination which includes screening for co-morbid conditions, which will result in increased utilization of physical health services.

Research Question 1: Has the percentage of individuals diagnosed with a SUD receiving care coordination increased?

Percentage of Individuals Diagnosed With a SUD Receiving Care Coordination (Measure 48)

Hypothesis 4 states that an increase in the number of members with fully delegated care coordination (i.e., participation in a Health Home) will result in an increased utilization of physical health services. Research question 1 examines whether the percentage of individuals with a SUD diagnosis receiving care coordination increased.[5-17]

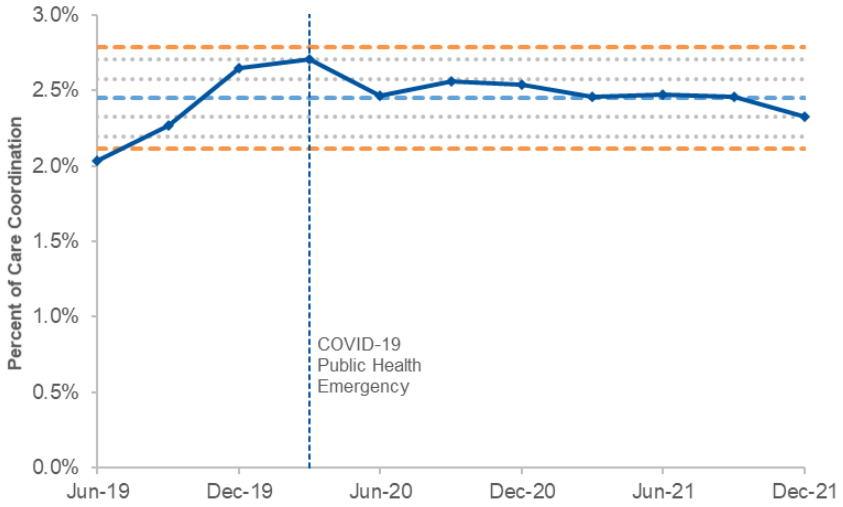
[5-17] Prior to January 2021, members needed an SMI/SED designation in order to qualify for the Health Home program. Effective January 2021, a State Plan Amendment allowed members with a SUD to enroll in a Health Home.

Due to limitations in the Health Home enrollment data, HSAG could only examine members receiving care coordination on or after April 2019. This precludes an interrupted time series analysis as described in the evaluation design plan or a pre-test/post-test design.

A statistical process control chart was used to assess variation over time in this measure.

Figure 5-50 shows the percentage of members with a SUD diagnosis enrolled in a Health Home remained steady at approximately 2.5 percent following an initial increase in 2019. The dashed orange control limits indicate the expected range of quarterly variation. No evidence of special cause variation was detected—that is, there was no consistent shift or trend in the rate, nor were there outlying data points, with the possible exception of Q2 2019; however, this could be driven in part by incomplete Health Home enrollment data.[5-18]

Figure 5-50—Percentage of Individuals Diagnosed with a SUD Receiving Care Coordination (Measure 48)



Measure 48 Conclusion: Does not support the hypothesis.

Research Question 2: Has the number of individuals with a SUD receiving preventive health care increased?

Percentage of Individuals With a SUD Receiving Preventive/Ambulatory Health Services (Measure 49)

Figure 5-51 and Table 5-45 show that the observed rates would appear above the projected rates had the baseline trend continued into the Centennial Care 2.0 Demonstration period. The rates after Centennial Care 2.0 fluctuated between 87 percent and 89 percent and were higher than what was projected from the baseline trend.

5-18 Health Home enrollment for May 2019 was not available. HSAG imputed a member's enrollment for this month if the member was 1) enrolled in a Health Home during both April and June 2019, and 2) enrolled in Centennial Care in May 2019.

Figure 5-51—Percentage of Individuals With a SUD Receiving Preventive/Ambulatory Health Services (Measure 49)

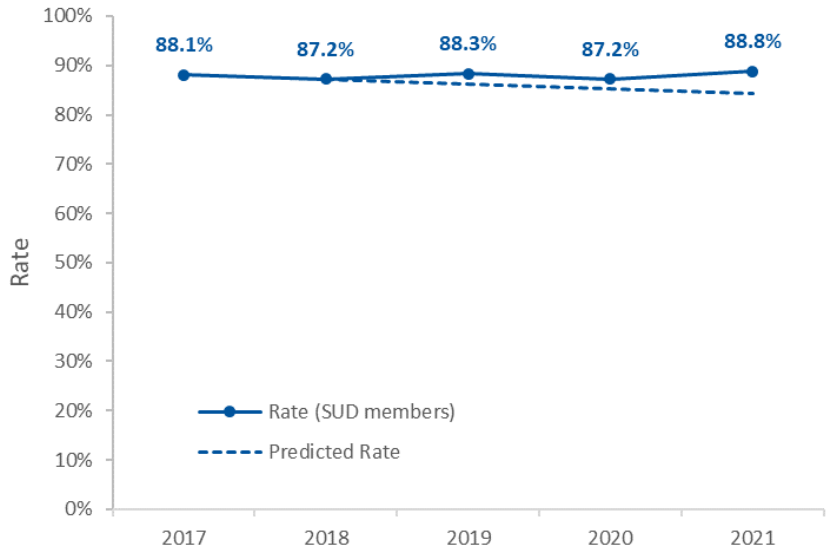


Table 5-45—Percentage of Individuals With a SUD Receiving Preventive/Ambulatory Health Services (Measure 49)

Year	N	Rate	Predicted Rate	p-Value
2017	38,125	88.1%	--	--
2018	38,054	87.2%	--	--
2019	41,144	88.3%	86.3%	<0.001
2020	44,293	87.2%	85.4%	0.006
2021	49,685	88.8%	84.4%	<0.001

Measure 49 Conclusion: Supports the hypothesis.

Hypothesis 5: The Demonstration will increase use of naloxone, MAT, and enhanced monitoring and reporting of opioid prescriptions through the prescription monitoring program, which will result in fewer overdose deaths due to opioid use.

Research Question 1: Has there been an expansion of naloxone distribution and training?

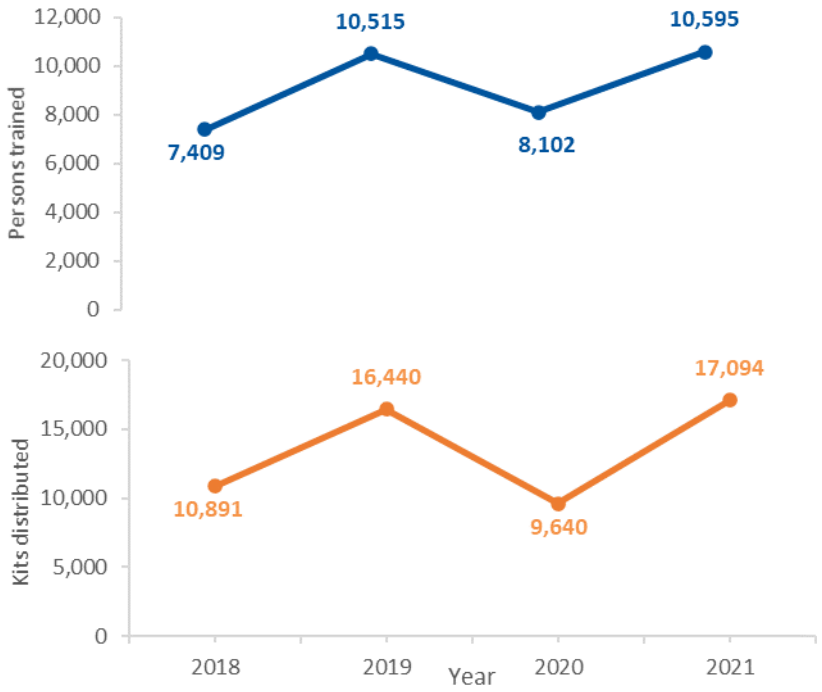
Number of Naloxone Training and Kit Distributions (Measure 50)

Figure 5-52 shows the number of persons receiving overdose (OD) prevention training and the number of naloxone kit distribution from 2018 to 2021. While there is evidence of an increase in OD prevention training and naloxone distributions after 2018, this may be conflated with the effects of a new 2019 policy requiring providers to prescribe an opioid antagonist with each opioid prescription[5-19]. The number of persons receiving training and kit distributions increased from 7,409 and 10,891 in 2018 to 10,515 and 16,440 in 2019, respectively. However, in 2020, the number decreased to 8,102 and 9,640, respectively; this decrease is likely due to the COVID-19 PHE

[5-19] casetext. N.M. Stats. 24-2D-7. 2019. Available at: https://casetext.com/statute/new-mexico-statutes-1978/chapter-24-health-and-safety/article-2d-pain-relief/section-24-2d-7-requirements-for-health-care-providers-who-prescribe-distribute-or-dispense-opioid-analgesics. Accessed on: Aug 25, 2022.

and the need to adjust training mediums from in-person to online instruction. In 2021, the number greatly increased again to 10,595 and 17,094, respectively.

Figure 5-52—Number of Persons Receiving OD Prevention Training and Naloxone Kits Distributed, 2018–2021



Measure 50 Conclusion: Does not support the hypothesis.

Research Question 2: Has the number of MAT providers increased?

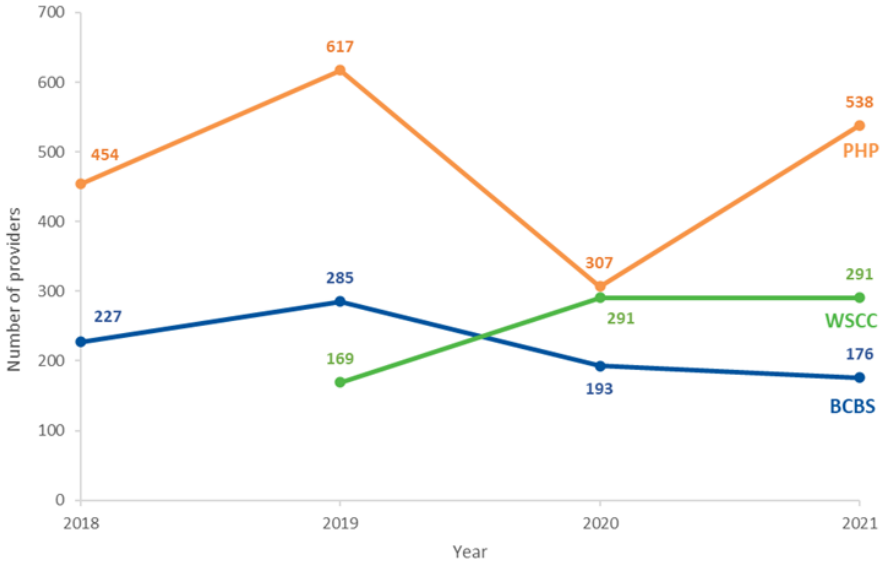
Number of MCO Network MAT Providers (Measure 51)

Table 5-46 and Figure 5-53 show the number of MAT providers by MCO from 2018 to 2021. For BCBS, the number of MAT providers in 2018 was 277, which increased to 285 in 2019 before declining to 176 in 2021. The greatest number of MAT providers for PHP was in 2019, with 617 providers, and lowest in 2020, with 307 providers. WSCC increased the number of MAT providers from 169 in 2019 to 291 in 2020. In 2021, the number remained steady.

Table 5-46—Number of MCO Network MAT Providers, 2018–2021

Plan	2018	2019	2020	2021
BCBS	227	285	193	176
PHP	454	617	307	538
WSCC	NA	169	291	291

Figure 5-53—Number of MCO Network MAT Providers, 2018–2021



Measure 51 Conclusion: Does not support the hypothesis.

Research Question 3: Has the number of individuals with a SUD receiving MAT increased?

Percentage of Individuals Diagnosed With a SUD with MAT Claims (Measure 52)

Figure 5-54 compares the observed rate to predictions from an ITS analysis controlling for seasonality and peak COVID-19-affected quarters (Q2 2020 through Q1 2021). The dotted gray line represents the predicted rate had the baseline trend (solid gray line) continued into the evaluation period.

Figure 5-54—Percentage of Individuals Diagnosed With a SUD With MAT Claims, Observed Rates Compared to ITS Model Projections (Measure 52)

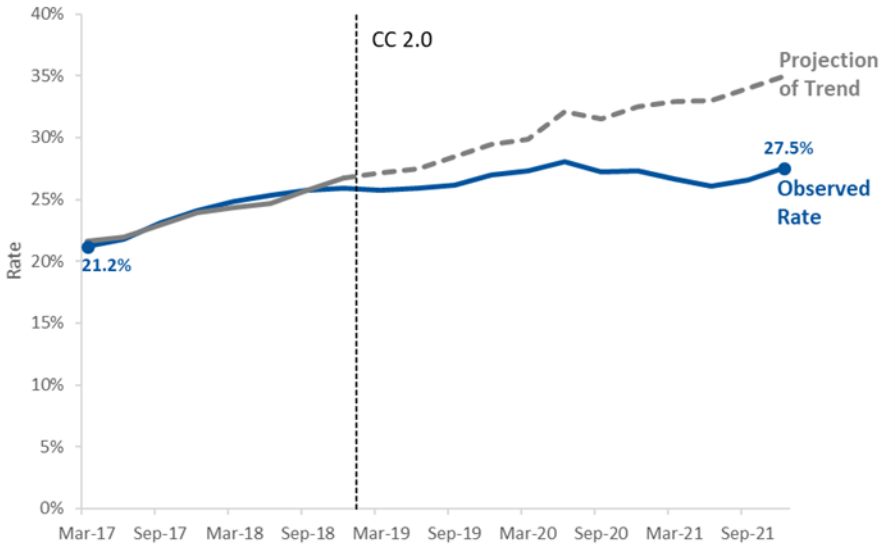


Figure 5-54 shows the projected rates were higher than the observed rates following the start of Centennial Care 2.0 and a leveling out of the observed rates. Table 5-47 shows this change in the trend was statistically significant, from a pre-Centennial Care 2.0 trend of increasing by 0.7 percentage points per quarter, to a trend of only 0.1 percentage points (a decline of 0.6 percentage points, indicated by the variable: change in quarterly trend). This illustrates that the rate of members with a SUD receiving claims for MAT declined relative to what was projected during the Centennial Care 2.0 period (i.e., a leveling out of rates instead of a continued increase). Tables A-37 and A-38 include additional regression results.

Table 5-47— Percentage of Individuals Diagnosed With a SUD With MAT Claims, Primary ITS Model Results[1] (Measure 52)

Variable	Estimate[2]	p-Value
Intercept	21.6%	<0.001***
Pre-CC 2.0 quarterly trend	0.7p.p.	<0.001***
Level change at implementation	-0.3p.p.	0.634
Change in quarterly trend	-0.6p.p.	<0.001***

*p< 0.1, **p < 0.05, ***p<0.001
[1]Note: Full model results are presented in Appendix A.
[2]p.p.=percentage point

Measure 52 Conclusion: Does not support the hypothesis.

Research Question 4: Is there evidence of enhanced policies and practices related to the prescription monitoring program, real time prescription monitoring program updates, member/provider lock-in programs, and limits/edits at pharmacy points-of-sale?

Number of Providers Using the Prescription Monitoring Program (Measure 53)

Measure 53 aims to determine if there is any evidence of enhanced policies and practices related to the prescription monitoring program, real time prescription monitoring program updates, member/provider lock-in programs, and limits/edits at pharmacy points-of-sale. The CMS approved evaluation design plan lists the number of policy and procedure manual references to the Prescription Monitoring Program (PMP). However, to provide an assessment of the State's utilization of the PMP instead of references in the policy and procedure manual, the New Mexico Board of Pharmacy supplied data related to providers who made at least one request to the PMP. According to the New Mexico Board of Pharmacy, the mission of the PMP is to "provide practitioners, pharmacists, and other authorized users the ability to review a patient's-controlled substance prescription history and assist in the prevention of diversion, abuse, misuse, and drug overdose deaths associated with controlled substance prescriptions."[5-20] Only providers who are required to submit 10 or more PMP reports are included in this measure.

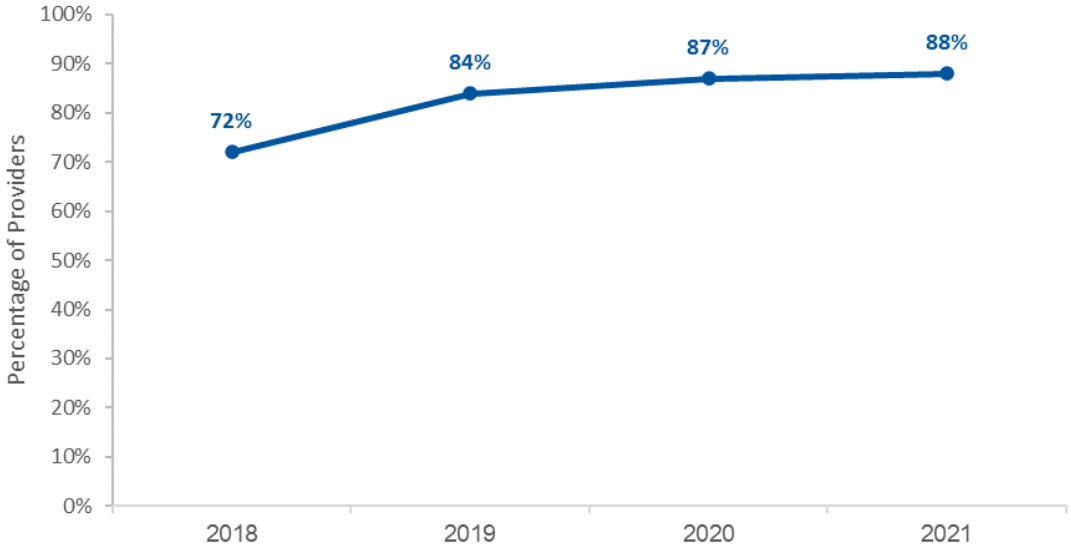
Overall, there is some evidence of an increasing proportion of providers making a request to the PMP. As seen in Figure 5-55, the overall percentage of providers making a request increased from 72 percent in 2018 to 88 percent in 2021. The largest increase can be seen prior to the implementation of Centennial Care 2.0 between 2018 and 2019 in which the percentage jumped from 72 percent to 84 percent. The upward trend somewhat stagnated after the start of Centennial Care 2.0, with only an increase from 84 percent in 2019 to 88 percent in 2021. Table 5-48 provides a breakdown of the number and percentage of specific provider types who made a request to the PMP.

5-20 New Mexico Board of Pharmacy. The New Mexico Prescription Monitoring Program (PMP). Available at: https://www.nmpmp.org/. Accessed on: June 9, 2022.

Table 5-48—Providers Using the PMP, 2018–2021 (Measure 53)

Provider Type	2018	2019	2020	2021
Dentists	7 (14%)	2 (8%)	7 (33%)	9 (26%)
Osteopaths	91 (62%)	113 (84%)	115 (87%)	104 (90%)
Podiatrists	22 (48%)	17 (52%)	25 (69%)	29 (74%)
Doctors of Medicine (MDs)	1120 (72%)	1122 (84%)	1107 (87%)	1082 (88%)
Nurse Midwives	5 (50%)	6 (67%)	4 (67%)	2 (67%)
Nurse Practitioners	566 (79%)	670 (89%)	708 (90%)	793 (90%)
Physician Assistants	225 (75%)	229 (85%)	206 (89%)	214 (91%)
Pharmacist Clinicians	8 (89%)	7 (78%)	5 (63%)	9 (90%)
Prescribing Psychologists	34 (89%)	33 (87%)	35 (83%)	36 (92%)
Unknown	2 (100%)	1 (100%)	2 (67%)	1 (33%)
Total	**2,080 (72%)**	**2,200 (84%)**	**2,214 (87%)**	**2,279 (88%)**

Figure 5-55—Percentage of Providers Using the PMP, 2018–2021



Measure 53 Conclusion: Supports the hypothesis.

Research Question 5: Is there a decrease in the number of deaths due to overdose?

Rate of Deaths Due to Overdose (Measure 54)

Measure 54 assesses whether there has been a decrease in the number of deaths due to overdose following the Centennial Care 2.0 Demonstrations increased use of naloxone, MAT, and enhanced monitoring and reporting of

opioid prescriptions through the PMP. To answer this question, the statewide and Medicaid cause-specific death rates from overdose and the overdose proportionate mortality rates were calculated for 2018–2021 and are displayed in Table 5-49.

The cause-specific death rate associated with overdose deaths within the New Mexico Medicaid population has been rising, from 42.8 per 100,000 New Mexico Medicaid recipients in 2018 to 60.7 per 100,000 New Mexico Medicaid recipients in 2021, a 41.8 percent increase. Similarly, the cause-specific death rate associated with overdose deaths statewide has been steadily increasing, from 25.7 per 100,000 New Mexico residents in 2018 to 38.2 per 100,000 New Mexico residents in 2020, a 48.6 percent increase, as displayed in Table 5-50 and Figure 5-56. Although a slight dip was seen from 2020 to 2021, data for these years are preliminary and therefore subject to change.

Table 5-49—New Mexico Statewide Overdose Cause-Specific Death Rates, 2018–2021

	2018	2019	2020	2021
NM Total Deaths from Overdose	537	601	801**	770**
NM Population*	2,092,434	2,092,454	2,097,021	2,115,877
Cause-Specific Death Rate per 100,000 NM Residents	25.7	28.7	38.2	36.4

* Population totals for 2018-2020 represent five-year American Community Survey estimates. Population totals for 2021 are derived from the NM Census Bureau Quick Facts which utilizes the Population Estimates Program (PEP).
** Overdose deaths for New Mexico are preliminary for 2020 and 2021.

Table 5-50—New Mexico Medicaid Overdose Cause-Specific Death Rates, 2018–2021

	2018	2019	2020	2021
NM Medicaid Deaths from Overdose	356	373	519	567
NM Medicaid Population	832,599	824,026	869,330	933,884
Cause-Specific Death Rate per 100,000 NM Medicaid Members	42.8	45.3	59.7	60.7

Figure 5-56—Overdose Cause-Specific Death Rates per 100k Individuals, 2018–2021

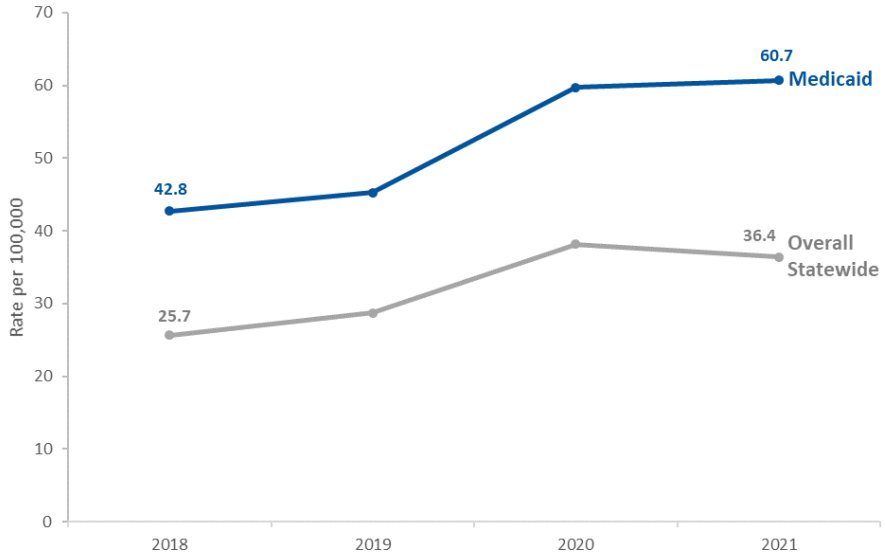
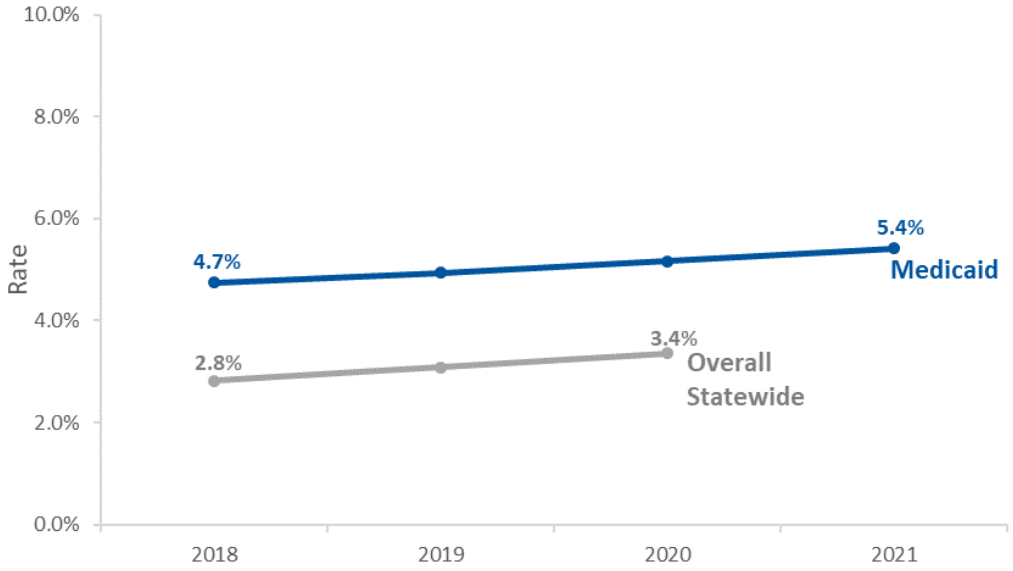


Table 5-51 and Figure 5-57 demonstrate that the overdose proportionate mortality in the New Mexico Medicaid population increased from 4.7 percent in 2018 to 5.4 percent in 2021. The overdose proportionate mortality in New Mexico statewide increased from 2.8 percent in 2018 to 3.4 percent in 2020. Total deaths statewide in New Mexico are not yet available for 2021. While the overdose proportionate mortality was higher among the Medicaid population, the rate trended similarly to the overall statewide population, increasing 0.5 and 0.6 percentage points between 2018 and 2020 for the Medicaid population and statewide population, respectively.

Table 5-51—Overdose Proportionate Mortality, 2018–2021

	2018	2019	2020	2021
New Mexico Statewide				
NM Total Deaths from Overdose	537	601	801**	770**
Total NM Deaths	19,023	19,521	23,842	N/A
Percentage of Statewide Deaths Attributable to Overdose	2.8%	3.1%	3.4%	
New Mexico Medicaid				
NM Medicaid Deaths from Overdose	356	373	519	567
NM Medicaid Total Deaths	7,508	7,554	10,044	10,478
Percentage of Medicaid Deaths Attributable to Overdose	4.7%	4.9%	5.2%	5.4%

Figure 5-57—Overdose Proportionate Mortality, 2018–2021



Measure 54 Conclusion: Does not support the hypothesis.

6. Conclusions

The evaluation of the Centennial Care 2.0 demonstration covered four broad aims:

- **Aim One**: Continue the use of appropriate services by members to enhance member access to services and quality of care.
- **Aim Two**: Manage the pace at which costs are increasing while sustaining or improving quality, services, and eligibility.
- **Aim Three**: Streamline processes and modernize the Centennial Care health delivery system through use of data, technology, and person-centered care.
- **Aim Four**: Improve quality of care and outcomes for Medicaid beneficiaries with a substance use disorder (SUD).

Aims one, two, and three were generally supported by the results. Results for Aim Four were mixed. Table 6-2 provides results for each measure included in the evaluation. The conclusions for each measure are based on the following criteria provided in Table 6-1.

Table 6-1—Measure Conclusion Criteria

Conclusion	Criteria
Supports	• Statistical testing results are significant in favorable direction. • For measures without statistical testing, changes in the results are consistent with the hypothesis.
Neither support nor fail to support	• Statistical testing results are not significant. • For measures without statistical testing, there were no sustained increases or decreases in the results demonstrating consistency or inconsistency with the hypothesis.
Does not support	• Statistical testing results are significant in unfavorable direction. • For measures without statistical testing, changes in the results are not consistent with the hypothesis.
Insufficient data	• There was no pre-intervention data and there were not enough data points during the evaluation period to make a determination of increases/decreases in rates potentially attributable to the Demonstration.
N/A	• The measure does not relate to the hypothesis.

Table 6-2—Summary of Results by Aim, Hypothesis, and Measure

Measure Number	Measure Name	Measure Supports Hypothesis
Aim One: Continue the use of appropriate services by members to enhance member access to services and quality of care		
Hypothesis 1: Continuing to expand access to Long-Term Support Services and Supports (LTSS) and maintaining the progress achieved through rebalancing efforts to serve more members in their homes and communities will maintain the number of members accessing Community Benefit (CB) services.		
1	Number of Centennial Care members enrolled and receiving CB services	Yes
Hypothesis 2: Promoting participation in a Health Home (HH) will result in increased member engagement with a Health Home and increase access to an integrated physical and behavioral health care community.		
2	Number/Percentage of Centennial Care members enrolled in a Health Home	Yes
3	Number/Percentage of Health Home members with at least one (1) claim for physical health (PH) service in the calendar year	Yes
Hypothesis 3: Enhanced care coordination supports integrated care interventions, which lead to higher levels of access to preventive/ambulatory health services.		
4a	Adults' access to preventive/ambulatory health services (AAP)[1]	NS/FS
5a	Children and adolescents' access to primary care practitioners (CAP) [1]	No
6	Well-child visits in the third, fourth, fifth, and sixth years of life (W34)	NS/FS
4b	Adults' access to preventive/ambulatory health services (AAP) – HH population	Yes
5b	Children and adolescents' access to primary care practitioners (CAP) – HH population	Yes
Hypothesis 4: Engagement in a Health Home and care coordination support integrative care interventions, which improve quality of care.		
7	Diabetes screening for members with schizophrenia or bipolar disorder who are using antipsychotic medications (SSD) – HH population	NS/FS
8	Anti-depressant medication management (AMM) Effective Acute Phase Treatment – HH population	NS/FS
9	Anti-depressant medication management (AMM) Effective Continuation Phase Treatment – HH population	NS/FS
10	7-day follow up after hospitalization for mental illness (FUH) – HH population	NS/FS
11	30-day follow up after hospitalization for mental illness (FUH) – HH population	NS/FS
Hypothesis 5: Expanding member access to preventive care through the Centennial Home Visiting (CHV) pilot program and providing incentives through Centennial Rewards (CR) will encourage members to engage in preventive care services.		
12	Percentage of CC members participating in CR	Yes
13	Percentage of CR participating members with an annual preventive/ambulatory service	NS/FS
14	Percent of CR users responding positively on satisfaction survey to question regarding if the program helped to improve their health and make healthy choices	NS/FS
15	Live births weighing less than 2,500 grams (low birth weight)	No
Aim Two: Manage the pace at which costs are increasing while sustaining or improving quality, services, and eligibility		
Hypothesis 1: Incentivizing hospitals to improve health of members and quality of services and increasing the number of providers with value-based purchasing (VBP) contracts will manage costs while sustaining or improving quality.		
16	Number of provider groups with VBP contracts	Yes
17	Number/percentage of providers meeting quality threshold	—[2]
18	Percentage of total payments that are for providers in VBP arrangements	Yes

Measure Number	Measure Name	Measure Supports Hypothesis
19	Percentage of qualified Domain 1 safety net care pool (SNCP) Hospital Quality Incentive measures that have maintained or improved their reported performance rates over the previous year	NS/FS
20	Cost per member trend	Yes
21	Cost per user trend	No
Aim Three: Streamline processes and modernize the Centennial Care health delivery system through use of data, technology, and person-centered care		
Hypothesis 1: The Demonstration will relieve administrative burden by implementing a continuous Nursing Facility Level of Care (NFLOC) approval with specific criteria for members whose condition is not expected to change over time.		
22	Number of continuous NFLOC approvals	Yes
Hypothesis 2: The use of technology and continuous quality improvement (CQI) processes align with increased access to services and member satisfaction.		
23	Number of telemedicine providers	Yes
24	Number of members receiving telemedicine services	Yes
25	Member rating of health care	Yes
26	Member rating of health plan	NS/FS
27	Member rating of personal doctor	NS/FS
Hypothesis 3: Implementation of electronic visit verification (EVV) is associated with increased accuracy in reporting services rendered.		
28	Number of submitted claims through EVV	Yes
29	Percentage of paid or unpaid hours retrieved due to false reporting	—
Aim Four: Improved quality of care and outcomes for Medicaid beneficiaries with SUD		
Hypothesis 1: The Demonstration will increase the number of providers that provide substance use disorder (SUD) screening, which will result in an increase in the number of individuals screened and the percentage of individuals who initiate treatment for alcohol and other drug (AOD) abuse and dependence treatment.		
30	Number of providers who provide SUD screening	Yes
31	Number of individuals screened for SUD	Yes
32	Percentage of individuals with a SUD diagnosis who received any SUD service during the measurement year	No
33	Initiation of AOD Abuse or Dependence Treatment (IET)	No
Hypothesis 2: The Demonstration will increase peer support services which will result in more individuals engaging in and retained in AOD dependence treatment.		
34	Percentage of individuals with a SUD diagnosis who received peer support	Yes
35	Engagement of AOD Abuse or Dependence Treatment (IET)	Yes
36	Average Length of Stay (ALOS)	Yes
37	Continuity of Pharmacotherapy for opioid use disorder (OUD)	Yes
Hypothesis 3: The Demonstration will improve access to a comprehensive continuum of SUD care which will result in decreased utilization of emergency department (ED) and inpatient hospitalization and SUD inpatient readmissions.		
38	Continuum of services available	NS/FS
39	Number of providers and capacity for ambulatory SUD services	Yes
40	Percentage of ED visits of individuals with SUD diagnoses	NS/FS

Measure Number	Measure Name	Measure Supports Hypothesis
41	Percentage of Inpatient admissions for SUD-related treatment	NS/FS
42	Percentage of Inpatient admissions of individuals with a SUD for withdrawal management	No
43	7- and 30-day inpatient and residential SUD readmission rates	Yes
44	Total and per member per month (PMPM) cost (medical, behavioral, and pharmacy) for members with a SUD diagnosis	N/A[3]
45	Total and PMPM cost (medical, behavioral, and pharmacy) for members with a SUD diagnosis by SUD source of care	N/A
46	Total and PMPM cost for SUD services for members with a SUD diagnosis	N/A
47	Total and PMPM cost for SUD services by type of care (inpatient [IP], outpatient [OP], prescription [RX], etc.)	N/A
Hypothesis 4: The Demonstration will increase the number of individuals with fully delegated care coordination which includes screening for co- morbid conditions, which will result in increased utilization of physical health services.		
48	Percentage of individuals diagnosed with a SUD receiving care coordination	No
49	Percentage of individuals with a SUD receiving preventive/ambulatory health services (AAP)	Yes
Hypothesis 5: The Demonstration will Increase use of naloxone, medication assisted treatment (MAT), and enhanced monitoring and reporting of opioid prescriptions through the prescription monitoring program, which will result in fewer overdose deaths due to opioid use.		
50	Number of naloxone training and kit distributions	No
51	Number of managed care organization (MCO) network MAT providers	No
52	Percentage of individuals diagnosed with a SUD with MAT claims	No
53	Number of providers using the prescription monitoring program	Yes
54	Rate of deaths due to overdose	No

[1]To concisely evaluate the Health Home Program, results for Measures 4b and 5b (Health Home-specific measures) are presented after Measure 6.

[2]— = Insufficient data to draw a conclusion.
[3]N/A = The measure is not directly connected to the hypothesis, but provides critical program information.
*The following abbreviations are used in the measure descriptions—ALOS: Average Length of Stay; AOD: alcohol and other drugs; CB: Community Benefit; CC: Centennial Care; CR: Centennial Rewards; ED: emergency department; EVV: electronic visit verification; HH: Health Home; IP: inpatient; NCQA: National Committee for Quality Assurance; NFLOC: nursing facility level of care; MAT: medication assisted treatment; MCO: managed care organization; OP: outpatient; OUD: opioid use disorder; PH: physical health; PMPM: per member per month; RX: prescription; SNCP: safety net care pool; SUD: substance use disorder; VBP: value-based purchasing

Aim One

For Aim One, the analytic results provide strong support for both Hypothesis 1 (the number of members accessing Community Benefit [CB] services will be maintained) and Hypothesis 2 (member engagement with Health Homes and access to integrated physical and behavioral healthcare communities will increase). The analysis provides weaker support for Hypothesis 3 (enhanced care coordination supports integrated care interventions, leading to higher levels of access to preventive/ambulatory health services) and Hypothesis 4 (engagement in a Health Home and care coordination support integrative care interventions, which improve quality of care), with inconclusive results for several measures across these four hypotheses.

One measure (Measure 5a) does not support its hypothesis (Hypothesis 3), while two measures related to the Health Homes program support Hypothesis 3 (Measure 4b and 5b). Analyses of measures related to Hypothesis 4 had too few members to draw conclusive statistical evidence that the Health Home program had a significant

impact on outcomes given the observed differences in rates. Once limited to the denominator population, four out of five measures had approximately 100 members or fewer in the comparison group. Despite the limitations in statistical power, results tended to be favorable for the Health Home program, on average showing improved rates over the non-Health Home comparison group.

The analyses are mixed with regard to support for Hypothesis 5 (expanding member access to and incentives for preventive care through the Centennial Rewards (CR) program, and expanded member access to preventive services through the Centennial Home Visiting [CHV] Pilot Program). The only conclusive measure, Measure 15, which is related to the CHV program failed to support the hypothesis; however, the rates were trending favorably, so further evaluation in the Summative Report is needed to assess whether these trends continue. Measures evaluating the CR program, 12 -14, were generally mixed, however, one measure (measure 12), showed support for the hypothesis, but data and methodological limitations prevent drawing conclusions regarding the efficacy of the CR program. HSAG will work with HSD and Finity to develop more informative and robust measures for the evaluation of the program for the Summative Evaluation Report.

Aim Two

For the six measures associated with Aim Two and its only hypothesis (providing incentives to hospitals to improve the health of members and quality of services and increasing the number of providers with value-based purchasing [VBP] contracts will manage costs while sustaining or improving quality), three measures support the hypothesis, one measure fails to support the hypothesis, one measure is inconclusive. Strikingly, the results of the two financial measures were split. The analysis of Measure 20 (*Cost Per Member Trend*) found member cost trends to be less than what would have been expected in the absence of Centennial Care 2.0 (the counterfactual), but the gap between the estimated counterfactual and actual cost trends has been closing. The analysis for Measure 21 (*Cost Per User Trend*) found that since the implementation of Centennial Care 2.0, the cost trend has increased while the expected trend has decreased. This suggests the costs are increasing at an accelerated rate compared to what is expected. Given the improvements in other areas of Centennial Care, such as peer support services (Aim Four), the moderate success of the Health Home program (Aim One), increased utilization of data, technology, and person-centered care (Aim Three), and the challenges to delivering quality care during the COVID-19 PHE, these increases are not necessarily unexpected.

Aim Three

The analysis supports the hypothesis that the use of technology and continuous quality improvement (CQI) processes align with increased access to services and member satisfaction (Hypothesis 2). Three of the five measures support the hypothesis, both in terms of the expanded use of telemedicine services, even prior to the COVID-19 public health emergency (PHE), and increased member satisfaction ratings. Analysis of members with continuous Nursing Facility Level of Care (NFLOC) approval is consistent with the conclusion that the Demonstration will relieve administrative burden by implementing a continuous NFLOC approval with specific criteria for members whose condition is not expected to change over time (Hypothesis 1). However, no conclusions could be drawn to support that the implementation of electronic visit verification (EVV) is associated with increased accuracy in reporting services rendered (Hypothesis 3). Two of the measures associated with the Aim had insufficient data from which to draw conclusions. Although measure 28 (*Number of Submitted Claims Through EVV*) as defined is not sufficient to directly measure the impacts of EVV implementation, results show improvements related to Hypothesis 3

Aim Four

The COVID-19 PHE had a significant impact on outcomes and performance throughout the health care system, including both the rates of substance use disorders (SUD) and the availability of treatment for SUD. Despite this impact, SUD treatment for the Centennial Care 2.0 population appeared to remain relatively robust. Results from measure 32 show a minimal decline in the percentage of members with a SUD who received SUD services following the PHE in Q2 2020. Similarly, results from measure 34 show a sustained increase in the percentage of individuals with a SUD diagnosis receiving peer support (however, it is not certain whether the increasing trend prior to the PHE would have continued but-for the PHE). Where possible, HSAG employed statistical controls in an attempt to capture the impact of the COVID-19 on measured outcomes (measures 34, 35, 36, 37, 40, 41, 43, and 52).

The results suggest that the increase in peer support services resulted in more individuals engaging in and being retained in alcohol and other drugs (AOD) dependence treatment (Hypothesis 2) with the analysis results indicating that all four measures associated with the hypothesis support the hypothesis.

Two of the six non-financial measures associated with the hypothesis that the Demonstration will improve access to a comprehensive continuum of SUD care resulting in decreased utilization of emergency department (ED) and inpatient hospitalization and SUD inpatient readmissions (Hypothesis 3) support the hypothesis. The *Number of Providers and Capacity for Ambulatory SUD Services* (Measure 39) and the *7- and 30-Day Inpatient and Residential SUD Readmission Rates* (Measure 43) both support the hypothesis. The analysis results for Measure 42 (*Percentage of Inpatient Admissions of Individuals with a SUD for Withdrawal Management*) did not support Hypothesis 3, and the remaining non-financial measures were inconclusive.

Four financial measures are associated with Hypothesis 3; however, they do not connect directly to the hypothesis, which does not contain an explicit financial or cost element. Generally, the financial measures showed trends similar to or less than the estimated counterfactual over the course of Centennial Care 2.0, but with a sharp spike early in 2021 and continuing to increase through 2021. The analysis of Measure 44 found that the total and per member per month (PMPM) cost, including medical, behavioral, and pharmacy, for members with a SUD diagnosis tracked closely to the estimated counterfactual. Early in the Centennial Care 2.0 period costs were below the estimated counterfactual, but the analysis shows costs spiking early in 2021, possibly due to the release of pent-up demand from the COVID-19 PHE. The analysis of *Total and PMPM Costs (Medical, Behavioral, and Pharmacy) for Members with a SUD Diagnosis by SUD Source of Care* (Measure 45) found that inpatient and outpatient costs were close to the estimated counterfactual. Both long term care (LTC) and pharmacy costs were less than the estimated counterfactual. Professional claims were close to the estimated counterfactual until a spike in costs in early 2021. The *Total and PMPM Cost for SUD Services for Members with a SUD Diagnosis* (Measure 46) have generally been below the estimated counterfactual but have been increasing relative to the estimated counterfactual with a sharp increase in early in 2021, which may again be due to a release of pent-up demand from the COVID-19 PHE. Analysis of the total and PMPM costs for SUD services by type of care showed similar results to those described for Measure 45 above.

Both Hypothesis 1 and Hypothesis 4 were evenly split, with half the measures providing support for the associated hypothesis. Two measures (Measures 30 and 31) supported the hypothesis that the Demonstration will increase the number of providers that provide SUD screening, which will result in an increase in the number of individuals screened and the percentage of individuals who initiate treatment for AOD dependence treatment (Hypothesis 1). Measure 32 (*Percentage of Individuals with a SUD Diagnosis Who Received Any SUD Service During the Measurement Year*) did not support the hypothesis. While the results of Measure 33 (*Initiation of AOD Abuse or Dependence Treatment [IET]*) did not support the hypothesis, the measure is trending favorably and may provide support for the hypothesis in the Summative Evaluation Report.

Results from Measure 49 (*Percentage of Individuals with a SUD Receiving Preventive/Ambulatory Health Services*) support the hypothesis that the Demonstration will ultimately result in increased utilization of physical health services among members receiving fully delegated care coordination (Hypothesis 4). Conversely, the results of the analysis of the *Percentage of Individuals Diagnosed with a SUD Receiving Care Coordination* (Measure 48) did not support the hypothesis that the Demonstration will increase the number of individuals with fully delegated care coordination.

Generally, the results of the analysis do not support Hypothesis 5 (the Demonstration will increase use of naloxone, medication assisted treatment [MAT], and enhanced monitoring and reporting of opioid prescriptions through the prescription monitoring program, resulting in fewer overdose deaths due to opioid use). Only the results of Measure 53 (*Number of Providers Using the Prescription Monitoring Program*) provide support for the hypothesis. All other analysis results for measures associated with the hypothesis (Measures 50, 51, 52, and 54) did not support the hypothesis. However, it should be noted that the self-reported data may have reflected the impact of the COVID-19 PHE as managed care organizations (MCOs) addressed the urgent elements of the PHE. Likewise, the increase in the number of overdose deaths during 2020 and 2021 may be more indicative of secondary impacts of the COVID-19 PHE than the performance of the Demonstration Waiver.

7. Interpretations, and Policy Implications, and Interactions with Other State Initiatives

Interpretations

Analysis suggests that at this point in the Demonstration, the State is meeting Aim One and Aim Two. Aim Three is being met to the extent that conclusions could be drawn from the available data. As additional data become available, it is expected that a more nuanced picture around Aim Three can be drawn. Health Services Advisory Group, Inc. (HSAG) will work with the State to explore additional data sources or additional measures that will ensure a more complete picture of Aim Three performance for the Summative Evaluation Report. As of this Interim Evaluation Report, the results for Aim Four are mixed. However, several aspects of Aim Four have been substantially impacted by the coronavirus disease 2019 (COVID-19) public health emergency (PHE). HSAG believes that as additional data become available and the impacts of the PHE diminish, the performance of the program should be separable from PHE impacts, allowing for a more refined analysis of the diagnosis and treatment of substance use disorder (SUD) elements of Centennial Care 2.0.

Peer support services represent the most notable success emerging from the interim evaluation analyses. The number of individuals with a SUD diagnosis increased during Centennial Care 2.0 and all peer support services performance measures have shown improvement against declines for individuals not enrolled in peer support services. The peer support services performance improvements continued against the backdrop of the COVID-19 PHE, which appears to have substantially impacted other elements of Aim Four, to improve the quality of care and outcomes for Medicaid beneficiaries with SUDs.

Health Homes were moderately successful, although the PHE clearly had an impact. Health Home enrollment continued to grow at a moderate rate; however, the results of only four of the 11 outcome/utilization measures (3, 4b, 5b, and 10) support the associated hypotheses and aims. Results for other Health Home measures were generally mixed and not statistically significant.

Among the full Centennial Care 2.0 population, access to PCPs and preventive care (Measures 4a, 5a, and 6) all showed improvement in 2019, followed by sharp declines beginning in 2020. While statistical methods were applied to control for the impacts of the COVID-19 PHE, it is probable that due to the scale of the PHE, standard statistical methods are insufficient.

The financial analyses suggest the cost of care has been below or around the estimated costs had the Centennial Care 2.0 not been implemented (the counterfactual) until early calendar year (CY) 2021, at which time costs began to increase substantially. If the CY 2021 trend continues, costs of care are likely to exceed the estimated counterfactual cost of care. It is possible that the increases in costs of care in CY 2021 resulted from the release of pent-up demand during the PHE. Data for subsequent years to be included in the Summative Evaluation Report should provide additional insight into the extent of the PHE impact on costs of care.

Telehealth services greatly expanded due to the COVID-19 PHE; however, it is worth noting that the number of telemedicine providers and the number of members receiving telemedicine services both increased in 2019, prior to the COVID-19 PHE.

The SUD portion of the Demonstration has also been impacted by the COVID-19 PHE. Several of the measures for which analysis results failed to support their associated hypotheses showed some degree of improvement in 2019 before declining in 2020, including:

- Percentage of individuals with a SUD diagnosis who received any SUD service during the measurement year.
- Percentage of individuals diagnosed with a SUD receiving care coordination
- Number of naloxone training and kit distributions
- Number of managed care organization (MCO) network medication-assisted treatment (MAT) providers

However, there were other SUD-related measures that were analyzed where the 2019 results did not show improvement from previous years:

- Percentage of inpatient admissions of individuals with a SUD for withdrawal management (2019 rates trended upward [lower rates are better], with the PHE period trending slightly higher than the 2019 trend)
- Percentage of individuals diagnosed with a SUD with MAT claims (2019 was lower than the estimated counterfactual, with a further decrease beginning in 2020)
- Overdose proportionate mortality, which is a part of Measure 54 and looks at the difference between the statewide and Medicaid overdose mortality rates (the difference between the statewide and Medicaid rate remained stable across all years)
- Overdose cause-specific death rates per 100k individuals, which is a part of Measure 54 (the rate increased in 2020, but the difference between the statewide and Medicaid rate widened starting in 2020)

The introduction of Accredited Adult Residential Treatment Centers (AARTCs) and Crisis Triage Centers (CTCs) in 2021 also contributed to changes in the rates in 2021 compared to previous years.

While the analysis results generally suggest that the Centennial Rewards program encourages members to engage in preventive care services, the measures for the program lack a valid comparison group or sufficient historical data to reliably assess the impact of the program. HSAG will work with the New Mexico Human Services Department (HSD) and Finity to develop more informative and robust measures for the evaluation of the program for the Summative Evaluation Report.

Policy Implications

The COVID-19 PHE has added layers of complexity to program evaluations, with only a few elements not impacted by the pandemic. Even with the most significant impacts confined mainly to 2020, lingering PHE impacts were identified through 2021. Due to the unprecedented nature of the PHE, very little research is available to reliably predict the trajectory of PHE impacts beyond those accompanying the shutdown and restrictions in 2020. Separating the impacts of the Demonstration Waiver from those of the PHE will be facilitated by the availability of additional data to identify and control for the trajectory of the PHE and its impacts on the program. If out-of-state data are available and feasible for the summative report (e.g., through Transformed Medicaid Statistical Information System [T-MSIS]) then a comparison group may be constructed for some measures, improving the ability to control for the effects of the PHE on the implementation of the Demonstration.

There are likely PHE impacts that have not yet been fully realized, particularly around service needs that were postponed during the PHE and any resurgences of the virus. These impacts will likely continue to impact Demonstration Waivers for several years. The financial analyses suggest that during the PHE, states faced fiscal pressures responding to the PHE. However, states may still face fiscal pressures from the demand for services as well as lingering health impacts from COVID-19 on their populations.

Despite the impact of the PHE, peer support services appeared to lead to improved outcomes. The results of the analyses suggest that connections with peers provides robust support for individuals with SUD, even in the face of

an unprecedented PHE. Additional research should be encouraged and disseminated regarding other ways in which peer support services may be leveraged to improve member health and appropriate service utilization within a Medicaid program.

Interactions With Other State Initiatives

New Mexico has implemented multiple strategies to reduce opioid misuse and dependence, including expanding the SUD continuum of care (which includes extending Screening, Brief Intervention, and Referral to Treatment [SBIRT] to primary care, community health centers, and urgent care facilities), allowing increased stays in institutions for mental diseases (IMDs) from 15 to 30 days for beneficiaries with a SUD diagnosis with a transition to community-based SUD treatment in place afterwards. HSD also created the Office of Substance Abuse Prevention (OSAP) and the New Mexico Opioid Crisis State Targeted Response Grant.[7-1]

The combination of these activities throughout the State and from various funding sources represents a concerted effort in New Mexico to reduce the impact of opioid misuse and addiction. While this report has identified some improvements in SUD-related measures, these results cannot be disentangled to isolate and attribute a specific portion of the change to each source. It is likely the concerted efforts of all of these approaches have produced the observed results.

Background on Other State Initiatives

State Initiatives

HSD operated several programs, initiatives, and grants outside of Centennial Care 2.0 to provide care for its members. One such grant, funded by the Substance Abuse and Mental Health Services Administration (SAMHSA), is the Promoting Integration of Primary and Behavioral Health Care (PIPBHC) grant.[7-2] The goal of the grant is to provide integrated physical and behavioral healthcare to 795 consumers in the State of New Mexico affected by a SUD or mental illness (MI) and having a chronic physical health condition. The grant was approved for five years, beginning in 2019 and ending in 2023. Through the grant, behavioral health and primary care providers meet regularly and discuss patient needs while providing prevention-based services to members with a SUD or MI. Additionally, a large portion of the grant was directed to increasing the workforce capacity of Community Health Workers (CHWs) and Certified Peer Support Workers (CPSWs). CHWs and CPSWs engage SUD or MI patients in health promotion activities and is to be completed by training CHWs and CPSWs on health promotion Evidence-Based Practices (EBPs) and integrating CHWs and CPSWs into care coordination teams.[7-3]

HSD developed numerous SUD health information technology (HIT) initiatives, including a prescription drug monitoring program (PDMP). As of September 2021, approximately 87 percent of providers consulted the PDMP before prescribing medications.[7-4] Additionally, HSD implemented an emergency department (ED) information exchange (EDIE) in Health Homes to assist CHWs in identifying barriers to care and promoting care coordination

7-1 Details of these programs can be found in the *Background on Other State Initiatives* section below.

7-2 Centennial Care 2.0 Demonstration. Section 1115 Annual Report, Demonstration Year: 6. Available at: http://nmhsd-old.sks.com/uploads/files/Public%20Information/Centennial%20Care/Quarterly%20Progress%20Reports/2019%20Quarter%20Reports/2020%20Quarterly%20Reports/DY6%20Annual%20CMS%20Monitoring%20Report_FINAL(1).pdf. Accessed on Apr. 25, 2022.

7-3 Substance Abuse and Mental Health Services Administration. SM-17-008 Individual Grant Awards 2018. Available at: https://www.samhsa.gov/grants/awards/2018/SM-17-008. Accessed on Apr. 27, 2022.

7-4 Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 8, Quarter 3. Available at: https://www.hsd.state.nm.us/wp-content/uploads/NM_1115-DY8Q3_CMS-Quarterly-Monitoring-Report_20211228.pdf. Accessed on April 25, 2022.

prior to discharge. The EDIE is an electronic platform that tracks high-risk patients and high utilizers of the ED. ED providers receive real-time notifications and insights when a high-risk patient checks into the ED and case managers can identify high utilizers who require additional patient needs through the EDIE.[7-5] All Health Homes were registered with the EDIE and received training.

HSD tracked the number of providers who received training on pain management techniques through Project Extension for Community Healthcare Outcomes (ECHO). Although the number of trainings provided dropped due to COVID-19PHE, enrollment remained high through the option to participate in virtual trainings. In addition to its provider tracking, Project ECHO continues to share best practice treatment protocols to improve healthcare and education in rural and underserved communities.[7-6] Project ECHO New Mexico programs include education on topics such as MAT, opioid use disorder (OUD), and Medicaid quality improvement, which is also a requirement for provider licensing.

HSD and the MCOs worked together on the drug utilization review (DUR) committee to develop a monitoring program for controlled substances. The committee met quarterly to discuss accomplishments regarding monitoring parameters and gather input from the MCOs regarding improving the support for the clinicians' review of a member's history of controlled substance prescriptions from the PDMP.[7-7]

HSD collaborated with the MCOs to reduce non-emergent ED visits through the Low Acuity Non-Emergent (LANE) Care initiative. Each MCO utilized a different strategy to address reducing non-emergent visits. Blue Cross Blue Shield of New Mexico (BCBS) monitored member utilization of ED visits. Presbyterian Health Plan (PHP) worked with providers to encourage members to engage with preventive services and maintain their health instead of relying on emergency services. Western Sky Community Care (WSCC) performed outreach and addressed care needs with members who had more than three ED visits within 30 days or members who had a mental health or SUD related ED visit. Through the Community Paramedicine Program, paramedics engaged with members who had unreliable transportation or were located in rural areas to reduce non-emergent ED visits by providing basic primary care to members in their own homes. Paramedics also helped encourage and deliver communication between members and their primary care provider.[7-8]

HSD created a new department called OSAP within the Behavioral Health Services Division which focused on improving and maximizing New Mexico's substance abuse prevention system and ultimately reduced alcohol, tobacco, and other drug abuse. OSAP coordinated grants and other projects across the State to help achieve HSD's goals.[7-9]

HSD also manages the New Mexico Opioid Crisis State Targeted Response Grant (Opioid STR). The goals of the Opioid STR are to 1) increase the number of people receiving OUD treatment; 2) increase the number of people receiving OUD recovery services; 3) increase the number of providers providing MAT; 4) increase the number of trained OUD prevention and treatment providers; and 5) decrease the rate of opioid misuse, opioid overdoses, and opioid-related deaths. The Opioid STR grant funds are also used for the training and distribution of Narcan

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7-5 Your Guide to PreManage ED (aka EDIE): The Technology Platform for New Mexico's ER is for Emergencies Project. Available at: https://www.nmhanet.org/files/Documents/PreManage-ED9-16.pdf. Accessed on May 9, 2022.

7-6 The University of New Mexico. ECHO's Lasting Impact in New Mexico. Available at: https://hsc.unm.edu/echo/where-we-work/new-mexico.html. Accessed on June 13, 2022.

7-7 Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 8, Quarter 3. Available at: https://www.hsd.state.nm.us/wp-content/uploads/NM_1115-DY8Q3_CMS-Quarterly-Monitoring-Report_20211228.pdf. Accessed on April 25, 2022.

7-8 Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 8, Quarter 3. Available at: https://www.hsd.state.nm.us/wp-content/uploads/NM_1115-DY8Q3_CMS-Quarterly-Monitoring-Report_20211228.pdf. Accessed on April 25, 2022.

7-9 New Mexico Prevention. Available at: http://www.nmprevention.org/index.html. Accessed on April 25, 2022.

(naloxone) to first responders across the State and for the training of health care providers to provide MAT to people with OUD.[7-10]

MCO Initiatives

In addition to the statewide initiatives led by HSD, MCOs also developed and lead their own organization specific initiatives to support their members. Table 7-1 through Table 7-3 provides a high-level summary of key MCO initiatives.

Table 7-1—BCBS Initiatives

Initiative	Program Description	Citation
Behavioral Health Care Coordination Community Outreach	Performed outreach to members to assist with medication compliance.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 8, Quarter 2. Available at: https://www.hsd.state.nm.us/wp-content/uploads/NM_1115-DY8Q2_CMS-Quarterly-Monitoring-Report_20210827.pdf. Accessed on April 25, 2022.
Alexa Echo Dot Pilot	Utilized Alexa Echo Dots to help members remember to complete specific health-related tasks.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 6, Quarter 1. Available at: http://nmhsd-old.sks.com/uploads/files/Public%20Information/Centennial%20Care/Centennial%20Care%202.0/DY6Q1_Progress%20Report_FINAL.pdf. Accessed on April 25, 2022.
Peer Support Worker Outreach Initiatives	20 peer support workers (PSWs) who had previously experienced a SUD or mental health condition worked to connect with members and act as a model towards recovery.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 6, Quarter 2. Available at: http://nmhsd-old.sks.com/uploads/files/DY6Q2_CMS%20Monitoring%20Report_FINAL.pdf. Accessed on April 25, 2022.
Target of emergency room (ER) usage for those members diagnosed with substance abuse, while utilizing the work of recovery support assistants (RSA) (certified peers)	RSAs and Transition of Care (TOC) staff utilized the EDIE to identify members at risk of future ED visits and provide support and services to discourage further ED usage.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Annual Report, Demonstration Year 7. Available at: https://www.hsd.state.nm.us/wp-content/uploads/DY7_CMS-Annual-Monitoring_To-CMS.pdf. Accessed on April 25, 2022.
Telehealth Grant Program Update	Awarded funds to providers to develop or expand telehealth services.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 6, Quarter 3. Available at: http://nmhsd-old.sks.com/uploads/files/Public%20Information/Centennial%20Care/Quarterly%20Progress%20Reports/2019%20Quarter%20Reports/DY6Q3_CMS%20FINAL.pdf. Accessed on April 25, 2022.

7-10 New Mexico Prevention. Opioid Crisis Targeted Response Grant (Opioid STR) Available at: http://www.nmprevention.org/Opioid-STR.html. Accessed on July 9, 2022.

Table 7-2—PHP Initiatives

Initiative	Program Description	Citation
Diabetes Prevention Program	Partnered with Good Measures to develop The Path for Wellness Diabetes Prevention Program aimed at reducing members' risk of developing Type 2 diabetes.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 6, Quarter 3. Available at: http://nmhsd-old.sks.com/uploads/files/Public%20Information/Centennial%20Care/Quarterly%20Progress%20Reports/2019%20Quarter%20Reports/DY6Q3_CMS%20FINAL.pdf. Accessed on April 25, 2022.

Table 7-3—WSCC Initiatives

Initiative	Program Description	Citation
Pay for Performance to Increase Pediatric Appointments	Negotiated with a large medical provider group to agree upon a pay-for-performance (P4P) arrangement for pediatric care and contracted with a vendor that facilitates the P4P program.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 6, Quarter 1. Available at: http://nmhsd-old.sks.com/uploads/files/Public%20Information/Centennial%20Care/Centennial%20Care%202.0/DY6Q1_Progress%20Report_FINAL.pdf. Accessed on April 25, 2022.
MyStrength Initiative	Developed an online virtual mental health club program that provides tools for members to implement a healthier lifestyle.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 6, Quarter 3. Available at: http://nmhsd-old.sks.com/uploads/files/Public%20Information/Centennial%20Care/Quarterly%20Progress%20Reports/2019%20Quarter%20Reports/DY6Q3_CMS%20FINAL.pdf. Accessed on April 25, 2022.
Improving Adherence to Antidepressants	A pharmacy team was developed to identify members at risk of running out of medication and helped members obtain a new prescription.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 7, Quarter 2. Available at: http://nmhsd-old.sks.com/uploads/files/Public%20Information/Centennial%20Care/Quarterly%20Progress%20Reports/2019%20Quarter%20Reports/2020%20Quarterly%20Reports/DY7%20Q2%20CMS%20Monitoring%20Report_FINAL.pdf. Accessed on April 25, 2022.
Telehealth for behavioral health (BH) follow-up after acute inpatient psychiatric discharges	Contracted with Teambuilders, a BH agency, to provide telehealth assessment services within seven days post discharge from an inpatient mental health stay.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 8, Quarter 1. Available at: https://www.hsd.state.nm.us/wp-content/uploads/DY8_Q1_CMS-Monitoring-Report_To-CMS.pdf. Accessed on April 25, 2022.
Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications (SSD) Outreach	Identified providers serving members who were prescribed antipsychotics but had not completed a glucose or lipid test in the past year. Educational outreach was performed to the providers with noncompliant members.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 8, Quarter 3. Available at: https://www.hsd.state.nm.us/wp-content/uploads/NM_1115-DY8Q3_CMS-Quarterly-Monitoring-Report_20211228.pdf. Accessed on April 25, 2022.
Expanding Access for Native American Members	Collaborated with tribal governments, tribal facilities, and external providers to expand services to tribal entities.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 7, Quarter 1. Available at: http://nmhsd-old.sks.com/uploads/files/Public%20Information/Centennial%20Care/Quarterly%20Progress%20Reports/2019%20Quarter%20Reports/2020%20Quarterly%20Reports/DY7Q1_CMS%20Monitoring%20Report_FINAL.pdf. Accessed on April 25, 2022
Assisting Tribal Communities	Provided COVID-19 care packages, back-to-school backpacks, and provider language assistance posters, a resource used to reduce language barriers in health care clinics, to tribal communities.	Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 7, Quarter 3. Available at: http://nmhsd-old.sks.com/uploads/files/Public%20Information/Centennial%20Care/Quarterly%20Progress%20Reports/2019%20Quarter%20Reports/2020%20Quarterly%20Reports/DY7_CMS%20Monitoring%20Report_To%20CMS.pdf. Accessed on April 25, 2022.

COVID-19 Initiatives

Effective March 15, 2020, two days after the President of the United States declared COVID-19 a national emergency, states were able to request the use of Section 1135 waivers. Section 1135 waivers were granted to states through the authority of Section 1135 of the Social Security Act, which permits the United States Health and Human Services Secretary to temporarily waive or modify certain Medicare, Medicaid, and Children's Health Insurance Program (CHIP) requirements to ensure sufficient care and services are provided during a PHE.[7-11] On March 19, 2022, New Mexico submitted a Section 1135 waiver request.[7-12] New Mexico's request included permission for the State to suspend prior authorizations and extend existing authorizations to ensure that all medically necessary emergency care was covered. The removal of prior-authorization requirements ensured members were able to receive care throughout the PHE when proper documentation would not be feasible. The Section 1135 waiver request allowed payments to facilities for services provided in alternative settings. This allowed providers to provide care outside of their typical setting, including in an unlicensed facility. As a result, care could be provided in locations such as temporary shelters, ensuring that all medically necessary emergency care needed could be provided. The Centers for Medicare & Medicaid Services (CMS) approved the request for the Section 1135 waiver on March 23, 2020.[7-13]

In addition to the Section 1135 waiver, HSD issued various flexibilities and expansions in coverage and benefits. On May 6, 2020, HSD issued Special COVID-19 letter of direction (LOD) #6—Care Coordination and Other In-Home Services and Community Benefits to the MCOs, modifying the requirements for care coordination and in-home services and community benefits.[7-14] LOD #6 allowed the MCOs to waive the requirement that care coordination visits be in person, thereby shifting care coordination services to operate through telephonic or virtual visits. Telehealth was further expanded in Special COVID-19 LOD #13—Telehealth Services, later repealed and replaced by Special COVID-19 LOD #13-1, during the COVID-19 PHE, when HSD directed MCOs to notify providers that all possible services should be rendered via telehealth and activated new billing codes to encourage the use of telephonic or e-visits instead of in-person care for certain providers. Other providers were directed to use the same codes and rates as face-to-face care when billing for services.[7-15] The LOD included instructions on how physical health, behavioral health, applied behavior analysis, skilled nursing, and dental providers should bill for services rendered telephonically or through telehealth e-visits. The prior authorizations waived through the Section 1135 waiver were further supplemented through Special COVID-19 LOD #9—COVID-19 Special Requirement for Prior Authorization and Cost-Sharing, later repealed and replaced by Special COVID-19 LOD #9-1, through which HSD waived prior authorizations for members seeking treatment or COVID-19 testing and extended the existing prior authorizations for all other non-COVID-19 related services.[7-16]

7-11 Centers for Medicare & Medicaid Services. 1135 Waivers. Available at: https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertEmergPrep/1135-Waivers. Accessed on Apr. 27, 2022.

7-12 New Mexico Human Services Department. 1135 Waiver Request. Available at: https://nmmedicaid.portal.conduent.com/static/PDFs/NM%201135%20Waiver.pdf. Accessed on Apr. 27, 2022.

7-13 Centers for Medicare & Medicaid Services. Section 1135 Waiver Flexibilities – New Mexico Coronavirus Disease 2019. Available at: https://www.medicaid.gov/state-resource-center/disaster-response-toolkit/federal-disaster-resources/entry/54032. Accessed on Apr. 27, 2022.

7-14 New Mexico Human Services Department. Special COVID-19 Letter of Direction #6. Available at: https://nmmedicaid.portal.conduent.com/static/PDFs/Special%20COVID19%20LOD6%20Coordination%20and%20Other%20In-Home%20Services%20Community%20Benefits.pdf. Accessed on Apr. 27, 2022.

7-15 New Mexico Human Services Department. Special COVID-19 Letter of Direction #13. Available at: https://nmmedicaid.portal.conduent.com/static/PDFs/COVIDLOD__Telehealth.pdf. Accessed on Apr. 27, 2022.

7-16 New Mexico Human Services Department. Special COVID-19 Letter of Direction #9. Available at: https://nmmedicaid.portal.conduent.com/static/PDFs/Special%20COVID19%20LOD9%20Prior%20Authorizations%20and%20Cost%20Sharing.pdf. Accessed on Apr. 27, 2022.

All modifications allowed through these LODs were retroactively effective on March 11, 2020, and remain valid for the duration of the PHE.

In addition to making modifications to the Medicaid system, HSD unveiled a phone application (app) called NMConnect, allowing users to access behavioral health professionals 24/7. The app was created as a new feature of the standard crisis line that existed prior to the app's release.[7-17] The app was launched in April 2020 as a tool to help combat mental health distress caused by the COVID-19 PHE as well as other mental health concerns unrelated to COVID-19.[7-18]

In April 2021, HSD formed a COVID-19 workgroup focused on increasing the COVID-19 vaccination rate in New Mexico. Participants included representative from 18 organizations including HSD, the New Mexico Department of Health, the Public Education Department, Centennial Care MCOs and professional societies including the New Mexico Nurse Practitioner Council, the New Mexico Pediatric Society, the New Mexico Medical Society, and the New Mexico Pharmacists Association. The workgroup met regularly to analyze COVID-19 vaccination data, discuss developments in COVID-19 vaccines, identify and resolve barriers and to disseminate information to the organizations and their members.

MCO COVID-19 Initiatives

In addition to the statewide COVID-19 initiatives led by the State, MCOs also developed and led their own organization-specific COVID-19 initiatives to support their members. Table 7-4 provides a high-level summary of key MCO initiatives.

Table 7-4—MCO COVID-19 Initiatives

MCO	Initiative	Program Description
BCBS	GotShots! Campaign and Healthify	Facilitated care coordination activities to encourage vaccination and COVID-19 education.[7-19]
PHP	Food Insecurity Initiative for COVID-19 Positive Members	Monitored members through Clinical Data Integration data and provided 14 days' worth of meals to members testing positive for COVID-19.[7-20]
WSCC	1, 2, 3 Eyes on Me	Partnered with New Mexico Appleseed, a poverty advocacy organization, to host events targeted at members who had barriers to care due to the COVID-19 PHE, providing assistance in registering for a COVID-19 vaccine along with direct needs resources personal to the members' care needs.[7-21]

7-17 New Mexico Crisis and Access Line. NMConnect. Available at: https://nmmedicaid.portal.conduent.com/static/PDFs/Announcing%20the%20NMConnect%20mobile%20app.pdf. Accessed on Apr. 27, 2022.

7-18 The State of New Mexico. New Mexico Unveils App for Behavioral Health Support. Available at: https://www.newmexico.gov/2020/04/14/new-mexico-unveils-app-for-behavioral-health-support/. Accessed on Apr. 27, 2022.

7-19 Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 8, Quarter 3. Available at: https://www.hsd.state.nm.us/wp-content/uploads/NM_1115-DY8Q3_CMS-Quarterly-Monitoring-Report_20211228.pdf. Accessed on April 25, 2022.

7-20 Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 7, Quarter 3. Available at: http://nmhsd-old.sks.com/uploads/files/Public%20Information/Centennial%20Care/Quarterly%20Progress%20Reports/2019%20Quarter%20Reports/2020%20Quarterly%20Reports/DY7_CMS%20Monitoring%20Report_To%20CMS.pdf. Accessed on April 25, 2022.

7-21 Centennial Care 2.0 Demonstration. Section 1115 Demonstration Quarterly Report, Demonstration Year: 8, Quarter 3. Available at: https://www.hsd.state.nm.us/wp-content/uploads/NM_1115-DY8Q3_CMS-Quarterly-Monitoring-Report_20211228.pdf. Accessed on April 25, 2022.

8. Lessons Learned and Recommendations

Previous sections in this Interim Evaluation Report provide background on the Centennial Care 2.0 Medicaid 1115 Demonstration Waiver; a description of the evaluation research questions, hypotheses, measures, data sources and methodology; results; conclusions; and interpretation. This section of the Interim Evaluation Report presents lessons learned from the evaluation and recommendations for future improvements.

Peer Support

Despite the coronavirus disease 2019 (COVID-19) public health emergency (PHE), the analysis results suggested that peer support services were effective at getting more individuals with substance use disorder (SUD) to initiate alcohol and other drug (AOD) abuse or dependence treatment, increase the tenure of treatment, and maintain the continuity of pharmacotherapy for opioid use disorder (OUD).

Recommendations

- Continue to encourage peer support enrollment.
- Consider ways to expand peer support services to help improve other SUD-related measures that are a part of Aim Four.

COVID-19 PHE Impacts

The interim evaluation report analysis results have identified areas where the PHE has produced delayed impacts that began to manifest in 2021. There may be additional future impacts from the PHE, particularly around the release of pent-up demand for services.

Recommendation

- Anticipate and prepare for delayed PHE impacts, particularly around the costs of care. While the costs of care do not reflect current state expenditures, the costs of providing care borne by the managed care organizations (MCOs) are good predictors of the direction of future capitation rates, which will eventually impact State expenditures.

Centennial Rewards Performance Measures

The measures used to evaluate the Centennial Rewards Program are insufficient to rigorously evaluate the efficacy of the program. The current measures and methods do not provide adequate control for participant self-selection bias, inasmuch as members who are more involved with their health care and likely to receive preventive service may be more likely to participate in the program as they know they will receive rewards for behaviors they would have exhibited even if not enrolled in the program.

Recommendation

- In collaboration with Finity and Health Services Advisory Group, Inc. (HSAG), develop additional measures that meet one of the following criteria:

- A valid comparison group can be identified consisting of members who are similar in measure characteristics, such as gender, age, chronic health conditions, and general health risk-adjustment scores that will facilitate a difference-in-differences (DiD), or similar, analysis.
- Sufficient data are available prior to the implementation of the Centennial Rewards that will allow for an interrupted time series (ITS) analysis or with robust and valid comparison group(s) available for DiD.

Aim Three, Hypothesis Three

Aim Three, Hypothesis Three states that "Implementation of electronic visit verification (EVV) is associated with increased accuracy in reporting services rendered" and has two associated measures. The first measure (Measure 28: *Number of submitted claims through EVV*) is a process measure that only measures the extent to which EVV is being used and provides no information on the effect of expanding EVV use. The second measure (Measure 29: *Percentage of paid or unpaid hours retrieved due to false reporting*), due to its self-reported nature, provided very little information from which to evaluate the impact of the expansion of EVV on the accuracy of reporting services rendered.

Recommendation

- If an equivalent level of data-reporting for Measure 29 is expected to continue, the New Mexico Human Services Department (HSD) should consider working with the MCOs and HSAG to identify robust measures of the accuracy of the reporting of services rendered.

State of New Mexico Human Services Department,
Medical Assistance Division

Medicaid 1115 Demonstration and Substance Use Disorder Waiver—Centennial Care 2.0

Interim Evaluation Report, Appendices

April 2023

HSAG HEALTH SERVICES ADVISORY GROUP

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Appendix A. Additional Results and Methodologies

Appendix A contains additional results and methodologies used for the Centennial Care 2.0 Demonstration Waiver evaluation.

Table A-1 contains demographic information on the changes in age and gender distribution between 2013 and 2021.

Table A-1—Change in Age and Gender Distribution Among Beneficiaries

	2013		2021		Percent Change	
Age	Male	Female	Male	Female	Male	Female
0 - 12	132,127	127,503	113,941	109,436	-14%	-14%
13 - 18	48,718	47,319	55,476	53,599	14%	13%
19 - 34	27,156	66,736	93,840	121,778	246%	82%
35 - 49	16,675	29,753	61,674	74,553	270%	151%
50 - 64	16,140	23,087	47,824	53,807	196%	133%
65+	8,976	16,404	11,833	19,003	32%	16%

Table A-2 provides the percentage of Centennial Care members enrolled in a Health Home (Measure 2)

Table A-2—Percentage of Centennial Care Members Enrolled in a Health Home, 2019-2021 (Measure 2)

Year	Month	Number of Members Enrolled in a Health Home	Number of Members Enrolled in Centennial Care	Percentage of Centennial Care Members Enrolled in a Health Home
2019	January	--	658,657	--
	February	--	658,515	--
	March	--	658,419	--
	April	2,358	660,584	0.36%
	May	--	660,067	--
	June	2,577	659,042	0.39%
	July	2,606	660,231	0.39%
	August	2,746	661,332	0.42%
	September	2,855	663,569	0.43%
	October	3,066	664,645	0.46%
	November	3,186	665,834	0.48%
	December	3,284	668,814	0.49%
2020	January	3,287	671,153	0.49%
	February	3,436	671,462	0.51%
	March	3,463	673,347	0.51%
	April	--	684,525	--
	May	--	694,211	--
	June	3,528	701,119	0.50%

Year	Month	Number of Members Enrolled in a Health Home	Number of Members Enrolled in Centennial Care	Percentage of Centennial Care Members Enrolled in a Health Home
	July	3,458	708,959	0.49%
	August	3,468	716,473	0.48%
	September	3,527	722,142	0.49%
	October	3,575	727,239	0.49%
	November	3,601	733,950	0.49%
	December	3,676	741,045	0.50%
2021	January	3,570	745,425	0.48%
	February	3,706	749,295	0.49%
	March	3,736	753,272	0.50%
	April	3,771	757,002	0.50%
	May	3,751	759,847	0.49%
	June	3,882	763,056	0.51%
	July	3,931	767,073	0.51%
	August	3,943	771,564	0.51%
	September	3,951	775,003	0.51%
	October	4,007	778,184	0.51%
	November	4,047	780,986	0.52%
	December	4,057	783,257	0.52%

Tables A-3 through A-8 provide regression results from interrupted time series analysis for measures calculated annually (Measures 4a, 5a, and 6).

Table A-3—Adults' Access to Preventative/Ambulatory Health Services (AAP) (Measure 4a)

Variable	Estimate[1]	p-value
Intercept	77.72% *(0.84%)*	<0.001 ***
Pre-Centennial Care (CC) 2.0 annual trend	-0.61p.p. *(0.45p.p.)*	0.307
Level Change	2.99p.p. *(1.79p.p.)*	0.236
Change in annual trend	-1.09p.p. *(0.84p.p.)*	0.323
Peak coronavirus disease 2019 (COVID-19) (2020)	-1.57p.p. *(1.22p.p.)*	0.328

*p< 0.1, **p < 0.05, ***p<0.001

[1]Standard errors in parentheses. p.p. = percentage point

Table A-4—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Age 12–24 months (Measure 5a)

Variable	Estimate[1]	p-value
Intercept	94.78% *(0.44%)*	<0.001***
Pre-CC 2.0 annual trend	0.65p.p. *(0.24p.p.)*	0.111
Level Change	1.90p.p. *(0.95p.p.)*	0.184
Change in annual trend	-2.33p.p. *(0.44p.p.)*	0.034**
Peak COVID-19 (2020)	-1.36p.p. *(0.65p.p.)*	0.172

*p< 0.1, **p < 0.05, ***p<0.001
[1]Standard errors in parentheses. p.p. = percentage point

Table A-5—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Age 25 months–6 years (Measure 5a)

Variable	Estimate[1]	p-value
Intercept	85.61% *(1.06%)*	<0.001***
Pre-CC 2.0 annual trend	0.55p.p. *(0.56p.p.)*	0.433
Level Change	5.07p.p. *(2.26p.p.)*	0.154
Change in annual trend	-3.92p.p. *(1.06p.p.)*	0.066*
Peak COVID-19 (2020)	-4.88p.p. *(1.55p.p.)*	0.087*

*p< 0.1, **p < 0.05, ***p<0.001
[1]Standard errors in parentheses. p.p. = percentage point

Table A-6—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Age 7–11 years (Measure 5a)

Variable	Estimate[1]	p-value
Intercept	90.04% *(0.80%)*	<0.001***
Pre-CC 2.0 annual trend	0.01p.p. *(0.43p.p.)*	0.985
Level Change	3.79p.p. *(1.72p.p.)*	0.159
Change in annual trend	-2.45p.p. *(0.80p.p.)*	0.093*
Peak COVID-19 (2020)	0.18p.p. *(1.18p.p.)*	0.894

*p< 0.1, **p < 0.05, ***p<0.001
[1]Standard errors in parentheses. p.p. = percentage point

Table A-7—Children and Adolescents' Access to Primary Care Practitioners (CAP)—Age 12–19 years (Measure 5)

Variable	Estimate[1]	p-value
Intercept	89.79% *(0.67%)*	<0.001***
Pre-CC 2.0 annual trend	-0.10p.p. *(0.36p.p.)*	0.811
Level Change	3.38p.p. *(1.43p.p.)*	0.141
Change in annual trend	-2.32p.p. *(0.67p.p.)*	0.074*
Peak COVID-19 (2020)	-0.03p.p. *(0.98p.p.)*	0.976

*p< 0.1, **p < 0.05, ***p<0.001
[1]Standard errors in parentheses. p.p. = percentage point

Table A-8—Well-Child Visits in The Third, Fourth, Fifth, and Sixth Years of Life (W34) (Measure 6)

Variable	Estimate[1]	p-value
Intercept	59.12% *(1.13%)*	<0.001***
Pre-CC 2.0 annual trend	0.04p.p. *(0.61p.p.)*	0.959
Level Change	3.88p.p. *(2.42p.p.)*	0.250
Change in annual trend	-1.28p.p. *(1.13p.p.)*	0.375
Peak COVID-19 (2020)	-8.31p.p. *(1.66p.p.)*	0.038**

*p< 0.1, **p < 0.05, ***p<0.001
[1]Standard errors in parentheses. p.p. = percentage point

Table A-9 through A-15 contain the regression results from Health Home measures calculated using the difference-in-differences analysis (Measure 4b, 5b, 7, 8, 9, 10, 11, 12).

Table A-9—Adults' Access to Preventative/Ambulatory Health Services (AAP) (Measure 4b)

Year	Variable	Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square
2019	Intercept	2.300	0.090	653.656	<.0001
	Post Implementation Indicator	-0.413	0.122	11.451	0.0007
	Health Home Indicator	-0.108	0.125	0.741	0.3892
	Health Home x Post Implementation	1.150	0.193	35.708	<.0001
2020	Intercept	2.172	0.078	766.327	<.0001
	Post Implementation Indicator	-0.597	0.101	34.826	<.0001
	Health Home Indicator	-0.147	0.108	1.854	0.1733
	Health Home x Post Implementation	0.961	0.151	40.297	<.0001
2021	Intercept	2.151	0.079	750.449	<.0001
	Post Implementation Indicator	-0.585	0.100	34.479	<.0001
	Health Home Indicator	-0.025	0.110	0.051	0.8217
	Health Home x Post Implementation	1.091	0.156	48.845	<.0001

Table A-10—Children and Adolescents' Access to Primary Care Practitioners (CAP) (Measure 5b)

Year	Variable	Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square
2019	Intercept	2.730	0.159	293.863	<.0001
	Post Implementation Indicator	-0.014	0.236	0.004	0.9514
	Health Home Indicator	0.291	0.239	1.483	0.2233
	Health Home x Post Implementation	0.322	0.367	0.771	0.3800
2020	Intercept	2.918	0.140	436.147	<.0001
	Post Implementation Indicator	-0.604	0.182	11.031	0.0009
	Health Home Indicator	0.034	0.199	0.029	0.8657
	Health Home x Post Implementation	1.486	0.323	21.140	<.0001
2021	Intercept	2.718	0.114	568.158	<.0001
	Post Implementation Indicator	-0.606	0.151	16.086	<.0001
	Health Home Indicator	0.329	0.175	3.523	0.0605
	Health Home x Post Implementation	1.018	0.266	14.620	0.0001

Table A-11—Diabetes Screening for Members with Schizophrenia or Bipolar Disorder who are Using Antipsychotic Medications (SSD) (Measure 7)

Year	Variable	Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square
2019	Intercept	1.379	0.195	50.104	<.0001
	Post Implementation Indicator	0.199	0.318	0.389	0.5330
	Health Home Indicator	-0.002	0.251	0.000	0.9922
	Health Home x Post Implementation	-0.390	0.381	1.046	0.3065
2020	Intercept	1.624	0.215	57.325	<.0001
	Post Implementation Indicator	-0.489	0.308	2.522	0.1123
	Health Home Indicator	-0.151	0.264	0.326	0.5681
	Health Home x Post Implementation	0.057	0.366	0.024	0.8759
2021	Intercept	1.567	0.204	58.930	<.0001
	Post Implementation Indicator	-0.057	0.325	0.031	0.8603
	Health Home Indicator	-0.134	0.256	0.274	0.6008
	Health Home x Post Implementation	0.120	0.383	0.098	0.7538

Table A-12—Anti-Depressant Medication Management (AMM) Effective Acute Phase Treatment (Measure 8)

Year	Variable	Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square
2019	Intercept	-0.192	0.166	1.338	0.2473
	Post Implementation Indicator	-0.282	0.293	0.930	0.3349
	Health Home Indicator	-0.157	0.242	0.420	0.5168
	Health Home x Post Implementation	0.251	0.371	0.459	0.4981
2020	Intercept	-0.340	0.152	5.008	0.0252
	Post Implementation Indicator	0.321	0.249	1.662	0.1974
	Health Home Indicator	-0.022	0.217	0.010	0.9193
	Health Home x Post Implementation	-0.262	0.319	0.676	0.4111
2021	Intercept	-0.072	0.155	0.217	0.6415
	Post Implementation Indicator	0.342	0.257	1.769	0.1835
	Health Home Indicator	-0.284	0.220	1.670	0.1962
	Health Home x Post Implementation	0.079	0.330	0.057	0.8115

Table A-13— Anti-Depressant Medication Management (AMM) Effective Continuation Phase Treatment (Measure 9)

Year	Variable	Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square
2019	Intercept	-0.873	0.182	23.145	<.0001
	Post Implementation Indicator	-0.479	0.342	1.962	0.1613
	Health Home Indicator	-0.276	0.272	1.027	0.3108
	Health Home x Post Implementation	0.353	0.433	0.662	0.4159
2020	Intercept	-0.885	0.165	28.832	<.0001
	Post Implementation Indicator	-0.253	0.283	0.799	0.3714
	Health Home Indicator	-0.252	0.242	1.088	0.2970
	Health Home x Post Implementation	0.317	0.363	0.764	0.3821
2021	Intercept	-1.115	0.180	38.364	<.0001
	Post Implementation Indicator	0.311	0.284	1.201	0.2731
	Health Home Indicator	0.153	0.249	0.377	0.5391
	Health Home x Post Implementation	-0.147	0.362	0.164	0.6851

Table A-14—7-Day Follow Up After Hospitalization for Mental Illness (FUH) (Measure 10)

Year	Variable	Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square
2019	Intercept	-0.748	0.167	20.139	<.0001
	Post Implementation Indicator	-0.211	0.323	0.427	0.5135
	Health Home Indicator	0.402	0.218	3.406	0.0649
	Health Home x Post Implementation	0.200	0.367	0.295	0.5868
2020	Intercept	-0.957	0.162	35.068	<.0001
	Post Implementation Indicator	-0.414	0.323	1.637	0.2007
	Health Home Indicator	0.723	0.205	12.508	0.0004
	Health Home x Post Implementation	0.229	0.361	0.404	0.5252
2021	Intercept	-0.511	0.152	11.253	0.0008
	Post Implementation Indicator	-0.159	0.303	0.276	0.5992
	Health Home Indicator	0.173	0.200	0.748	0.3871
	Health Home x Post Implementation	0.189	0.342	0.305	0.5809

Table A-15—30-Day Follow Up After Hospitalization for Mental Illness (FUH) (Measure 11)

Year	Variable	Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square
2019	Intercept	0.281	0.157	3.185	0.0743
	Post Implementation Indicator	0.125	0.298	0.175	0.6753
	Health Home Indicator	0.456	0.216	4.469	0.0345
	Health Home x Post Implementation	-0.306	0.349	0.767	0.3812
2020	Intercept	-0.094	0.145	0.424	0.5151
	Post Implementation Indicator	-0.450	0.275	2.687	0.1011
	Health Home Indicator	0.930	0.198	21.993	<.0001
	Health Home x Post Implementation	0.210	0.323	0.420	0.5168
2021	Intercept	0.419	0.151	7.734	0.0054
	Post Implementation Indicator	-0.265	0.291	0.830	0.3624
	Health Home Indicator	0.399	0.205	3.802	0.0512
	Health Home x Post Implementation	0.106	0.336	0.099	0.7528

Tables A-16 through Table A-21 contain specific financial results for the cost per member trend and cost per user trend (Measure 20 and 21).

Table A-16—Per Member Per Month (PMPM) Cost (Measure 20)

Year	Actual Cost PMPM	Expected Cost PMPM	Capitation Cost PMPM
2013	$347	$347	$338
2014	$374	$382	$474
2015	$402	$410	$497
2016	$409	$432	$459
2017	$396	$449	$421
2018	$427	$486	$432
2019	$465	$540	$472
2020	$475	$524	$502
2021	$514	$552	$500

Table A-17—Total Costs (Measure 20)

Year	Actual Cost	Expected Cost	Capitation Cost
2013	$2,125,314,531	$2,125,314,531	$2,070,295,926
2014	$2,640,069,980	$2,699,162,574	$3,352,297,340
2015	$3,102,957,660	$3,163,945,940	$3,837,720,492
2016	$3,350,800,380	$3,536,460,247	$3,759,735,682
2017	$3,264,730,551	$3,708,041,234	$3,472,855,078
2018	$3,461,729,098	$3,941,635,070	$3,506,650,594
2019	$3,703,465,661	$4,303,932,265	$3,756,710,822
2020	$4,065,075,307	$4,486,360,288	$4,293,096,397
2021	$4,724,314,588	$5,076,531,630	$4,602,294,970

Table A-18—Cost Per Member Trends – (Measure 20)

Year	Average Annual Trend	Expected Average Annual Trend
2014	7.6%	10.0%
2015	7.6%	8.7%
2016	5.6%	7.6%
2017	3.3%	6.7%
2018	4.2%	6.9%
2019	5.0%	7.6%
2020	4.6%	6.1%
2021	5.0%	6.0%

Table A-19—Per Utilizing Member Per Month (PUMPM) Cost (Measure 21)

Year	Actual Cost PUMPM	Expected Cost PUMPM	Capitation Cost PUMPM
2013	$403	$403	$429
2014	$452	$426	$545
2015	$467	$447	$566
2016	$490	$482	$535
2017	$485	$513	$502
2018	$520	$543	$506
2019	$548	$595	$545
2020	$588	$598	$598
2021	$620	$608	$581

Table A-20—Total Cost (Measure 21)

Year	Actual Cost	Expected Cost	Capitation Cost
2013	$2,125,314,531	$2,125,314,531	$2,070,295,926
2014	$2,640,069,980	$2,488,980,519	$3,352,297,340
2015	$3,102,957,660	$2,969,289,035	$3,837,720,492
2016	$3,350,800,380	$3,290,582,979	$3,759,735,682
2017	$3,264,730,551	$3,451,705,199	$3,472,855,078
2018	$3,461,729,098	$3,616,928,228	$3,506,650,594
2019	$3,703,465,661	$4,022,535,130	$3,756,710,822
2020	$4,065,075,307	$4,139,719,934	$4,293,096,397
2021	$4,724,314,588	$4,635,005,775	$4,602,294,970

Table A-21—Cost Per Utilizing Member Trends (Measure 21)

Year	Average Annual Trend	Expected Average Annual Trend
2014	12.0%	5.6%
2015	7.7%	5.3%
2016	6.7%	6.1%
2017	4.7%	6.2%
2018	5.2%	6.1%
2019	5.2%	6.7%
2020	5.5%	5.8%
2021	5.5%	5.3%

Tables A-22 and A-23 present manage care organization (MCO)-specific results for Consumer Assessment of Healthcare Providers and Systems (CAHPS®[A-1]) survey measures 25, 26, and 27, member rating of health care, health plan, and personal doctor, respectively.

A-1 CAHPS® is a registered trademark of the Agency for Healthcare Quality and Research (AHRQ).

Table A-22—BlueCross BlueShield Rates for CAHPS Survey Questions

	2014	2015	2016	2017	2018		2019	2019 Trend Model[1] Predicted	(P-value)
Member rating of health care (measure 25)									
Adult	75.1%	78.2%	72.8%	78.4%	73.8%		78.8%	75.0%	(0.456)
	(N=213)	(N=174)	(N=217)	(N=204)	(N=191)		(N=118)		
Child	87.4%	86.9%	85.5%	90.6%	87.7%		86.0%	88.9%	(0.407)
	(N=223)	(N=206)	(N=248)	(N=245)	(N=236)		(N=143)		
Member rating of health plan (measure 26)									
Adult	78.3%	79.0%	75.4%	74.6%	74.7%		79.0%	72.8%	(0.147)
	(N=304)	(N=238)	(N=280)	(N=280)	(N=245)		(N=181)		
Child	86.8%	86.1%	87.7%	89.1%	87.2%		88.9%	88.5%	(0.883)
	(N=333)	(N=287)	(N=317)	(N=320)	(N=305)		(N=234)		
Member rating of personal doctor (measure 27)									
Adult	82.6%	79.4%	82.7%	81.4%	83.8%		88.1%	83.2%	(0.221)
	(N=224)	(N=180)	(N=225)	(N=199)	(N=191)		(N=135)		
Child	86.5%	89.3%	90.2%	91.6%	92.9%		90.8%	94.0%	(0.185)
	(N=274)	(N=233)	(N=274)	(N=273)	(N=253)		(N=196)		

Note: Rates are provided by the MCOs and have not been independently validated by HSAG.
To accurately evaluate changes in member experience following the implementation of CC 2.0, HSAG applied the results from each report to the previous year (e.g. 2019 member experience is reflected in the 2020 CAHPS report).

[1] Actual vs projected shows the difference between observed rates during the evaluation period compared to the projected rate had the baseline trend continued.

Table A-23—Presbyterian Health Plan Rates for CAHPS Survey Questions

	2014	2015	2016	2017	2018		2019	2019 Trend Model[1] Predicted	(P-value)
Member rating of health care (measure 25)									
Adult	71.4%	77.5%	72.3%	71.8%	69.4%		78.7%	69.8%	(0.046)
	(N=269)	(N=227)	(N=271)	(N=248)	(N=216)		(N=183)		
Child	85.7%	84.5%	87.1%	82.0%	83.5%		87.8%	82.3%	(0.129)
	(N=237)	(N=206)	(N=224)	(N=261)	(N=272)		(N=181)		
Member rating of health plan (measure 26)									
Adult	76.3%	80.9%	78.6%	77.2%	78.4%		78.7%	78.5%	(0.948)
	(N=355)	(N=325)	(N=384)	(N=346)	(N=319)		(N=272)		
Child	88.3%	85.2%	89.1%	86.5%	86.9%		87.3%	86.7%	(0.826)
	(N=332)	(N=310)	(N=348)	(N=370)	(N=381)		(N=307)		
Member rating of personal doctor (measure 27)									
Adult	79.8%	83.4%	82.9%	80.4%	79.3%		82.1%	80.1%	(0.599)
	(N=277)	(N=241)	(N=287)	(N=265)	(N=241)		(N=207)		
Child	84.8%	87.2%	91.1%	89.1%	87.7%		91.1%	90.1%	(0.671)
	(N=310)	(N=274)	(N=291)	(N=320)	(N=324)		(N=259)		

Note: Rates are provided by the MCOs and have not been independently validated by HSAG.
To accurately evaluate changes in member experience following the implementation of CC 2.0, HSAG applied the results from each report to the previous year (e.g. 2019 member experience is reflected in the 2020 CAHPS report).

[1]Actual vs projected shows the difference between observed rates during the evaluation period compared to the projected rate had the baseline trend continued.

Tables A-24 through A-26 provide regression results from difference-in-difference analysis for Peer Support measures (35–37) .

Table A-24— Engagement of AOD Abuse or Dependence Treatment (IET) (Measure 35)

Year	Variable	Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square
2019	Intercept	-1.553	0.024	4,098.832	<.0001
	Post Implementation Indicator	-0.133	0.026	25.806	<.0001
	Peer Support Indicator	0.374	0.176	4.536	0.0332
	Peer Support x Post Implementation	0.598	0.196	9.285	0.0023
	Weighted Risk Score	-0.053	0.003	276.776	<.0001
2020	Intercept	-1.574	0.025	4,039.833	<.0001
	Post Implementation Indicator	-0.209	0.028	56.853	<.0001
	Peer Support Indicator	0.368	0.176	4.381	0.0363
	Peer Support x Post Implementation	0.435	0.194	4.993	0.0255
	Weighted Risk Score	-0.049	0.003	220.516	<.0001
2021	Intercept	-1.558	0.025	3,873.492	<.0001
	Post Implementation Indicator	-0.302	0.028	116.839	<.0001
	Peer Support Indicator	0.373	0.176	4.501	0.0339
	Peer Support x Post Implementation	0.482	0.188	6.554	0.0105
	Weighted Risk Score	-0.052	0.003	235.110	<.0001

Table A-25— Average Length of Stay (ALOS) (Measure 36)

Year	Variable	Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square
2019	Intercept	94.202	1.343	70.169	<.0001
	Post Implementation Indicator	-9.533	1.574	-6.058	<.0001
	Peer Support Indicator	137.585	10.565	13.023	<.0001
	Peer Support x Post Implementation	119.016	12.053	9.874	<.0001
	Weighted Risk Score	-1.433	0.142	-10.079	<.0001
2020	Intercept	93.055	1.358	68.533	<.0001
	Post Implementation Indicator	-18.301	1.600	-11.435	<.0001
	Peer Support Indicator	137.256	10.518	13.050	<.0001
	Peer Support x Post Implementation	37.702	11.323	3.330	0.0009
	Weighted Risk Score	-1.221	0.148	-8.228	<.0001
2021	Intercept	92.783	1.405	66.051	<.0001
	Post Implementation Indicator	-16.619	1.689	-9.840	<.0001
	Peer Support Indicator	137.178	10.727	12.788	<.0001
	Peer Support x Post Implementation	18.989	11.538	1.646	0.0998
	Weighted Risk Score	-1.170	0.157	-7.432	<.0001

Table A-26— Continuity of Pharmacotherapy for Opioid Use Disorder (OUD) (Measure 37)

Year	Variable	Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square
2019	Intercept	-0.979	0.027	1,300.205	<.0001
	Post Implementation Indicator	0.015	0.030	0.235	0.6276
	Peer Support Indicator	-0.353	0.354	0.993	0.3190
	Peer Support x Post Implementation	0.852	0.373	5.228	0.0222
	Weighted Risk Score	-0.007	0.003	4.409	0.0358
2020	Intercept	-1.051	0.027	1,508.841	<.0001
	Post Implementation Indicator	-0.024	0.031	0.593	0.4412
	Peer Support Indicator	-0.392	0.354	1.223	0.2687
	Peer Support x Post Implementation	1.126	0.358	9.896	0.0017
	Weighted Risk Score	0.007	0.003	5.134	0.0235
2021	Intercept	-1.065	0.027	1,535.033	<.0001
	Post Implementation Indicator	-0.021	0.032	0.432	0.5112
	Peer Support Indicator	-0.400	0.354	1.272	0.2594
	Peer Support x Post Implementation	1.006	0.357	7.946	0.0048
	Weighted Risk Score	0.009	0.003	9.568	0.0020

Tables A-27 through A-38 provide regression results from interrupted time series analysis for measures calculated quarterly (34, 40, 41, 43, and 52).

Table A-27—Percentage of Individuals with a Substance Use Disorder (SUD) Diagnosis Who Received Peer Support (Measure 34)

Variable	Estimate[1]	p-value
Intercept	0.75% *(0.71%)*	0.317
Pre-CC 2.0 quarterly trend	0.22p.p. *(0.16p.p.)*	0.199
Level Change	2.79p.p. *(0.96p.p.)*	0.014**
Change in quarterly trend	0.26p.p. *(0.18p.p.)*	0.169
COVID-19 Lockdown (Q2 2020)	1.55p.p. *(1.15p.p.)*	0.204
COVID-19 Reopening (Q3 2020 - Q1 2021)	0.99p.p. *(0.71p.p.)*	0.194
Seasonality: Q2	-0.58p.p. *(0.69p.p.)*	0.418
Seasonality: Q3	-0.71p.p. *(0.66p.p.)*	0.303
Seasonality: Q4	-0.47p.p. *(0.69p.p.)*	0.505

*p< 0.1, **p < 0.05, ***p<0.001

[1]Standard errors in parentheses. p.p. = percentage point

Table A-28— Percentage of Individuals with a Substance Use Disorder (SUD) Diagnosis Who Received Peer Support, Observed (Measure 34)

Quarter		Observed Rate	Projection of Trend	Difference
2017	Q1	0.7%	0.7%	0.0%
	Q2	0.7%	0.4%	0.3%
	Q3	0.7%	0.5%	0.2%
	Q4	0.8%	0.9%	-0.2%
2018	Q1	1.1%	1.6%	-0.6%
	Q2	1.1%	1.3%	-0.2%
	Q3	1.5%	1.4%	0.2%
	Q4	2.1%	1.8%	0.3%
2019	Q1	4.1%	2.5%	1.6%
	Q2	5.0%	2.2%	2.8%
	Q3	5.3%	2.3%	3.1%
	Q4	7.9%	2.7%	5.1%
2020	Q1	9.6%	3.4%	6.2%
	Q2	9.0%	4.6%	4.4%
	Q3	9.2%	4.1%	5.0%
	Q4	9.2%	4.6%	4.6%
2021	Q1	10.4%	5.3%	5.1%
	Q2	9.8%	4.0%	5.9%
	Q3	9.5%	4.0%	5.4%
	Q4	9.4%	4.5%	4.9%

Table A-29—Percentage of Emergency Department (ED) Visits of Individuals with SUD Diagnoses (Measure 40)

Variable	Estimate[1]	p-value
Intercept	20.73% *(0.51%)*	<0.001***
Pre-CC 2.0 quarterly trend	0.01p.p. *(0.12p.p.)*	0.928
Level Change	-0.42p.p. *(0.68p.p.)*	0.553
Change in quarterly trend	0.13p.p. *(0.13p.p.)*	0.341
COVID-19 Lockdown (Q2 2020)	5.69p.p. *(0.82p.p.)*	<0.001***
COVID-19 Reopening (Q3 2020 - Q1 2021)	4.68p.p. *(0.51p.p.)*	<0.001***
Seasonality: Q2	2.25p.p. *(0.49p.p.)*	<0.001***
Seasonality: Q3	2.01p.p. *(0.47p.p.)*	0.001***
Seasonality: Q4	0.22p.p. *(0.49p.p.)*	0.666

*p< 0.1, **p < 0.05, ***p<0.001

[1]Standard errors in parentheses. p.p. = percentage point

Table A-30—Percentage of ED Visits of Individuals with SUD Diagnoses (Measure 40)

Quarter		Observed Rate	Projection of Trend	Difference
2017	Q1	20.7%	20.7%	-0.1%
	Q2	22.9%	23.0%	-0.1%
	Q3	23.3%	22.8%	0.6%
	Q4	21.4%	21.0%	0.5%
2018	Q1	19.8%	20.8%	-0.9%
	Q2	22.5%	23.0%	-0.5%
	Q3	23.1%	22.8%	0.3%
	Q4	21.4%	21.0%	0.3%
2019	Q1	20.1%	20.8%	-0.7%
	Q2	22.6%	23.1%	-0.5%
	Q3	23.3%	22.8%	0.5%
	Q4	20.9%	21.1%	-0.2%
2020	Q1	21.8%	20.9%	0.9%
	Q2	29.2%	28.8%	0.3%
	Q3	27.7%	27.6%	0.2%
	Q4	26.0%	25.8%	0.2%
2021	Q1	27.0%	25.6%	1.4%
	Q2	24.9%	23.2%	1.8%
	Q3	22.9%	22.9%	0.0%
	Q4	22.1%	21.2%	1.0%

Table A-31—Percentage of Inpatient Admissions for SUD Related Treatment (Measure 41)

Variable	Estimate[1]	p-value
Intercept	15.19% *(0.58%)*	<0.001***
Pre-CC 2.0 quarterly trend	0.31p.p. *(0.13p.p.)*	0.039**
Level Change	-1.06p.p. *(0.78p.p.)*	0.201
Change in quarterly trend	0.14p.p. *(0.15p.p.)*	0.345
COVID-19 Lockdown (Q2 2020)	0.83p.p. *(0.93p.p.)*	0.391
COVID-19 Reopening (Q3 2020 - Q1 2021)	1.08p.p. *(0.58p.p.)*	0.089*
Seasonality: Q2	1.45p.p. *(0.56p.p.)*	0.026**
Seasonality: Q3	0.82p.p. *(0.53p.p.)*	0.151
Seasonality: Q4	-2.38p.p. *(0.56p.p.)*	0.001***

*p< 0.1, **p < 0.05, ***p<0.001

[1]Standard errors in parentheses. p.p. = percentage point

Table A-32—Percentage of Inpatient Admission for SUD Related Treatment (Measure 41)

Quarter		Observed Rate	Projection of Trend	Difference
2017	Q1	15.0%	15.2%	-0.2%
	Q2	16.9%	16.9%	-0.1%
	Q3	16.7%	16.6%	0.1%
	Q4	14.4%	13.7%	0.6%
2018	Q1	16.0%	16.4%	-0.4%
	Q2	18.3%	18.2%	0.1%
	Q3	17.4%	17.9%	-0.4%
	Q4	15.2%	15.0%	0.3%
2019	Q1	17.3%	17.7%	-0.4%
	Q2	17.5%	19.4%	-1.9%
	Q3	18.7%	19.1%	-0.4%
	Q4	16.6%	16.2%	0.4%
2020	Q1	17.9%	18.9%	-1.0%
	Q2	21.3%	21.5%	-0.2%
	Q3	21.7%	21.4%	0.2%
	Q4	17.6%	18.5%	-0.9%
2021	Q1	22.2%	21.2%	1.0%
	Q2	23.4%	21.9%	1.5%
	Q3	22.0%	21.6%	0.4%
	Q4	18.6%	18.7%	-0.1%

Table A-33—7-day Inpatient and Residential SUD Readmission Rates (Measure 43)

Variable	Estimate[1]	p-value
Intercept	3.76% *(0.52%)*	<0.001***
Pre-CC 2.0 quarterly trend	0.18p.p. *(0.12p.p.)*	0.152
Level Change	-0.72p.p. *(0.69p.p.)*	0.324
Change in quarterly trend	-0.20p.p. *(0.13p.p.)*	0.156
COVID-19 Lockdown (Q2 2020)	-1.30p.p. *(0.83p.p.)*	0.147
COVID-19 Reopening (Q3 2020 - Q1 2021)	-0.14p.p. *(0.52p.p.)*	0.790
Seasonality: Q2	1.15p.p. *(0.50p.p.)*	0.042**
Seasonality: Q3	-0.74p.p. *(0.48p.p.)*	0.150
Seasonality: Q4	-0.99p.p. *(0.50p.p.)*	0.073*

*p< 0.1, **p < 0.05, ***p<0.001

[1]Standard errors in parentheses. p.p. = percentage point

Table A-34—7-day Inpatient and Residential SUD Readmission Rates (Measure 43)

Quarter		Observed Rate	Projection of Trend	Difference
2017	Q1	3.0%	3.8%	-0.7%
	Q2	5.6%	5.1%	0.5%
	Q3	3.5%	3.4%	0.1%
	Q4	3.0%	3.3%	-0.3%
2018	Q1	5.7%	4.5%	1.2%
	Q2	5.7%	5.8%	-0.1%
	Q3	3.6%	4.1%	-0.5%
	Q4	3.9%	4.0%	-0.1%
2019	Q1	4.0%	5.2%	-1.2%
	Q2	4.9%	6.6%	-1.6%
	Q3	4.7%	4.8%	-0.1%
	Q4	3.2%	4.8%	-1.6%
2020	Q1	4.0%	5.9%	-1.9%
	Q2	4.1%	6.0%	-1.9%
	Q3	3.5%	5.4%	-1.9%
	Q4	2.8%	5.4%	-2.5%
2021	Q1	4.0%	6.5%	-2.5%
	Q2	5.4%	8.0%	-2.6%
	Q3	2.5%	6.3%	-3.8%
	Q4	3.8%	6.2%	-2.4%

Table A-35—30-day Inpatient and Residential SUD Readmission Rates (Measure 43)

Variable	Estimate[1]	p-value
Intercept	13.74% *(0.77%)*	<0.001***
Pre-CC 2.0 quarterly trend	0.47p.p. *(0.18p.p.)*	0.022**
Level Change	1.24p.p. *(1.03p.p.)*	0.254
Change in quarterly trend	-0.71p.p. *(0.19p.p.)*	0.004**
COVID-19 Lockdown (Q2 2020)	-2.21p.p. *(1.24p.p.)*	0.101
COVID-19 Reopening (Q3 2020 - Q1 2021)	0.39p.p. *(0.77p.p.)*	0.620
Seasonality: Q2	0.71p.p. *(0.75p.p.)*	0.364
Seasonality: Q3	-1.81p.p. *(0.71p.p.)*	0.027**
Seasonality: Q4	-1.61p.p. *(0.74p.p.)*	0.052*

*p< 0.1, **p < 0.05, ***p<0.001

[1]Standard errors in parentheses. p.p. = percentage point

Table A-36—30-day Inpatient and Residential SUD Readmission Rates (Measure 43)

Quarter		Observed Rate	Projection of Trend	Difference
2017	Q1	13.5%	13.7%	-0.2%
	Q2	15.3%	14.9%	0.4%
	Q3	12.9%	12.9%	0.0%
	Q4	13.3%	13.5%	-0.3%
2018	Q1	16.0%	15.6%	0.4%
	Q2	16.2%	16.8%	-0.6%
	Q3	15.1%	14.8%	0.3%
	Q4	15.4%	15.4%	0.0%
2019	Q1	20.2%	17.5%	2.6%
	Q2	18.4%	18.7%	-0.3%
	Q3	14.8%	16.6%	-1.9%
	Q4	15.9%	17.3%	-1.4%
2020	Q1	14.6%	19.4%	-4.8%
	Q2	15.3%	18.3%	-3.0%
	Q3	15.3%	18.9%	-3.6%
	Q4	14.9%	19.6%	-4.7%
2021	Q1	16.6%	21.7%	-5.1%
	Q2	16.9%	22.4%	-5.5%
	Q3	14.3%	20.4%	-6.1%
	Q4	14.0%	21.1%	-7.0%

Table A-37—Percentage of Individuals Diagnosed with SUD with MAT Claims (Measure 52)

Variable	Estimate[1]	p-value
Intercept	21.62% *(0.38%)*	<0.001***
Pre-CC 2.0 quarterly trend	0.69p.p. *(0.09p.p.)*	<0.001***
Level Change	-0.25p.p. *(0.52p.p.)*	0.634
Change in quarterly trend	-0.63p.p. *(0.10p.p.)*	<0.001***
COVID-19 Lockdown (Q2 2020)	1.86p.p. *(0.62p.p.)*	0.012**
COVID-19 Reopening (Q3 2020 - Q1 2021)	0.31p.p. *(0.39p.p.)*	0.442
Seasonality: Q2	-0.36p.p. *(0.37p.p.)*	0.359
Seasonality: Q3	-0.05p.p. *(0.35p.p.)*	0.895
Seasonality: Q4	0.26p.p. *(0.37p.p.)*	0.503

*p< 0.1, **p < 0.05, ***p<0.001

[1]Standard errors in parentheses. p.p. = percentage point

Table A-38—Percentage of Individuals Diagnosed with SUD with MAT Claims (Measure 52)

Quarter		Observed Rate	Projection of Trend	Difference
2017	Q1	21.2%	21.6%	-0.4%
	Q2	21.8%	22.0%	-0.2%
	Q3	23.1%	23.0%	0.1%
	Q4	24.1%	23.9%	0.1%
2018	Q1	24.9%	24.4%	0.5%
	Q2	25.3%	24.7%	0.6%
	Q3	25.7%	25.7%	0.0%
	Q4	25.9%	26.7%	-0.8%
2019	Q1	25.8%	27.1%	-1.4%
	Q2	25.9%	27.5%	-1.6%
	Q3	26.2%	28.5%	-2.3%
	Q4	27.0%	29.5%	-2.5%
2020	Q1	27.4%	29.9%	-2.5%
	Q2	28.1%	32.1%	-4.0%
	Q3	27.2%	31.5%	-4.3%
	Q4	27.3%	32.5%	-5.2%
2021	Q1	26.7%	33.0%	-6.3%
	Q2	26.1%	33.0%	-6.9%
	Q3	26.6%	34.0%	-7.4%
	Q4	27.5%	35.0%	-7.4%

Tables A-39 – A-72 contain detailed results of the financial analyses (Measures 44, 45, 46, 47).

Table A-39—PMPM Cost and Total Cost for Members with SUD Diagnosis (Measure 44)

Quarter	Actual Cost PMPM	Expected Cost PMPM	Actual Total Cost	Expected Total Cost
2018Q1	$1,456	$1,456	$57,123,818	$57,123,818
2018Q2	$1,534	$1,629	$80,546,816	$85,547,012
2018Q3	$1,618	$1,719	$94,066,744	$99,895,228
2018Q4	$1,637	$1,769	$105,660,516	$114,143,822
2019Q1	$1,373	$1,523	$54,384,377	$60,326,487
2019Q2	$1,587	$1,757	$83,922,661	$92,910,299
2019Q3	$1,798	$1,861	$111,815,520	$115,730,541
2019Q4	$1,788	$1,892	$123,453,954	$130,614,248
2020Q1	$1,558	$1,571	$69,446,779	$70,020,379
2020Q2	$1,872	$1,787	$104,992,790	$100,221,485
2020Q3	$1,955	$1,891	$132,778,513	$128,411,246
2020Q4	$1,873	$1,926	$135,961,058	$139,777,470

Quarter	Actual Cost PMPM	Expected Cost PMPM	Actual Total Cost	Expected Total Cost
2021Q1	$1,814	$1,717	$82,633,195	$78,240,910
2021Q2	$2,201	$1,950	$133,441,649	$118,220,302
2021Q3	$1,946	$2,036	$134,541,455	$140,729,151
2021Q4	$2,068	$2,062	$154,300,501	$153,861,934

Table A-40—Cost Per Member Trends for Members with SUD Diagnosis (Measure 44)

Quarter	Average Quarterly Trend	Expected Average Quarterly Trend
2018Q2	5.3%	11.9%
2018Q3	5.4%	8.6%
2018Q4	4.0%	6.7%
2019Q1	-1.5%	1.1%
2019Q2	1.7%	3.8%
2019Q3	3.6%	4.2%
2019Q4	3.0%	3.8%
2020Q1	0.8%	0.9%
2020Q2	2.8%	2.3%
2020Q3	3.0%	2.6%
2020Q4	2.3%	2.6%
2021Q1	1.8%	1.4%
2021Q2	3.2%	2.3%
2021Q3	2.1%	2.4%
2021Q4	2.4%	2.3%

Table A-41—PMPM Cost for Members with SUD Diagnosis – Inpatient (Measure 45)

Quarter	Actual	Expected	Difference
2018Q1	$363	$363	$0
2018Q2	$373	$401	-$28
2018Q3	$416	$417	-$1
2018Q4	$445	$427	$18
2019Q1	$341	$378	-$37
2019Q2	$459	$431	$28
2019Q3	$560	$454	$106
2019Q4	$513	$459	$54
2020Q1	$395	$389	$6
2020Q2	$577	$437	$140
2020Q3	$649	$459	$190
2020Q4	$604	$467	$138
2021Q1	$477	$425	$52

Quarter	Actual	Expected	Difference
2021Q2	$566	$477	$89
2021Q3	$569	$495	$74
2021Q4	$636	$499	$137

Table A-42— PMPM Cost for Members with SUD Diagnosis – Long-Term Care (Measure 45)

Quarter	Actual	Expected	Difference
2018Q1	$99	$99	$0
2018Q2	$109	$111	-$2
2018Q3	$123	$118	$4
2018Q4	$125	$122	$3
2019Q1	$69	$104	-$35
2019Q2	$87	$121	-$34
2019Q3	$100	$129	-$30
2019Q4	$100	$132	-$32
2020Q1	$75	$108	-$33
2020Q2	$100	$123	-$23
2020Q3	$94	$131	-$37
2020Q4	$96	$133	-$37
2021Q1	$70	$117	-$47
2021Q2	$85	$134	-$48
2021Q3	$90	$140	-$50
2021Q4	$95	$142	-$47

Table A-43—PMPM Cost for Members with SUD Diagnosis – Outpatient (Measure 45)

Quarter	Actual	Expected	Difference
2018Q1	$252	$252	$0
2018Q2	$290	$284	$7
2018Q3	$303	$302	$1
2018Q4	$298	$312	-$14
2019Q1	$254	$262	-$8
2019Q2	$289	$306	-$17
2019Q3	$331	$325	$6
2019Q4	$328	$332	-$4
2020Q1	$285	$270	$14
2020Q2	$303	$310	-$8
2020Q3	$338	$331	$7
2020Q4	$311	$339	-$28
2021Q1	$296	$296	$0
2021Q2	$340	$340	$0
2021Q3	$330	$357	-$27
2021Q4	$347	$363	-$15

Table A-44—PMPM Cost for Members with SUD Diagnosis – Professional (Measure 45)

Quarter	Actual	Expected	Difference
2018Q1	$501	$501	$0
2018Q2	$514	$565	-$51
2018Q3	$538	$601	-$63
2018Q4	$540	$621	-$81
2019Q1	$515	$528	-$13
2019Q2	$565	$613	-$47
2019Q3	$602	$651	-$49
2019Q4	$631	$664	-$34
2020Q1	$610	$543	$67
2020Q2	$679	$620	$58
2020Q3	$675	$659	$16
2020Q4	$662	$673	-$11
2021Q1	$784	$593	$191
2021Q2	$963	$678	$285
2021Q3	$717	$710	$7
2021Q4	$749	$722	$27

Table A-45—PMPM Cost for Members with SUD Diagnosis – Pharmacy (Measure 45)

Quarter	Actual	Expected	Difference
2018Q1	$241	$241	$0
2018Q2	$248	$268	-$20
2018Q3	$238	$280	-$42
2018Q4	$229	$287	-$58
2019Q1	$194	$252	-$58
2019Q2	$188	$287	-$99
2019Q3	$205	$301	-$96
2019Q4	$218	$305	-$88
2020Q1	$193	$261	-$68
2020Q2	$214	$296	-$82
2020Q3	$199	$310	-$111
2020Q4	$199	$314	-$115
2021Q1	$186	$287	-$100
2021Q2	$247	$322	-$74
2021Q3	$240	$333	-$94
2021Q4	$241	$337	-$96

Table A-46—Total Cost (Millions) for Members with SUD Diagnosis – Inpatient (Measure 45)

Quarter	Actual	Expected	Difference
2018Q1	$14.3	$14.3	$0.0
2018Q2	$19.6	$21.1	-$1.5
2018Q3	$24.2	$24.3	-$0.1
2018Q4	$28.7	$27.6	$1.2
2019Q1	$13.5	$15.0	-$1.5
2019Q2	$24.3	$22.8	$1.5
2019Q3	$34.8	$28.2	$6.6
2019Q4	$35.4	$31.7	$3.7
2020Q1	$17.6	$17.4	$0.3
2020Q2	$32.4	$24.5	$7.8
2020Q3	$44.1	$31.2	$12.9
2020Q4	$43.9	$33.9	$10.0
2021Q1	$21.7	$19.3	$2.4
2021Q2	$34.3	$28.9	$5.4
2021Q3	$39.3	$34.2	$5.1
2021Q4	$47.5	$37.2	$10.2

Table A-47—Total Cost (Millions) for Members with SUD Diagnosis – Long-Term Care (Measure 45)

Quarter	Actual	Expected	Difference
2018Q1	$3.9	$3.9	$0.0
2018Q2	$5.7	$5.8	-$0.1
2018Q3	$7.1	$6.9	$0.2
2018Q4	$8.0	$7.9	$0.2
2019Q1	$2.7	$4.1	-$1.4
2019Q2	$4.6	$6.4	-$1.8
2019Q3	$6.2	$8.0	-$1.8
2019Q4	$6.9	$9.1	-$2.2
2020Q1	$3.3	$4.8	-$1.5
2020Q2	$5.6	$6.9	-$1.3
2020Q3	$6.4	$8.9	-$2.5
2020Q4	$7.0	$9.6	-$2.7
2021Q1	$3.2	$5.3	-$2.1
2021Q2	$5.2	$8.1	-$2.9
2021Q3	$6.2	$9.7	-$3.5
2021Q4	$7.1	$10.6	-$3.5

Table A-48—Total Cost (Millions) for Members with SUD Diagnosis – Outpatient (Measure 45)

Quarter	Actual	Expected	Difference
2018Q1	$9.9	$9.9	$0.0
2018Q2	$15.3	$14.9	$0.3
2018Q3	$17.6	$17.5	$0.0
2018Q4	$19.2	$20.1	-$0.9
2019Q1	$10.1	$10.4	-$0.3
2019Q2	$15.3	$16.2	-$0.9
2019Q3	$20.6	$20.2	$0.4
2019Q4	$22.6	$22.9	-$0.3
2020Q1	$12.7	$12.1	$0.6
2020Q2	$17.0	$17.4	-$0.4
2020Q3	$23.0	$22.5	$0.5
2020Q4	$22.6	$24.6	-$2.0
2021Q1	$13.5	$13.5	$0.0
2021Q2	$20.6	$20.6	$0.0
2021Q3	$22.8	$24.7	-$1.8
2021Q4	$25.9	$27.0	-$1.2

Table A-49—Total Cost (Millions) for Members with SUD Diagnosis – Professional (Measure 45)

Quarter	Actual	Expected	Difference
2018Q1	$19.7	$19.7	$0.0
2018Q2	$27.0	$29.6	-$2.7
2018Q3	$31.3	$34.9	-$3.6
2018Q4	$34.9	$40.1	-$5.2
2019Q1	$20.4	$20.9	-$0.5
2019Q2	$29.9	$32.4	-$2.5
2019Q3	$37.4	$40.5	-$3.1
2019Q4	$43.5	$45.9	-$2.3
2020Q1	$27.2	$24.2	$3.0
2020Q2	$38.1	$34.8	$3.3
2020Q3	$45.9	$44.8	$1.1
2020Q4	$48.1	$48.9	-$0.8
2021Q1	$35.7	$27.0	$8.7
2021Q2	$58.4	$41.1	$17.3
2021Q3	$49.6	$49.1	$0.5
2021Q4	$55.9	$53.8	$2.0

Table A-50—Total Cost (Millions) for Members with SUD Diagnosis – Pharmacy (Measure 45)

Quarter	Actual	Expected	Difference
2018Q1	$9.4	$9.4	$0.0
2018Q2	$13.0	$14.1	-$1.1
2018Q3	$13.9	$16.3	-$2.4
2018Q4	$14.8	$18.5	-$3.7
2019Q1	$7.7	$10.0	-$2.3
2019Q2	$9.9	$15.2	-$5.2
2019Q3	$12.8	$18.7	-$6.0
2019Q4	$15.0	$21.1	-$6.0
2020Q1	$8.6	$11.6	-$3.0
2020Q2	$12.0	$16.6	-$4.6
2020Q3	$13.5	$21.1	-$7.6
2020Q4	$14.5	$22.8	-$8.4
2021Q1	$8.5	$13.1	-$4.6
2021Q2	$15.0	$19.5	-$4.5
2021Q3	$16.6	$23.0	-$6.5
2021Q4	$18.0	$25.1	-$7.1

Table A-51—Cost Per Member Trends for Members with SUD Diagnosis – Inpatient (Measure 45)

Quarter	Actual	Expected
2018Q1	--	--
2018Q2	2.8%	10.5%
2018Q3	7.0%	7.2%
2018Q4	7.0%	5.5%
2019Q1	-1.6%	1.0%
2019Q2	4.8%	3.5%
2019Q3	7.5%	3.8%
2019Q4	5.0%	3.4%
2020Q1	1.0%	0.9%
2020Q2	5.3%	2.1%
2020Q3	6.0%	2.4%
2020Q4	4.7%	2.3%
2021Q1	2.3%	1.3%
2021Q2	3.5%	2.1%
2021Q3	3.3%	2.2%
2021Q4	3.8%	2.1%

Table A-52— Cost Per Member Trends for Members with SUD Diagnosis – Long-Term Care (Measure 45)

Quarter	Actual	Expected
2018Q1	--	--
2018Q2	10.2%	12.7%
2018Q3	11.5%	9.5%
2018Q4	8.1%	7.3%
2019Q1	-8.6%	1.2%
2019Q2	-2.5%	4.1%
2019Q3	0.2%	4.6%
2019Q4	0.1%	4.2%
2020Q1	-3.4%	1.1%
2020Q2	0.1%	2.5%
2020Q3	-0.5%	2.9%
2020Q4	-0.2%	2.8%
2021Q1	-2.8%	1.4%
2021Q2	-1.1%	2.4%
2021Q3	-0.6%	2.6%
2021Q4	-0.2%	2.5%

Table A-53—Cost Per Member Trends for Members with SUD Diagnosis – Outpatient (Measure 45)

Quarter	Actual	Expected
2018Q1	--	--
2018Q2	15.1%	12.5%
2018Q3	9.5%	9.4%
2018Q4	5.7%	7.3%
2019Q1	0.2%	1.0%
2019Q2	2.7%	3.9%
2019Q3	4.6%	4.3%
2019Q4	3.8%	4.0%
2020Q1	1.5%	0.9%
2020Q2	2.0%	2.3%
2020Q3	3.0%	2.8%
2020Q4	1.9%	2.7%
2021Q1	1.3%	1.3%
2021Q2	2.3%	2.3%
2021Q3	1.9%	2.5%
2021Q4	2.1%	2.4%

Table A-54—Cost Per Member Trends for Members with SUD Diagnosis – Professional (Measure 45)

Quarter	Actual	Expected
2018Q1	--	--
2018Q2	2.5%	12.6%
2018Q3	3.6%	9.5%
2018Q4	2.5%	7.4%
2019Q1	0.7%	1.3%
2019Q2	2.4%	4.1%
2019Q3	3.1%	4.5%
2019Q4	3.3%	4.1%
2020Q1	2.5%	1.0%
2020Q2	3.4%	2.4%
2020Q3	3.0%	2.8%
2020Q4	2.6%	2.7%
2021Q1	3.8%	1.4%
2021Q2	5.2%	2.3%
2021Q3	2.6%	2.5%
2021Q4	2.7%	2.5%

Table A-55—Cost Per Member Trends for Members with SUD Diagnosis – Pharmacy (Measure 45)

Quarter	Actual	Expected
2018Q1	--	--
2018Q2	2.9%	11.4%
2018Q3	-0.5%	7.9%
2018Q4	-1.6%	6.0%
2019Q1	-5.2%	1.1%
2019Q2	-4.9%	3.6%
2019Q3	-2.6%	3.8%
2019Q4	-1.4%	3.5%
2020Q1	-2.7%	1.0%
2020Q2	-1.3%	2.3%
2020Q3	-1.9%	2.6%
2020Q4	-1.7%	2.5%
2021Q1	-2.1%	1.5%
2021Q2	0.2%	2.3%
2021Q3	0.0%	2.4%
2021Q4	0.0%	2.3%

Table A-56—PMPM Cost and Total Cost for SUD Services for Members with SUD Diagnosis (Measure 46)

Quarter	Actual Cost PMPM	Expected Cost PMPM	Actual Cost	Expected Cost
2018Q1	$1,462	$1,462	$47,516,945	$47,516,945
2018Q2	$1,301	$1,469	$42,821,428	$48,345,938
2018Q3	$1,370	$1,500	$44,448,726	$48,660,379
2018Q4	$1,329	$1,469	$43,144,097	$47,696,638
2019Q1	$1,404	$1,533	$45,691,093	$49,868,209
2019Q2	$1,345	$1,588	$44,225,805	$52,215,789
2019Q3	$1,458	$1,566	$49,613,065	$53,287,936
2019Q4	$1,430	$1,565	$49,136,103	$53,766,717
2020Q1	$1,544	$1,578	$57,131,937	$58,391,897
2020Q2	$1,630	$1,604	$59,857,315	$58,884,198
2020Q3	$1,580	$1,645	$60,309,677	$62,761,290
2020Q4	$1,632	$1,617	$59,721,746	$59,180,548
2021Q1	$1,897	$1,719	$72,353,009	$65,586,736
2021Q2	$2,253	$1,750	$85,825,981	$66,662,962
2021Q3	$1,667	$1,739	$62,973,185	$65,690,332
2021Q4	$1,874	$1,700	$68,836,571	$62,438,039

Table A-57—Cost Per Member Trends for SUD Services for Members with SUD Diagnosis (Measure 46)

Quarter	Average Quarterly Trend	Expected Quarterly Trend
2018Q2	-11.0%	0.5%
2018Q3	-3.2%	1.3%
2018Q4	-3.1%	0.2%
2019Q1	-1.0%	1.2%
2019Q2	-1.7%	1.7%
2019Q3	0.0%	1.2%
2019Q4	-0.3%	1.0%
2020Q1	0.7%	1.0%
2020Q2	1.2%	1.0%
2020Q3	0.8%	1.2%
2020Q4	1.0%	0.9%
2021Q1	2.2%	1.4%
2021Q2	3.4%	1.4%
2021Q3	0.9%	1.2%
2021Q4	1.7%	1.0%

Table A-58—PMPM Cost for SUD Services for Members with SUD Diagnosis – Inpatient (Measure 47)

Quarter	Actual	Expected	Difference
2018Q1	$318	$318	$0
2018Q2	$269	$320	-$51
2018Q3	$273	$323	-$49
2018Q4	$282	$317	-$35
2019Q1	$304	$332	-$28
2019Q2	$322	$345	-$23
2019Q3	$350	$340	$10
2019Q4	$326	$338	-$12
2020Q1	$360	$340	$20
2020Q2	$395	$346	$49
2020Q3	$445	$354	$91
2020Q4	$516	$350	$166
2021Q1	$418	$370	$47
2021Q2	$423	$378	$45
2021Q3	$412	$374	$38
2021Q4	$428	$365	$62

Table A-59—PMPM Cost for SUD Services for Members with SUD Diagnosis – Long-Term Care (Measure 47)

Quarter	Actual	Expected	Difference
2018Q1	$89	$89	$0
2018Q2	$81	$89	-$8
2018Q3	$91	$92	-$1
2018Q4	$96	$90	$7
2019Q1	$55	$94	-$39
2019Q2	$57	$97	-$40
2019Q3	$61	$96	-$35
2019Q4	$62	$97	-$34
2020Q1	$61	$97	-$36
2020Q2	$65	$98	-$34
2020Q3	$51	$101	-$50
2020Q4	$46	$99	-$53
2021Q1	$57	$106	-$49
2021Q2	$51	$108	-$57
2021Q3	$53	$107	-$54
2021Q4	$45	$105	-$59

Table A-60—PMPM Cost for SUD Services for Members with SUD Diagnosis – Outpatient (Measure 47)

Quarter	Actual	Expected	Difference
2018Q1	$232	$232	$0
2018Q2	$246	$232	$13
2018Q3	$247	$238	$9
2018Q4	$240	$232	$8
2019Q1	$231	$241	-$10
2019Q2	$240	$249	-$10
2019Q3	$258	$245	$13
2019Q4	$250	$246	$4
2020Q1	$259	$249	$11
2020Q2	$236	$252	-$16
2020Q3	$267	$260	$7
2020Q4	$243	$254	-$11
2021Q1	$263	$271	-$7
2021Q2	$280	$275	$4
2021Q3	$267	$274	-$7
2021Q4	$261	$267	-$6

Table A-61—PMPM Cost for SUD Services for Members with SUD Diagnosis – Professional (Measure 47)

Quarter	Actual	Expected	Difference
2018Q1	$484	$484	$0
2018Q2	$444	$487	-$43
2018Q3	$469	$501	-$32
2018Q4	$467	$491	-$25
2019Q1	$483	$512	-$28
2019Q2	$501	$529	-$28
2019Q3	$526	$521	$5
2019Q4	$561	$523	$39
2020Q1	$590	$526	$64
2020Q2	$642	$533	$109
2020Q3	$637	$548	$88
2020Q4	$628	$536	$91
2021Q1	$758	$573	$185
2021Q2	$917	$583	$334
2021Q3	$692	$579	$113
2021Q4	$723	$566	$157

Table A-62—PMPM Cost for SUD Services for Members with SUD Diagnosis – Pharmacy (Measure 47)

Quarter	Actual	Expected	Difference
2018Q1	$233	$233	$0
2018Q2	$225	$235	-$10
2018Q3	$215	$239	-$25
2018Q4	$202	$235	-$33
2019Q1	$184	$246	-$61
2019Q2	$161	$255	-$94
2019Q3	$174	$252	-$78
2019Q4	$193	$251	-$58
2020Q1	$180	$253	-$73
2020Q2	$186	$260	-$74
2020Q3	$169	$265	-$96
2020Q4	$173	$263	-$89
2021Q1	$171	$279	-$108
2021Q2	$210	$283	-$74
2021Q3	$210	$283	-$73
2021Q4	$210	$277	-$67

Table A-63—Total Cost (Millions) for SUD Services for Members with SUD Diagnosis – Inpatient (Measure 47)

Quarter	Actual	Expected	Difference
2018Q1	$10.3	$10.3	$0.0
2018Q2	$8.9	$10.5	-$1.7
2018Q3	$8.9	$10.5	-$1.6
2018Q4	$9.2	$10.3	-$1.1
2019Q1	$9.9	$10.8	-$0.9
2019Q2	$10.6	$11.3	-$0.8
2019Q3	$11.9	$11.6	$0.3
2019Q4	$11.2	$11.6	-$0.4
2020Q1	$13.3	$12.6	$0.7
2020Q2	$14.5	$12.7	$1.8
2020Q3	$17.0	$13.5	$3.5
2020Q4	$18.9	$12.8	$6.1
2021Q1	$15.9	$14.1	$1.8
2021Q2	$16.1	$14.4	$1.7
2021Q3	$15.6	$14.1	$1.4
2021Q4	$15.7	$13.4	$2.3

Table A-64—Total Cost (Millions) for SUD Services for Members with SUD Diagnosis – Long-Term Care (Measure 47)

Quarter	Actual	Expected	Difference
2018Q1	$2.9	$2.9	$0.0
2018Q2	$2.7	$2.9	-$0.3
2018Q3	$2.9	$3.0	$0.0
2018Q4	$3.1	$2.9	$0.2
2019Q1	$1.8	$3.0	-$1.3
2019Q2	$1.9	$3.2	-$1.3
2019Q3	$2.1	$3.3	-$1.2
2019Q4	$2.1	$3.3	-$1.2
2020Q1	$2.3	$3.6	-$1.3
2020Q2	$2.4	$3.6	-$1.2
2020Q3	$2.0	$3.9	-$1.9
2020Q4	$1.7	$3.6	-$1.9
2021Q1	$2.2	$4.0	-$1.9
2021Q2	$1.9	$4.1	-$2.2
2021Q3	$2.0	$4.0	-$2.0
2021Q4	$1.7	$3.8	-$2.2

Table A-65—Total Cost (Millions) for SUD Services for Members with SUD Diagnosis – Outpatient (Measure 47)

Quarter	Actual	Expected	Difference
2018Q1	$7.5	$7.5	$0.0
2018Q2	$8.1	$7.6	$0.4
2018Q3	$8.0	$7.7	$0.3
2018Q4	$7.8	$7.5	$0.2
2019Q1	$7.5	$7.8	-$0.3
2019Q2	$7.9	$8.2	-$0.3
2019Q3	$8.8	$8.4	$0.4
2019Q4	$8.6	$8.4	$0.1
2020Q1	$9.6	$9.2	$0.4
2020Q2	$8.7	$9.3	-$0.6
2020Q3	$10.2	$9.9	$0.3
2020Q4	$8.9	$9.3	-$0.4
2021Q1	$10.0	$10.3	-$0.3
2021Q2	$10.6	$10.5	$0.2
2021Q3	$10.1	$10.3	-$0.3
2021Q4	$9.6	$9.8	-$0.2

Table A-66—Total Cost (Millions) for SUD Services for Members with SUD Diagnosis – Professional (Measure 47)

Quarter	Actual	Expected	Difference
2018Q1	$15.7	$15.7	$0.0
2018Q2	$14.6	$16.0	-$1.4
2018Q3	$15.2	$16.3	-$1.0
2018Q4	$15.1	$15.9	-$0.8
2019Q1	$15.7	$16.6	-$0.9
2019Q2	$16.5	$17.4	-$0.9
2019Q3	$17.9	$17.7	$0.2
2019Q4	$19.3	$18.0	$1.3
2020Q1	$21.8	$19.5	$2.4
2020Q2	$23.6	$19.6	$4.0
2020Q3	$24.3	$20.9	$3.4
2020Q4	$23.0	$19.6	$3.3
2021Q1	$28.9	$21.8	$7.1
2021Q2	$34.9	$22.2	$12.7
2021Q3	$26.1	$21.9	$4.3
2021Q4	$26.6	$20.8	$5.8

Table A-67—Total Cost (Millions) for SUD Services for Members with SUD Diagnosis – Pharmacy (Measure 47)

Quarter	Actual	Expected	Difference
2018Q1	$7.6	$7.6	$0.0
2018Q2	$7.4	$7.7	-$0.3
2018Q3	$7.0	$7.8	-$0.8
2018Q4	$6.6	$7.6	-$1.1
2019Q1	$6.0	$8.0	-$2.0
2019Q2	$5.3	$8.4	-$3.1
2019Q3	$5.9	$8.6	-$2.7
2019Q4	$6.6	$8.6	-$2.0
2020Q1	$6.7	$9.4	-$2.7
2020Q2	$6.8	$9.5	-$2.7
2020Q3	$6.4	$10.1	-$3.7
2020Q4	$6.3	$9.6	-$3.3
2021Q1	$6.5	$10.6	-$4.1
2021Q2	$8.0	$10.8	-$2.8
2021Q3	$7.9	$10.7	-$2.7
2021Q4	$7.7	$10.2	-$2.5

Table A-68—Percentage Change in Annual PMPM Costs for SUD Services for Members with SUD Diagnosis – Inpatient (Measure 47)

Quarter	Actual	Expected
2018Q1	--	--
2018Q2	-15.4%	0.6%
2018Q3	-7.2%	0.8%
2018Q4	-3.9%	-0.1%
2019Q1	-1.1%	1.1%
2019Q2	0.2%	1.7%
2019Q3	1.6%	1.1%
2019Q4	0.3%	0.9%
2020Q1	1.6%	0.9%
2020Q2	2.4%	0.9%
2020Q3	3.4%	1.1%
2020Q4	4.5%	0.9%
2021Q1	2.3%	1.3%
2021Q2	2.2%	1.3%
2021Q3	1.9%	1.2%
2021Q4	2.0%	0.9%

Table A-69—Percentage Change in Annual PMPM Costs for SUD Services for Members with SUD Diagnosis – Long-Term Care (Measure 47)

Quarter	Actual	Expected
2018Q1	--	--
2018Q2	-8.9%	0.4%
2018Q3	1.0%	1.7%
2018Q4	2.8%	0.3%
2019Q1	-11.3%	1.3%
2019Q2	-8.5%	1.8%
2019Q3	-6.2%	1.3%
2019Q4	-5.0%	1.2%
2020Q1	-4.5%	1.1%
2020Q2	-3.4%	1.1%
2020Q3	-5.3%	1.3%
2020Q4	-5.9%	1.0%
2021Q1	-3.6%	1.5%
2021Q2	-4.2%	1.5%
2021Q3	-3.6%	1.3%
2021Q4	-4.4%	1.1%

Table A-70—Percentage Change in Annual PMPM Costs for SUD Services for Members with SUD Diagnosis – Outpatient (Measure 47)

Quarter	Actual	Expected
2018Q1	--	--
2018Q2	6.0%	0.2%
2018Q3	3.4%	1.4%
2018Q4	1.2%	0.1%
2019Q1	-0.1%	1.0%
2019Q2	0.7%	1.5%
2019Q3	1.8%	1.0%
2019Q4	1.1%	0.9%
2020Q1	1.4%	0.9%
2020Q2	0.2%	0.9%
2020Q3	1.4%	1.1%
2020Q4	0.4%	0.8%
2021Q1	1.1%	1.3%
2021Q2	1.5%	1.3%
2021Q3	1.0%	1.2%
2021Q4	0.8%	1.0%

Table A-71—Percentage Change in Annual PMPM Costs for SUD Services for Members with SUD Diagnosis – Professional (Measure 47)

Quarter	Actual	Expected
2018Q1	--	--
2018Q2	-8.4%	0.5%
2018Q3	-1.6%	1.7%
2018Q4	-1.2%	0.5%
2019Q1	-0.1%	1.4%
2019Q2	0.7%	1.8%
2019Q3	1.4%	1.2%
2019Q4	2.1%	1.1%
2020Q1	2.5%	1.0%
2020Q2	3.2%	1.1%
2020Q3	2.8%	1.3%
2020Q4	2.4%	0.9%
2021Q1	3.8%	1.4%
2021Q2	5.0%	1.4%
2021Q3	2.6%	1.3%
2021Q4	2.7%	1.1%

Table A-72—Percentage Change in Annual PMPM Costs for SUD Services for Members with SUD Diagnosis – Pharmacy (Measure 47)

Quarter	Actual	Expected
2018Q1	--	--
2018Q2	-3.7%	0.6%
2018Q3	-4.1%	1.2%
2018Q4	-4.7%	0.3%
2019Q1	-5.7%	1.3%
2019Q2	-7.1%	1.8%
2019Q3	-4.8%	1.3%
2019Q4	-2.7%	1.0%
2020Q1	-3.2%	1.0%
2020Q2	-2.5%	1.2%
2020Q3	-3.2%	1.3%
2020Q4	-2.7%	1.1%
2021Q1	-2.5%	1.5%
2021Q2	-0.8%	1.5%
2021Q3	-0.7%	1.4%
2021Q4	-0.7%	1.1%

Health Home Propensity Scoring Matching Technical Methodology

To determine the expected rates for the treatment group (individuals enrolled in a health home, a non-health home population with characteristics similar to those of the health home population was identified. Propensity score-based matching is a common methodology used to select a comparison group that is statistically similar to a treatment group. The following describes the methodology to generate propensity scores and use those scores to match members in the treatment group (i.e., the health home population) with members in the comparison group (i.e., the non-health home population).

Covariate Identification

Demographic and health condition covariates were identified for each member. The following provides a description of each covariate and the methods used to identify the covariates. All covariates were identified during the baseline period and were expected to be related to the likelihood of a member being enrolled in a health home. Table A-73 provides a list of the demographic covariates and the methods used to identify each covariate.

Table A-73—Demographic Covariates

Covariates	Identification Method
Age	Member's date of birth was used to identify the member's age at the end of the baseline period.
Male Female	Member's gender in the demographic file.
County	County was assigned based on the county the member resided in for the majority of days during the baseline year. If there was a tie between two or more counties, the county that the member resided in last during the year was assigned.
Race Caucasian American Indian Asian/Pacific Islander Black Other Unknown	Race codes contained in the demographic file.
Ethnicity Hispanic	Ethnicity codes contained in the demographic file.

An indicator variable for having had at least one diagnosis of serious mental illness (SMI) or severe emotional disturbance (SED) during the baseline period, as well as the Chronic Illness and Disability Payment System (CDPS) unweighted and weighted risk scores were also included in the propensity score models.[A-2] CDPS is a diagnostic classification system that Medicaid programs use to make health-based capitated payments for Temporary Assistance for Needy Families (TANF) and disabled Medicaid beneficiaries.[A-3]

Two sets of health condition covariates were explored before choosing the final propensity score methodology (Table A-74). Encounter and fee-for-service (FFS) data were used to identify members who had a primary diagnosis for any of the health conditions listed below. Each health condition was represented separately as an

A-2 Diagnosis codes for SMI or SED from the Centennial Care Managed Care Policy manual were used. New Mexico Human Services Department. Managed Care Policy Manual. Available at: https://www.hsd.state.nm.us/wp-content/uploads/2020/12/Centennial-Care-Managed-Care-Policy-M.pdf. Accessed on June 29, 2022.

A-3 Kronick, R., Dreyfus, T., Gilmer, T., Lee, Lora. (2000). "Improving Health-Based Payment for Medicaid Beneficiaries: CDPS" Health Care Financing Review. 21(3): 29-64.

indicator variable. For example, a member diagnosed with both asthma and hypertension would have two health condition flags, one for asthma and another for hypertension.

Table A-74—Health Condition Covariates

Covariate Set #1 [A-4]	Covariate Set #2 [A-5]
Acute bronchitis	Cancer
ADHD	Diabetes
Adjustment disorders	HIV
Alcohol Disorder	Serious mental illness
Anxiety disorder	Substance-related disorder
Blindness and vision defects	
Cancer	
Chronic kidney disease	
Congestive heart failure	
Coronary artery disease	
Cystic fibrosis	
Delirium dementia and amnestic and other cognitive disorders	
Developmental disorder	
Diabetes	
Disorders usually diagnosed in infancy childhood or adolescence	
Epilepsy	
Esophageal disorders	
Hepatitis	
HIV	
Hypertension	
Intracranial injury	
Mood disorders	
Osteoarthritis	
Osteoporosis	
Other cardiac conditions	
Other nervous system disorder	
Other nutritional, endocrine, and metabolic disorders	
Personality disorder	
Pregnancy	
Rheumatoid arthritis and related diseases	
Schizophrenia and other psychotic disorders	
Spondylosis and other back problems	
Substance-related disorders	
Suicide and self-injury	
Thyroid disorders	

Note: ADHD = Attention Deficit Hyperactivity Disorder; HIV = human immunodeficiency virus

A-4 Covariate Set 1 was created by identifying health conditions using the Agency for Health Research and Quality (AHRQ) Clinical Classification Software (CCS) categories. Certain CCS categories were grouped together in the final covariate selection based on characteristics of the Health Home population and clinical relevance (e.g., the CCS category for "diabetes mellitus without complications" and "diabetes mellitus with complications" were grouped together into the Diabetes health condition covariate).

A-5 Covariate Set 2 was based on CCS groupings from the Mayer et al. (2021) paper.
Mayer V, Mijanovich T, Egorova N, et al. Impact of New York State's Health Home program on access to care among patients with diabetes. BMJ Open Diab Res Care 2021;9:e002204. doi:10.1136/ bmjdrc-2021-002204

Propensity Score Model and Matching Algorithm

Propensity scores were derived to match individuals in the health home and non-health home populations. This allowed the construction of a comparison group that was most similar to the treatment group (i.e., the health home population) without the use of randomized selection. Thus, the propensity score was used to reduce bias in the results and control for multiple confounders.

The covariates were used to determine a propensity score for each member through logistic regression. The equation for the logistic regression is:

$$\Pr(Y_i = 1) = \frac{1}{1 + \exp\left[-(\beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \cdots + \beta_k X_{ik})\right]}$$

Where Pr $(Y_i = 1)$ is the propensity score, the βs are parameters to be estimated and the Xs are the covariates.[A-6]

The *PROC PSMATCH* procedure was used to conduct the final matching algorithm: greedy nearest neighbor matching on the logit of the propensity score using calipers of width equal to 0.2 of the standard deviation of the logit of the propensity score was used. Greedy nearest neighbor matching selects a control individual whose propensity score is closest to that of the treated individual, sequentially and without replacement.[A-7] If multiple control individual subjects are equally close to the treated subject, one of these untreated subjects is selected at random.

Evaluating Matched Populations

Matching on propensity scores has been shown to create a "covariate balance," such that the matched comparison population is similar for all the baseline covariates included in calculating the propensity score.[A-8] Imbalances of baseline characteristics between the treatment and comparison group can still exist if the statistical model used to calculate the propensity score is mis-specified, thus we assessed covariate balance following the matching procedure. Covariate balance was assessed through calculating standardized differences between matched treatment and comparison groups, which is a commonly used statistic for the assessment of covariate balance.[A-9] The standardized difference represents the difference in means of a covariate between the health home and non-health home comparison groups in terms of the pooled standard deviation.[A-10] A rule of thumb when interpreting standardized differences is that an absolute value of less than 0.1 generally indicates a minimal difference between the two groups (i.e., the covariate is balanced). Additionally, to evaluate covariate balance across the spectrum of covariates, an omnibus test was employed to test the joint hypothesis that the mean difference between the health home and non-health home comparison groups across all measured covariates was zero.[A-11]

A-6 Linden, A., Adams, J.L., and Roberts, N. (2005). "Using propensity scores to construct comparable comparison groups for disease management program evaluation." Disease Management Health Outcomes. 13(2): 107-115.

A-7 Austin P. C. (2014). A comparison of 12 algorithms for matching on the propensity score. *Statistics in medicine*, *33*(6), 1057–1069. https://doi.org/10.1002/sim.6004.

A-8 Parsons, L.S. (2001). "Reducing Bias in Propensity Score Matched-Pair Sample Using Greedy Matching Techniques." Paper 214-26. Proceedings of the Twenty-Sixth Annual SAS Users Group International Conference. Cary (NC): SAS Institute Inc.

A-9 Austin, P.C. (2011). "An Introduction to Propensity Score Methods for Reducing the Effects of Confounding in Observational Studies," *Multivariate Behav Res*. 46(3): 399–424

A-10 Stuart, E. A., Lee, B. K., & Leacy, F. P. (2013). Prognostic score-based balance measures can be a useful diagnostic for propensity score methods in comparative effectiveness research. *Journal of clinical epidemiology*, *66*(8 Suppl), S84–S90.e1. https://doi.org/10.1016/j.jclinepi.2013.01.013

A-11 See, Hansen, B.B. and Bowers, J. (2008). "Covariate Balance in Simple, Stratified, and Clustered Comparative Studies," Statistical Science. 23(2): 219-236.

Health Services Advisory Group, Inc. (HSAG) implemented a variety of matching algorithms to determine the best match under alternative propensity score models. The matching algorithms included a greedy 5→1 digit matching, greedy matching with different calipers and caliper types (e.g., propensity score calipers and propensity score logits at calipers of 0.1 and 0.2), replacement matching with different calipers, and greedy matching with exact matching on county of residence.[A-12]

Table A-75 presents a comparison of the propensity score matching algorithms tested for the calendar year (CY) 2019 evaluation period. Overall, all the matching algorithms yielded a high matching rate of the eligible health home population. All model specifications of the greedy 5→1 matching algorithm resulted in matched groups that still had between five and 21 covariates that were unbalanced. Excluding any disease covariates from both replacement matching and greedy matching also resulted in a high number of unbalanced covariates (19 for matching with replacement and 18 for greedy matching). For both replacement matching and greedy matching, including health condition covariate set one resulted in zero covariates showing statistical unbalance and matching approximately 100 percent of the eligible health home population. Based on an understanding of the county-by-county implementation of health homes, HSAG additionally explored greedy matching algorithms with exact matching on county of residence, with various specifications of health condition covariate sets and CDPS unweighted and weighted risk scores. HSAG chose the greedy nearest neighbor matching algorithm with exact matching on county, covariate set one, and the CDPS risk score because it provided the best covariate balance while maintaining a high matching rate of 99.8 percent (model boldface in Table A-75).

Table A-75—Summary of Propensity Score Matching Results

Matching Type	Disease Condition Covariates	CDPS Risk Score		Caliper Distance	Distance Type	Number of Covariates Exceeding Standardized Difference Threshold	Omnibus Test p-value	HH Matching Rate
		Unweighted	Weighted					
Greedy 5 > 1	None	✓	✓	0.0001 to 0.1	PS	21	<.0001	100.0%
Greedy 5 > 1	Covariate set 1	✓	✓	0.0001 to 0.1	PS	5	0.0051	100.0%
Greedy 5 > 1	Covariate set 2	✓	✓	0.0001 to 0.1	PS	10	<.0001	100.0%
Greedy	None	✓	✓	0.2	LPS	18	0.0003	100.0%
Greedy	Covariate set 1	✓	✓	0.1	LPS	0	0.9699	100.0%
Greedy	Covariate set 1	✓	✓	0.2	LPS	0	0.9699	100.0%
Greedy	Covariate set 1	✓	✓	0.2	PS	0	0.9768	99.8%
Greedy	Covariate set 2	✓	✓	0.1	LPS	4	0.7332	100.0%
Greedy	Covariate set 2	✓	✓	0.2	LPS	4	0.7332	100.0%
Greedy	Covariate set 2	✓	✓	0.2	PS	4	0.7457	100.0%
Greedy - exact match on county	None	✓		0.1	LPS	13	0.9346	100.0%
Greedy - exact match on county	None		✓	0.1	LPS	10	0.3329	99.8%

[A-12] Parsons, L.S. (2001). "Reducing Bias in Propensity Score Matched-Pair Sample Using Greedy Matching Techniques." Paper 214-26. Proceedings of the Twenty-Sixth Annual SAS Users Group International Conference. Cary (NC): SAS Institute Inc.

Matching Type	Disease Condition Covariates	CDPS Risk Score		Caliper Distance	Distance Type	Number of Covariates Exceeding Standardized Difference Threshold	Omnibus Test p-value	HH Matching Rate
		Unweighted	Weighted					
Greedy - exact match on county	Covariate set 1	✓	✓	0.1	LPS	0	0.9898	99.7%
Greedy - exact match on county	**Covariate set 1**	**✓**		**0.1**	**LPS**	**0**	**0.9751**	**99.8%**
Greedy - exact match on county	Covariate set 1		✓	0.1	LPS	0	0.9955	99.7%
Greedy - exact match on county	Covariate set 1			0.1	LPS	0	0.9983	99.7%
Greedy - exact match on county	Covariate set 2	✓	✓	0.1	LPS	4	0.8491	100.0%
Greedy - exact match on county	Covariate set 2	✓		0.1	LPS	8	0.9507	100.0%
Greedy - exact match on county	Covariate set 2		✓	0.1	LPS	3	0.9924	100.0%
Greedy - exact match on county	Covariate set 2			0.1	LPS	7	0.9738	100.0%
Replacement	None	✓	✓	0.2	LPS	19	<.0001	100.0%
Replacement	Covariate set 1	✓	✓	0.1	LPS	0	0.9493	100.0%
Replacement	Covariate set 1	✓	✓	0.2	LPS	0	0.9493	100.0%
Replacement	Covariate set 2	✓	✓	0.1	LPS	3	0.2354	100.0%
Replacement	Covariate set 2	✓	✓	0.2	LPS	3	0.2354	100.0%

Note: Covariate set 1 was created by grouping together health conditions from the Agency for Health Research and Quality (AHRQ) Clinical Classification Software (CCS) categories. Covariate set 2 is based on CCS groupings from the Mayer et al. (2021) paper.
HH = Health Home. LPS = logit of the propensity score. PS = propensity score.

Table A-76 presents a summary of the covariate balance for the chosen matching algorithm of the CY 2019 evaluation period. Table A-76 shows the covariate averages before and after matching for the non-Health Home comparison and the health home groups, computed standardized differences, and an indicator of denoting covariates that were balanced according to the absolute standardized difference threshold of 0.1. All covariates were balanced after matching, as all had an absolute standardized difference below the 0.1 rule of thumb. For conditions that were disproportionately less prevalent in the full comparison group compared to the Health Home group prior to matching, such as substance-related disorders, the prevalence of substance-related disorders among the matched comparison group was similar to that of the matched health home group, thus indicating improved balance. The *p*-value on the omnibus test was 0.9751, which indicates that there was not sufficient evidence to reject the joint hypothesis that the mean differences across all covariates between the health home and non-health home groups was equal to zero. Taken together, these results provide strong evidence that the propensity score matching process worked as intended and the non-health home comparison group is similar in composition to the health home group. Further, 99.8 percent (2,227/2,232) of the full health home group was matched, which means results from the evaluation are representative of the majority of the health home eligible population as a whole.

Table A-76—Summary of Covariate Balance (CY 2019 Evaluation Group)

Covariate	Full Group		Matched Samples		Standardized Difference	Balanced	Unmatched HH
	Comparison	HH	Comparison	HH			
Age	26.942	33.971	35.440	33.935	-0.078	*	50.2
Male	0.456	0.435	0.420	0.435	0.031	*	0.6
Race: American Indian	0.066	0.058	0.057	0.058	0.006	*	0
Race: Asian Pacific Islander	0.012	0.014	0.013	0.014	0.004	*	0
Race: Black	0.026	0.065	0.061	0.064	0.013	*	0.2
Race: Other	0.024	0.027	0.024	0.027	0.023	*	0
Race: Unknown	0.012	0.013	0.015	0.013	-0.015	*	0
Ethnicity: Hispanic	0.000	0.001	0.002	0.001	-0.024	*	0
County: Bernalillo	0.288	0.305	0.306	0.306	0.000	*	0
County: Curry	0.026	0.170	0.170	0.170	0.000	*	0.2
County: De Baca	0.001	0.003	0.003	0.003	0.000	*	0.2
County: Grant	0.014	0.032	0.032	0.032	0.000	*	0
County: Hidalgo	0.002	0.034	0.035	0.035	0.000	*	0
County: Lea	0.034	0.198	0.197	0.197	0.000	*	0.6
County: Quay	0.005	0.027	0.027	0.027	0.000	*	0
County: Roosevelt	0.007	0.048	0.048	0.048	0.000	*	0
County: Sandoval	0.051	0.064	0.064	0.064	0.000	*	0
County: San Juan	0.046	0.031	0.031	0.031	0.000	*	0
CDPS risk score	1.159	2.147	2.208	2.143	-0.031	*	3.648839
CDPS weighted risk score	2.461	5.834	5.574	5.820	0.040	*	12.002676
SMI/SED diagnosis during the baseline year	0.184	0.630	0.637	0.629	-0.016	*	1
Covariate set 1: Acute bronchitis	0.051	0.076	0.078	0.076	-0.008	*	0
Covariate set 1: ADHD	0.046	0.180	0.172	0.179	0.020	*	0.6
Covariate set 1: Adjustment disorders	0.059	0.118	0.105	0.119	0.043	*	0
Covariate set 1: Alcohol Disorder	0.034	0.122	0.121	0.121	0.001	*	0.4
Covariate set 1: Anxiety disorder	0.143	0.467	0.479	0.467	-0.024	*	0.8
Covariate set 1: Blindness and vision defects	0.176	0.224	0.211	0.224	0.030	*	0.4
Covariate set 1: Coronary artery disease	0.018	0.053	0.058	0.053	-0.022	*	0
Covariate set 1: Cancer	0.030	0.052	0.052	0.053	0.004	*	0
Covariate set 1: Cystic fibrosis	0.000	0.000	0.000	0.000	0.000	*	0
Covariate set 1: Congestive heart failure	0.010	0.027	0.025	0.027	0.011	*	0.2
Covariate set 1: Chronic kidney disease	0.013	0.026	0.033	0.026	-0.043	*	0
Covariate set 1: Delirium dementia and amnestic and other cognitive disorders	0.011	0.031	0.029	0.031	0.016	*	0
Covariate set 1: Developmental disorder	0.063	0.119	0.115	0.119	0.011	*	0
Covariate set 1: Diabetes	0.087	0.172	0.176	0.171	-0.012	*	0.4
Covariate set 1: Epilepsy	0.021	0.057	0.049	0.057	0.034	*	0.2

Covariate	Full Group		Matched Samples		Standardized Difference	Balanced	Unmatched HH
	Comparison	HH	Comparison	HH			
Covariate set 1: Esophageal disorders	0.066	0.167	0.181	0.166	-0.038	*	0.6
Covariate set 1: Hepatitis	0.018	0.062	0.064	0.062	-0.009	*	0.2
Covariate set 1: HIV	0.002	0.008	0.006	0.008	0.022	*	0.2
Covariate set 1: Hypertension	0.113	0.238	0.245	0.238	-0.016	*	0.2
Covariate set 1: Disorders usually diagnosed in infancy childhood or adolescence	0.020	0.073	0.070	0.073	0.010	*	0
Covariate set 1: Intracranial injury	0.013	0.038	0.038	0.038	0.000	*	0.2
Covariate set 1: Mood disorders	0.121	0.476	0.486	0.475	-0.022	*	1
Covariate set 1: Osteoarthritis	0.050	0.115	0.125	0.115	-0.032	*	0.4
Covariate set 1: Osteoporosis	0.008	0.012	0.014	0.012	-0.020	*	0
Covariate set 1: Other cardiac conditions	0.066	0.160	0.156	0.160	0.010	*	0.4
Covariate set 1: Other nervous system disorder	0.121	0.297	0.316	0.296	-0.042	*	0.8
Covariate set 1: Other nutritional, endocrine, and metabolic disorders	0.169	0.280	0.286	0.279	-0.015	*	0.8
Covariate set 1: Personality disorder	0.005	0.041	0.038	0.039	0.005	*	0.8
Covariate set 1: Pregnancy	0.033	0.034	0.033	0.034	0.007	*	0
Covariate set 1: Rheumatoid arthritis and related diseases	0.010	0.030	0.033	0.030	-0.015	*	0.2
Covariate set 1: Schizophrenia and other psychotic disorders	0.016	0.160	0.131	0.159	0.078	*	1
Covariate set 1: Spondylosis and other back problems	0.133	0.285	0.285	0.284	-0.001	*	0.8
Covariate set 1: Substance-related disorders	0.115	0.349	0.360	0.348	-0.023	*	0.6
Covariate set 1: Suicide and self-injury	0.015	0.100	0.088	0.099	0.039	*	0.6
Covariate set 1: Thyroid disorders	0.052	0.116	0.125	0.115	-0.029	*	0.4
Covariate set 2: Cancer	0.021	0.038	0.036	0.038	0.009	*	0
Covariate set 2: Diabetes	0.085	0.171	0.172	0.171	-0.005	*	0.4
Covariate set 2: HIV	0.010	0.021	0.020	0.021	0.006	*	0.2
Covariate set 2: Serious Mental Illness	0.129	0.540	0.520	0.539	0.038	*	1
Covariate set 2: Substance related Disorder	0.129	0.380	0.385	0.379	-0.012	*	0.8
N=	*481,838*	*2,232*	*2,227*	*2,227*	.		*5*

Note: SMI = Serious Mental Illness

Table A-77 and Table A-78 show that covariate balance for the CY 2020 and CY 2021 evaluation periods are similar. Results provide strong evidence that the propensity score matching process worked as intended and that the non-health home comparison group is similar in composition to the health home group for both evaluation years. After matching for the CY 2020 and CY 2021 evaluation periods, no covariates were found to be unbalanced as all had an absolute standardized difference below the 0.1 rule of thumb. The *p*-value on the omnibus test was 0.7314 and 0.9998 for CY 2020 and CY 2021, respectively, indicating that there was not sufficient evidence to reject the joint hypothesis that the mean differences across all covariates between the health home and non-health home groups was equal to zero. 99.7 percent (2,908/2,916) and 99.7 percent (3,165/3,174)

of the full health home group was matched for CY 2020 and CY 2021, respectively, indicating that results are representative of the majority of the health home population.

Table A-77—Summary of Covariate Balance (CY 2020 Evaluation Group)

Covariate	Full Group		Matched Samples		Standardized Difference	Balanced	Unmatched HH
	Comparison	HH	Comparison	HH			
Age	27.479	32.976	33.393	32.949	-0.023	*	42.875
Male	0.453	0.449	0.433	0.449	0.033	*	0.375
Race: American Indian	0.065	0.048	0.056	0.048	-0.036	*	0
Race: Asian Pacific Islander	0.012	0.013	0.013	0.013	-0.003	*	0
Race: Black	0.025	0.073	0.074	0.072	-0.007	*	0.25
Race: Other	0.025	0.028	0.030	0.028	-0.008	*	0
Race: Unknown	0.012	0.011	0.006	0.011	0.061	*	0
Ethnicity: Hispanic	0.000	0.001	0.000	0.001	0.015	*	0
County: Bernalillo	0.286	0.385	0.386	0.386	0.000	*	0
County: Curry	0.026	0.129	0.128	0.128	0.000	*	0.25
County: De Baca	0.001	0.002	0.001	0.001	0.000	*	0.25
County: Grant	0.014	0.034	0.034	0.034	0.000	*	0
County: Hidalgo	0.002	0.031	0.031	0.031	0.000	*	0.125
County: Lea	0.035	0.194	0.194	0.194	0.000	*	0.25
County: Quay	0.005	0.024	0.024	0.024	0.000	*	0.125
County: Roosevelt	0.006	0.033	0.033	0.033	0.000	*	0
County: Sandoval	0.050	0.051	0.051	0.051	0.000	*	0
County: San Juan	0.045	0.024	0.024	0.024	0.000	*	0
CDPS risk score	1.146	2.080	2.102	2.076	-0.012	*	3.3589056
CDPS weighted risk score	2.401	5.422	5.174	5.401	0.035	*	13.195593
SMI/SED diagnosis during the baseline year	0.183	0.586	0.599	0.585	-0.028	*	1
Covariate set 1: Acute bronchitis	0.051	0.070	0.075	0.070	-0.016	*	0
Covariate set 1: ADHD	0.046	0.186	0.196	0.185	-0.028	*	0.625
Covariate set 1: Adjustment disorders	0.059	0.113	0.112	0.113	0.003	*	0.125
Covariate set 1: Alcohol Disorder	0.033	0.112	0.115	0.111	-0.012	*	0.625
Covariate set 1: Anxiety disorder	0.142	0.452	0.450	0.450	0.001	*	0.875
Covariate set 1: Blindness and vision defects	0.177	0.218	0.218	0.217	-0.002	*	0.375
Covariate set 1: Coronary artery disease	0.017	0.046	0.046	0.046	-0.002	*	0.125
Covariate set 1: Cancer	0.029	0.045	0.041	0.045	0.024	*	0
Covariate set 1: Cystic fibrosis	0.000	0.000	0.000	0.000	0.026	*	0
Covariate set 1: Congestive heart failure	0.009	0.024	0.022	0.023	0.009	*	0.25
Covariate set 1: Chronic kidney disease	0.013	0.021	0.017	0.021	0.028	*	0
Covariate set 1: Delirium dementia and amnestic and other cognitive disorders	0.010	0.025	0.024	0.025	0.004	*	0
Covariate set 1: Developmental disorder	0.064	0.129	0.132	0.129	-0.010	*	0.25

Covariate	Full Group		Matched Samples		Standardized Difference	Balanced	Unmatched HH
	Comparison	HH	Comparison	HH			
Covariate set 1: Diabetes	0.085	0.142	0.152	0.141	-0.029	*	0.375
Covariate set 1: Epilepsy	0.020	0.057	0.052	0.057	0.021	*	0
Covariate set 1: Esophageal disorders	0.065	0.158	0.154	0.157	0.009	*	0.375
Covariate set 1: Hepatitis	0.018	0.060	0.064	0.059	-0.020	*	0.25
Covariate set 1: HIV	0.002	0.008	0.006	0.008	0.017	*	0.125
Covariate set 1: Hypertension	0.109	0.211	0.218	0.210	-0.020	*	0.375
Covariate set 1: Disorders usually diagnosed in infancy childhood or adolescence	0.020	0.078	0.076	0.078	0.008	*	0.125
Covariate set 1: Intracranial injury	0.013	0.034	0.033	0.034	0.004	*	0.125
Covariate set 1: Mood disorders	0.119	0.427	0.436	0.425	-0.023	*	1
Covariate set 1: Osteoarthritis	0.048	0.100	0.107	0.100	-0.021	*	0.125
Covariate set 1: Osteoporosis	0.008	0.008	0.010	0.008	-0.018	*	0
Covariate set 1: Other cardiac conditions	0.064	0.163	0.159	0.162	0.007	*	0.375
Covariate set 1: Other nervous system disorder	0.118	0.272	0.281	0.272	-0.019	*	0.375
Covariate set 1: Other nutritional, endocrine, and metabolic disorders	0.168	0.261	0.253	0.260	0.017	*	0.625
Covariate set 1: Personality disorder	0.005	0.042	0.035	0.041	0.031	*	0.5
Covariate set 1: Pregnancy	0.034	0.038	0.035	0.039	0.018	*	0
Covariate set 1: Rheumatoid arthritis and related diseases	0.010	0.026	0.025	0.026	0.007	*	0
Covariate set 1: Schizophrenia and other psychotic disorders	0.016	0.145	0.114	0.143	0.086	*	1
Covariate set 1: Spondylosis and other back problems	0.131	0.260	0.247	0.259	0.027	*	0.75
Covariate set 1: Substance-related disorders	0.114	0.335	0.343	0.333	-0.020	*	1
Covariate set 1: Suicide and self-injury	0.015	0.097	0.079	0.096	0.058	*	0.5
Covariate set 1: Thyroid disorders	0.050	0.102	0.108	0.102	-0.019	*	0
Covariate set 2: Cancer	0.020	0.034	0.030	0.034	0.022	*	0
Covariate set 2: Diabetes	0.082	0.141	0.149	0.141	-0.023	*	0.375
Covariate set 2: HIV	0.010	0.022	0.023	0.022	-0.009	*	0.125
Covariate set 2: Serious Mental Illness	0.127	0.485	0.464	0.483	0.040	*	1
Covariate set 2: Substance related Disorder	0.128	0.361	0.364	0.360	-0.009	*	1
N=	*450,312*	*2,916*	*2,908*	*2,908*	.		*8*

Table A-78—Summary of Covariate Balance (CY 2021 Evaluation Group)

Covariate	Full Group		Matched Samples		Standardized Difference	Balanced	Unmatched HH
	Comparison	HH	Comparison	HH			
Age	28.010	32.150	31.729	32.100	0.020	*	49.777778
Male	0.452	0.445	0.438	0.445	0.014	*	0.3333333
Race: American Indian	0.064	0.046	0.047	0.046	-0.006	*	0
Race: Asian Pacific Islander	0.012	0.013	0.014	0.013	-0.008	*	0
Race: Black	0.025	0.076	0.075	0.076	0.002	*	0.2222222
Race: Other	0.025	0.031	0.027	0.031	0.026	*	0
Race: Unknown	0.011	0.010	0.007	0.010	0.031	*	0
Ethnicity: Hispanic	0.000	0.001	0.001	0.001	0.000	*	0
County: Bernalillo	0.286	0.426	0.427	0.427	0.000	*	0.1111111
County: Curry	0.028	0.118	0.118	0.118	0.000	*	0
County: De Baca	0.001	0.003	0.002	0.002	0.000	*	0.1111111
County: Grant	0.014	0.018	0.018	0.018	0.000	*	0
County: Hidalgo	0.002	0.025	0.025	0.025	0.000	*	0
County: Lea	0.035	0.210	0.210	0.210	0.000	*	0.4444444
County: Quay	0.005	0.019	0.019	0.019	0.000	*	0.1111111
County: Roosevelt	0.005	0.027	0.027	0.027	0.000	*	0.2222222
County: Sandoval	0.050	0.050	0.050	0.050	0.000	*	0
County: San Juan	0.045	0.020	0.020	0.020	0.000	*	0
CDPS risk score	1.126	1.991	2.014	1.987	-0.013	*	3.3803146
CDPS weighted risk score	2.302	5.032	4.612	4.996	0.067	*	17.620314
SMI/SED diagnosis during the baseline year	0.180	0.554	0.568	0.553	-0.030	*	1
Covariate set 1: Acute bronchitis	0.051	0.065	0.064	0.065	0.003	*	0.1111111
Covariate set 1: ADHD	0.045	0.188	0.199	0.187	-0.030	*	0.5555556
Covariate set 1: Adjustment disorders	0.059	0.132	0.135	0.132	-0.008	*	0.2222222
Covariate set 1: Alcohol Disorder	0.032	0.104	0.100	0.102	0.008	*	0.5555556
Covariate set 1: Anxiety disorder	0.140	0.421	0.424	0.419	-0.010	*	0.8888889
Covariate set 1: Blindness and vision defects	0.176	0.222	0.221	0.222	0.002	*	0.3333333
Covariate set 1: Coronary artery disease	0.015	0.042	0.042	0.041	-0.003	*	0.2222222
Covariate set 1: Cancer	0.028	0.042	0.040	0.041	0.008	*	0.1111111
Covariate set 1: Cystic fibrosis	0.000	0.001	0.001	0.001	-0.011	*	0
Covariate set 1: Congestive heart failure	0.008	0.023	0.021	0.022	0.009	*	0.3333333
Covariate set 1: Chronic kidney disease	0.011	0.021	0.022	0.021	-0.009	*	0.1111111
Covariate set 1: Delirium dementia and amnestic and other cognitive disorders	0.008	0.025	0.019	0.024	0.035	*	0.1111111
Covariate set 1: Developmental disorder	0.064	0.134	0.146	0.134	-0.036	*	0.3333333
Covariate set 1: Diabetes	0.081	0.129	0.128	0.129	0.002	*	0.4444444
Covariate set 1: Epilepsy	0.020	0.053	0.050	0.052	0.010	*	0.3333333

Covariate	Full Group		Matched Samples		Standardized Difference	Balanced	Unmatched HH
	Comparison	HH	Comparison	HH			
Covariate set 1: Esophageal disorders	0.062	0.143	0.135	0.142	0.022	*	0.3333333
Covariate set 1: Hepatitis	0.017	0.049	0.044	0.049	0.024	*	0.2222222
Covariate set 1: HIV	0.002	0.006	0.006	0.006	0.004	*	0
Covariate set 1: Hypertension	0.103	0.194	0.193	0.193	-0.001	*	0.5555556
Covariate set 1: Disorders usually diagnosed in infancy childhood or adolescence	0.020	0.076	0.080	0.076	-0.013	*	0
Covariate set 1: Intracranial injury	0.013	0.031	0.028	0.030	0.015	*	0.2222222
Covariate set 1: Mood disorders	0.115	0.392	0.391	0.390	-0.003	*	1
Covariate set 1: Osteoarthritis	0.045	0.088	0.090	0.088	-0.007	*	0.2222222
Covariate set 1: Osteoporosis	0.007	0.007	0.009	0.007	-0.024	*	0
Covariate set 1: Other cardiac conditions	0.061	0.139	0.137	0.138	0.004	*	0.2222222
Covariate set 1: Other nervous system disorder	0.113	0.254	0.241	0.252	0.026	*	0.7777778
Covariate set 1: Other nutritional, endocrine, and metabolic disorders	0.166	0.256	0.258	0.254	-0.009	*	0.8888889
Covariate set 1: Personality disorder	0.004	0.037	0.030	0.035	0.028	*	0.7777778
Covariate set 1: Pregnancy	0.034	0.037	0.035	0.038	0.012	*	0
Covariate set 1: Rheumatoid arthritis and related diseases	0.009	0.024	0.029	0.024	-0.032	*	0
Covariate set 1: Schizophrenia and other psychotic disorders	0.015	0.130	0.108	0.127	0.061	*	1
Covariate set 1: Spondylosis and other back problems	0.129	0.245	0.243	0.244	0.001	*	0.6666667
Covariate set 1: Substance-related disorders	0.112	0.297	0.278	0.295	0.038	*	0.8888889
Covariate set 1: Suicide and self-injury	0.014	0.085	0.076	0.084	0.030	*	0.4444444
Covariate set 1: Thyroid disorders	0.048	0.093	0.094	0.093	-0.003	*	0.3333333
Covariate set 2: Cancer	0.020	0.032	0.029	0.031	0.011	*	0.1111111
Covariate set 2: Diabetes	0.078	0.128	0.126	0.127	0.003	*	0.4444444
Covariate set 2: HIV	0.010	0.020	0.021	0.021	-0.004	*	0
Covariate set 2: Serious Mental Illness	0.123	0.443	0.419	0.441	0.045	*	1
Covariate set 2: Substance related Disorder	0.125	0.321	0.301	0.319	0.039	*	1
N=	*445,916*	*3,174*	*3,165*	*3,165*	.		*9*

Financial Analysis Trend and Cost Development

The goal of the financial analysis of Centennial Care 2.0 is to compare the costs to the State for the programs covered under the 1115 Demonstration Waiver against the estimated expected costs had the 1115 Demonstration Waiver not been implemented. The program cost effectiveness evaluation is designed to assess the impact on costs and trends (i.e., year-over-year percentage changes) of the shift to managed care throughout the course of the waiver. To accomplish this, costs and trends are developed two ways, normalized and un-normalized.

Un-normalized and normalized claim/encounter costs and trends are calculated and analyzed at two levels. Level one analysis reviews the per member per month (PMPM) cost and trend by year and compares the average annual trend from the baseline period, the average normalized annual trend from the baseline period, and the expected average annual trend. The second level of analysis for un-normalized and normalized claims/encounters is completed on a per utilizing member per month (PUMPM) basis. A utilizing member month is any month in a calendar year during which a member incurred a claim or encounter. Level two analysis reviews the PUMPM cost and trend by year and compares the average annual trend from the baseline period, the average normalized annual trend from the baseline period, and the expected average annual trend.

Un-normalized claim trends and costs represent the cost from the Centennial Care MCO reported utilization data. The information presented is aggregated for all Medicaid populations. Un-normalized data analysis does not account for known demographic differences from one Demonstration year to the next. When completing an evaluation by comparing year to year changes of the un-normalized costs, program impacts and results may be biased due to the demographic changes in the underlying population. In an un-normalized analysis, cost changes are not adjusted to account for changes in the underlying population.

Normalization is the term used to describe the process of adjusting cost data for the known quantifiable changes that impact utilization and cost such as demographic changes, risk, and inflation. Normalization analysis was employed with the goal of removing all known and quantifiable variation by analysis period, leading to a more accurate comparison between time periods. Below are the high-level steps of the normalization process. Detailed descriptions of each step are outlined further below.

1. Calculate the risk-adjusted PMPM for the analysis cohort.
2. Calculate the age-band/gender factor for the analysis cohort.
3. Calculate the area factor for the analysis cohort.
4. Apply risk, age-band/gender, and area factors to paid claims to calculate the normalized PMPMs for the analysis cohort.

To account for demographic differences throughout the Demonstration, all claims/encounters were normalized for condition-based risk score, combined age and gender variation, and variation in cost by geographic area. HSAG employed the CDPS model version 6.5to develop person-level condition-based risk scores. CDPS is a diagnostic-based risk adjustment model widely used to adjust capitated payments for health plans that enroll Medicaid beneficiaries. CDPS uses International Classification of Diseases (ICD) codes to assign CDPS categories that indicate illness burden related to major body systems (e.g., Cardiovascular) or types of chronic disease (e.g., Diabetes). Within each major category is a hierarchy reflecting both the clinical severity of the condition and its expected effect on future costs. Each of the hierarchical CDPS categories are assigned a CDPS weight. CDPS weights are additive across major categories. The condition risk score output from CDPS was applied to the member-level claims by dividing the condition risk score into the claims PMPM to develop a risk-adjusted PMPM.

$$R_t = \frac{M_t}{C_t}$$

Where *R* represents the risk-adjusted member level individual claim cost, *t* is time, *M* is actual member-level expenditure, and *C* is the condition based CDPS risk score for the enrollee.

The risk adjusted PMPM was then used to develop the combined age/gender factors utilizing the largest populated county, Bernalillo, to remove any bias in the claims cost due to variance by geographic area. Category of service level risk-adjusted PMPM costs are calculated at an age-band and gender grouping level as well as at the total level for the entire population.

$$A_x = \sum R_x / D_x$$

Where *A* represents the annual risk-adjusted claim cost PMPM for an age-band/gender grouping, *X*; *R* is risk-adjusted member-level individual claim cost and *D* represents corresponding eligible member months for the represented age-band/gender grouping. The risk-adjusted individual claim level expenditures and corresponding eligible members for a selected age-band/gender grouping are summed across each year. The annual risk-adjusted member-level PMPM claims were developed to calculate age-band/gender ratios, also referred to as age-band/gender factors, between each stratification comparing the risk adjusted, age-band/gender grouping PMPM to the total population-level annual risk-adjusted member level claim cost PMPM. For example, if female members ages 20–24 have an annual risk-adjusted claims cost PMPM of $105 and the entire population has an annual risk-adjusted claims cost PMPM of $100, then the age-band/gender factor would be 1.05 for the female 20–24 cohort.

Age-band/gender factors are calculated based on the annual risk-adjusted member-level claim cost PMPM. The factors are calculated for each year in the Demonstration by dividing the age-band/gender grouping risk-adjusted claim cost PMPM by the overall annual risk-adjusted population level claim cost PMPM. The annual age-band/gender factors are as follows.

$$AB_x = A_x / A_T$$

Where AB represents the annual age-band/gender factor and age-band/gender grouping, X is the age-band/gender grouping, Ax is risk-adjusted member-level individual claim cost, and AT represents the annual risk-adjusted claim cost PMPM for the entire population. The calculated factors are reviewed over multiple time periods, and final factors are developed to ensure highest statistical R2 for a given age-band/gender grouping. A single set of age-band/gender factors are developed ensuring that changes in age factors are applied consistently across all areas and years.

Once consistent age factors are developed, they are applied to the member-level annual risk-adjusted claim cost PMPM for members in each age-band/gender grouping by dividing the calculated age-band/gender factor into the corresponding claims PMPM to develop an age-band /gender and risk adjusted PMPM. At this point the age-band/gender and risk-adjusted PMPM represents a PMPM that has been netted of any impact of age, gender, and risk. This allows for a focus on the variation of cost in order to develop an adjustment factor by geographic region as outlined below.

$$G_x = \sum R_x / AB_x$$

Where *G* represents the annual risk and age-band/gender factors adjusted claim cost PMPM for a geographic area, *X* is the geographic area, *R* is risk-adjusted member-level individual claim cost, and *AB* represents the annual age-band/gender age factor for an age-band/gender. The risk-adjusted individual claim level expenditures and corresponding eligible members for a selected age-band/gender grouping are summed across each year. The annual risk and age-band/gender factors adjusted claim PMPM output is developed to calculate relativities between geographic regions and the overall annual risk-adjusted member-level claim cost PMPM. The annual geographic factor is calculated as:

$$GF_x = G_x / G_T$$

Where *GF* represents the annual geographic factor, *X* is the geographic grouping, G_x is risk and age-band/gender factors adjusted claim cost and G_T represents the annual risk and age-band/gender factors adjusted PMPM for the entire population. The calculated factors are reviewed over multiple time periods and final factors are developed to ensure highest statistical R^2 for a geographic grouping. A single set of geographic factors are developed

ensuring that changes in geographic stratification of the enrolled population are applied consistently across all years.

The resulting PMPM is then used to develop the normalized claims cost PMPM and the normalized claims trends. Normalized claims PMPM are calculated by dividing the risk-adjusted claim cost PMPM for an age-band/gender and geographic grouping by the calculated geographic factor for a given geographic stratification and the selected inflation rate, given by the formula below.

$$N_t = \sum (G_x / (GF_x i_t)) / D_x$$

Where *N* represents the normalized claims PMPM for a given geographic and age-band/gender, *t* represents the annual review period, *G* represents the annual risk and age-band/gender factors adjusted claim cost PMPM for a geographic area, *X* is the geographic area, *GF* represents the annual geographic factor, *i* represents the inflation rate, and *D* represents the corresponding eligible member months for the represented age-band/gender and geographic grouping.

The resulting normalized claims PMPM is then used to develop the normalized claims trend. Normalized claims trends are calculated as the ratio of the normalized claims PMPM between two periods.

$$NT_t = N_t / N_{t-1}$$

Where *NT* represents the normalized claims trend for a given geographic and age-band/gender, *N* represents the normalized claims PMPM for a given geographic and age-band/gender, and *t* represents the annual review period.

Costs and trends were calculated and reviewed seven ways:

- ***Actual Total Cost*** represents the total expenditure for each review period.
- ***Actual PMPM*** represents the per member per month cost over the review period.

  $$Y_t = \sum X_t / \sum Z_t$$

  Where *Y* represents the claims PMPM cost, *t* represents the annual review period, *X* represents the actual total cost for the population or time period under review, and *Z* represents the total enrolled population for the analysis cohort.
- ***Expected PMPM*** represents the expected per member per month cost over the review period. It is calculated by multiplying the ratio of the age-band/gender factor between the review period and the year prior, the ratio of the area factor between the review period and the year prior, and the inflation rate for the review period.

  $$E_t = E_{t-1} \left(\frac{AB_t}{AB_{t-1}}\right)\left(\frac{GF_t}{GF_{t-1}}\right)\left(\frac{C_t}{C_{t-1}}\right) i \ \ where\ t \geq 1$$

  $$E_t = Y_t \ \ where\ t = 0$$

  Where *E* represents the expected PMPM cost, *t* represents the review period, *AB* represents the annual age-band/gender age factor for an age-band/gender, *GF* represents the annual geographic factor, *C* represents the annual condition based CDPS risk score, *i* represents the inflation rate, and *Y* represents the claims PMPM cost.
- ***Expected Total Cost*** represents the expected total expenditure for each review period. It is calculated by taking the total enrolled population for the analysis cohort and multiplying by the expected claims PMPM.

$$EC_t = E_t Z_t$$

Where *EC* represents the expected total expenditure for each review period, t represents the review period, *E* represents the expected PMPM cost, and *Z* represents the total enrolled population for the analysis cohort.

- ***Average Annual Trend*** represents the average annual growth in cost of care between the baseline and each year. The annualized trend is then adjusted to smooth the individual annual trends to determine the average across the represented time period.

$$L_t = \left(\left(\frac{Y_t}{Y_0}\right)^{\left(\frac{1}{t}\right)}\right) - 1$$

Where *L* represents the average annual trend, *t* represents the review period, Y_t represents the claims PMPM cost for the review period at time *t*, and Y_0 represents the claims PMPM cost for the baseline year.

- ***Average Annual Normalized Trend*** represents the average annual growth in cost of care adjusted for known variances between the baseline and each year. The normalized annual trend is then adjusted to smooth the individual annual trends to determine the average across the represented time period.

$$M_t = \left(\left(\frac{N_t}{N_0}\right)^{\left(\frac{1}{t}\right)}\right) - 1$$

Where *M* represents the average annual normalized trend, *t* represents the review period, N_t represents the normalized claims PMPM for a given geographic and age-band/gender for the review period at time *t*, and N_0 represents the normalized claims PMPM for a given geographic and age-band/gender for the baseline year.

- ***Expected Average Annual Trend*** represents the average annual growth in cost of care for the expected cost between the baseline and each year. The expected annualized trend is then adjusted to smooth the individual annual trends to determine the average across the represented time period.

$$K_t = \left(\left(\frac{E_t}{E_0}\right)^{\left(\frac{1}{t}\right)}\right) - 1$$

Where *K* represents the expected average annual trend, *t* represents the review period, E_t represents the expected claims PMPM cost for the review period at time *t*, and E_0 represents the expected claims PMPM cost for the baseline year.

Appendix B. Evaluation Design

Appendix B contains the Centers for Medicare & Medicaid Services' (CMS')-approved evaluation design plan for the New Mexico Centennial Care 2.0 Demonstration Waiver.

MEDICAID 1115 DEMONSTRATION AND SUBSTANCE USE DISORDER WAIVER EVALUATION DESIGN PLAN

CENTENNIAL CARE 2.0 — 11W 00285/6

JANUARY 9, 2020

State of New Mexico Human Services Department
Medical Assistance Division

CONTENTS

A
GENERAL BACKGROUND INFORMATION

HISTORY AND OVERVIEW

In 2013, prior to the introduction of New Mexico's 1115 demonstration waiver, approximately 520,000 individuals, more than a quarter of the state's population, received health care through the Medicaid program. At that time, New Mexico sought to improve the Medicaid system to address the following challenges:

- An administratively complex program operating under 12 separate federal waivers in addition to a fee-for-service program for those who either opted out of or were exempt from managed care.
- A fragmented program, with seven different health plans administering different benefit packages for defined populations, making it difficult for individuals, providers, and managed care organizations (MCOs) to manage complex medical and behavioral conditions.
- A system that paid for the quantity of services delivered without emphasis on the quality of care that was being delivered.
- An expensive program, consuming about 16% of the state budget, up from 12% the previous year.

Since launching the Centennial Care Program in January 2014, New Mexico's goals for reforming Medicaid have been to:

- Assure that Medicaid beneficiaries in the program receive the right amount of care, delivered at the right time and in the right setting.
- Ensure that the care and services being provided are measured in a manner that will improve quality and not solely reimbursed based on quantity.
- Show the growth rate of costs or "bend the cost curve" over time without reductions in benefits, eligibility or provider rates.
- Streamline and modernize the Medicaid program.

New Mexico's Section 1115 demonstration waiver, commonly referred to as the Centennial Care program featured an integrated, comprehensive Medicaid delivery system in which the member's

MCO was responsible for coordinating the member's full array of services: acute care (including pharmacy), behavioral health services, institutional service and home- and community-based services (HCBS). The original Section 1115 waiver was effective through December 2018 when an extension of the waiver was requested and approved by the Center for Medicare and Medicaid Services. In the extension of the demonstration, known as Centennial Care 2.0, the goals, as stated above for the original waiver, continue to be in place. The extension allows New Mexico to continue to advance initiatives begun under the previous demonstration while implementing new, targeted initiatives to address specific gaps in care and improve healthcare outcomes for its most vulnerable members.

As of February 2019, 831,398 members were enrolled in the Medicaid program. Centennial Care 2.0 became effective January 1, 2019 and will build on the strengths of Centennial Care 1.0 while supporting improvements to achieve four aims:

- Continue the use of appropriate services by members to enhance member access to services and quality of care.
- Manage the pace at which costs are increasing while sustaining or improving quality, services, eligibility and provider rates.
- Streamline processes and modernize the Centennial Care health delivery system through use of data, technology and a member focus.
- Improve access to, and quality of, treatment for Medicaid beneficiaries with Substance Use Disorder (SUD).

Initiatives to improve SUD services will ensure the appropriate level of treatment is provided, increase the availability of medication assisted treatment (MAT), and enhance coordination between levels of care. In addition, New Mexico will launch new supportive housing services for individuals with serious mental illness.

The need to address substance disorders in New Mexico is based on statistics that exceed those of the nation and the impact of SUD on the health of members in Medicaid[1]:

- Over the past 30 years, New Mexico has consistently had among the highest alcohol-related death rates in the United States;

[1] New Mexico Substance Use Epidemiology Profile, December 2018. https://nmhealth.org/data/view/substance/2201/

- New Mexico's rate of death due to alcohol-related chronic disease was more than twice the national rate in 2017. American Indians, both male and female, and Hispanic males have extremely high rates;
- Alcohol related injury deaths were 1.6 times the national average in 2016;
- In the reporting period 2012-2016, drug overdoses surpassed alcohol related motor vehicle traffic crashes;
- Unintentional drug overdoses account for almost 86% of drug overdose deaths with the most common drugs accounting for deaths in descending order being prescription opioids, benzodiazepines, cocaine and methamphetamines;
- New Mexico had the seventeenth highest drug overdose death rate in the nation;
- Opioid overdose related emergency department (ED) visits increased by 51% in New Mexico between 2013 and 2017;
- The negative consequences of excessive alcohol use in New Mexico are not limited to death but also include domestic violence, crime, poverty, and unemployment as well as chronic liver disease, motor vehicle crash and other injuries, mental illness and a variety of other medical problems.

New Mexico has made significant advances in recent years in services to both prevent and treat opioid use disorder (OUD) and SUD, halting the increasing overdose trend from the highest rate among states to 17th[2], however, high substance use and related health consequences require more aggressive intervention that the waiver will support. Initiatives to improve SUD services will ensure the appropriate level of treatment is provided, increase the availability of MAT and enhance coordination between levels of care.

DEMONSTRATION APPROVAL

The New Mexico "Centennial care 2.0 Medicaid 1115 Demonstration" renewal, was approved on December 14, 2018, became effective January 1, 2019 and will continue through December 31, 2023 (five years).

DESCRIPTION OF THE DEMONSTRATION

This waiver renewal builds upon the Centennial Care program's accomplishments and maximizes opportunities for targeted improvements and other modifications in key areas such as care

[2] https://www.nmpharmacy.org/resources/2018%2006%2023%20-%20NMPhA%20Law%20Update.pdf

coordination, benefit and delivery system refinements, payment reform, member engagement and administrative simplification. Improvements and modifications to the program include:

- Refining care coordination to better meet the needs of high-cost, high-need members, especially during transitions in settings of care;
- Continuing to expand access to Long-Term Services and Supports (LTSS) and maintain the progress achieved in rebalancing efforts;
- Improving the integration of behavioral and physical health services, with greater emphasis on other social factors that impact population health and improving the continuum of care for SUDs;
- Expanding payment reform through value-based purchasing (VBP) arrangements to achieve improved quality and better health outcomes;
- Building upon and incorporating policies that seek to enhance members' ability to become more active participants in their own health care

The demonstration extension will provide home visiting services focusing on prenatal care, post-partum care and early childhood development as well as enhanced services for SUD.

Rationale for including home visitation is based on research that show that home-visitation programs positively impact maternal, prenatal and postnatal care and infant care. The results from research involving Medicaid members receiving maternal and infant healthcare, such as a study in Michigan, provide strong evidence for the effectiveness of a Medicaid-sponsored population-based home-visitation program in improving maternal prenatal and postnatal care and infant care[3].

Rationale for emphasis on SUDs and improving the integration of behavioral and physical health services, is based on research and evidence based practice. Research reported by Ritchie and Roser suggests that "the transition from intermittent or regular use toward addiction and relapse are most strongly influenced by a mixture of stress response, environmental factors, genetic predisposition to addiction and importantly the drug-induced effects which often create a cycle of addiction and relapse." The Ritchie/Roser article also relates mental health as a risk factor for SUD postulating that a person with a mental health condition is 1.1 to 6.3 times more likely to develop a SUD. ADHD, bipolar disorder, intermittent explosive disorder, and PTSD are among the top diagnoses signaling risk.

[3] Maghea, C.Ci, Raffo, J.E., Zhu, Q, and Roman, L (2013). Medicaid home visitation and maternal and infant healthcare utilization. American Journal of Preventive Medicine 45(4), October 2013, 441-447.

For these reasons New Mexico's 1115 waiver extension improves the continuum of SUD services with an implementation plan that includes:

- Treatment of co-occurring mental health conditions with a primary diagnosis of SUD;
- A focus on the integration of SUD screening in physical health provider locations;
- The introduction of behavioral health counselors in primary care agencies, and primary care practitioners in behavioral health agencies; and
- Interdisciplinary teaming with the Medicaid beneficiary and his/her natural supports to treat not only the person with the SUD, but also the family or natural support system.

POPULATION IMPACTED

Table 1 represents the eligibility groups currently served in Centennial Care. As of February 2019, New Mexico's Medicaid program covered 831,398 individuals, with approximately 700,000 enrolled in Centennial Care. Since the end of 2013, New Mexico's Human Services Department, Medical Assistance Division has enrolled more than 390,000 new individuals into the program, with the largest growth attributed to the Medicaid adult expansion program.

Table 1 – Eligibility Groups Covered in Centennial Care

POPULATION GROUP	POPULATIONS
TANF and Related	• Newborns, infants and children • Children's Health Insurance Program • Foster children • Adopted children • Pregnant women • Low income parent(s)/caretaker(s) and families • Breast and Cervical Cancer • Refugees • Transitional Medical Assistance
SSI Medicaid	• Aged, blind, and disabled • Working disabled
SSI Dual Eligible	• Aged, blind, and disabled • Working disabled
Medicaid Expansion	• Adults between 19 – 64 years old up to 133% of MAGI

The following populations are excluded from Centennial Care:

- Qualified Medicare Beneficiaries;
- Specified Low Income Medicare Beneficiaries;
- Qualified Individuals;
- Qualified Disabled Working Individuals;
- Non-citizens only eligible for emergency medical services;
- Program of All-inclusive Care for the Elderly;
- Individuals residing in ICF/IIDs;
- Medically Fragile 1915(c) waiver participants for HCBS;
- Developmentally Disabled 1915(c) waiver participants for HCBS;
- Individuals eligible for family planning services only; and
- Mi Via 1915 (c) Waiver participants for HCBS.

B
EVALUATION QUESTIONS AND HYPOTHESES

EVALUATION FRAMEWORK INTRODUCTION

The evaluation of the New Mexico 1115 Demonstrative Waiver renewal will utilize a mixed-methods evaluation design with three main goals:

1. Describe the progress made on specific waiver-supported activities (process/implementation evaluation);

2. Demonstrate change/accomplishments in the waiver; and

3. Demonstrate progress in meeting the overall project goals/aims.

Evaluation methods will include descriptive statistics showing change over time in both counts and rates for specific metrics and interrupted time series analysis to assess the degree to which the timing of waiver interventions affect changes across specific outcome measures.

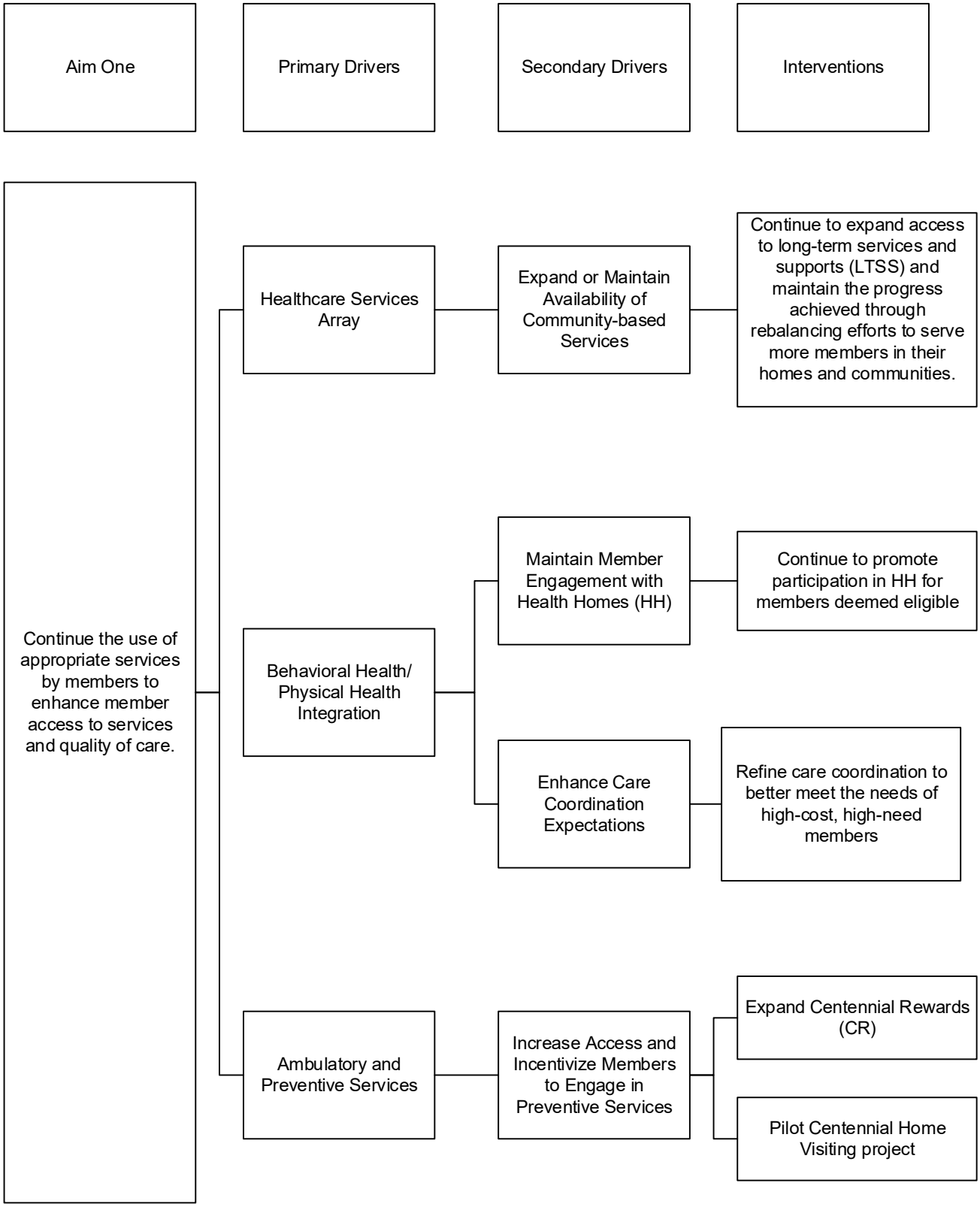
TARGETS FOR IMPROVEMENT

PROGRAM OBJECTIVES	QUANTIFIABLE TARGET
Assure that Medicaid members in the program receive the right amount of care, delivered at the right time and in the right setting. Ensure that the care and services being provided are measured in terms of their quality and not solely by quantity.	I. Continue the use of appropriate services by members to enhance member access to services and quality of care.
Slow the growth rate of costs or “bend the cost curve” over time without inappropriate reductions in benefits, eligibility or provider rates.	II. Manage the pace of cost increases while sustaining or improving quality, services, and eligibility.
Streamline and modernize the Medicaid program in the State of New Mexico.	III. Streamline processes and modernize the Centennial Care health delivery system through use of data, technology and person-centered care.
Ensure members have access to high quality, evidence-based OUD and other SUD treatment services ranging from medically supervised withdrawal management to ongoing chronic care for these conditions in cost-effective settings.	IV. Improve access to, and quality of treatment for Medicaid beneficiaries with SUD.

DRIVER DIAGRAMS, RESEARCH QUESTIONS AND HYPOTHESES

The program aims represent the goals of the waiver. The primary drivers represent concepts related to the aims which lead to strategic initiatives (secondary drivers) put into action through interventions. The driver diagrams below present the connections between the interventions, initiatives, healthcare concepts and program goals.

Evaluation questions and hypotheses for each aim were derived from and organized based on the Driver Diagrams below. The overall aims of the project are to: 1) Continue the use of appropriate services by members and to enhance member access to services and quality of care; 2) Manage the pace at which costs are increasing while sustaining or improving quality, services, eligibility and provider rates; 3) Streamline processes and modernize the Centennial Care health delivery system through use of data, technology and person centered care; 4) Improve quality of care and outcomes for Medicaid beneficiaries with SUD. To accomplish these goals, the demonstration includes several key activities and interventions to maintain current levels or improve performance and health outcomes for Centennial Care 2.0 members. The hypotheses were developed based on the potential for improvement, the ability to measure performance (including baseline measurement) and, where appropriate, use of comparison groups to isolate the effects of the Demonstration and interventions.


Aim One
Primary Drivers
Secondary Drivers
Interventions
Continue the use of appropriate services by members to enhance member access to services and quality of care.
Healthcare Services Array
Expand or Maintain Availability of Community-based Services
Continue to expand access to long-term services and supports (LTSS) and maintain the progress achieved through rebalancing efforts to serve more members in their homes and communities.
Behavioral Health/ Physical Health Integration
Maintain Member Engagement with Health Homes (HH)
Continue to promote participation in HH for members deemed eligible
Enhance Care Coordination Expectations
Refine care coordination to better meet the needs of high-cost, high-need members
Ambulatory and Preventive Services
Increase Access and Incentivize Members to Engage in Preventive Services
Expand Centennial Rewards (CR)
Pilot Centennial Home Visiting project

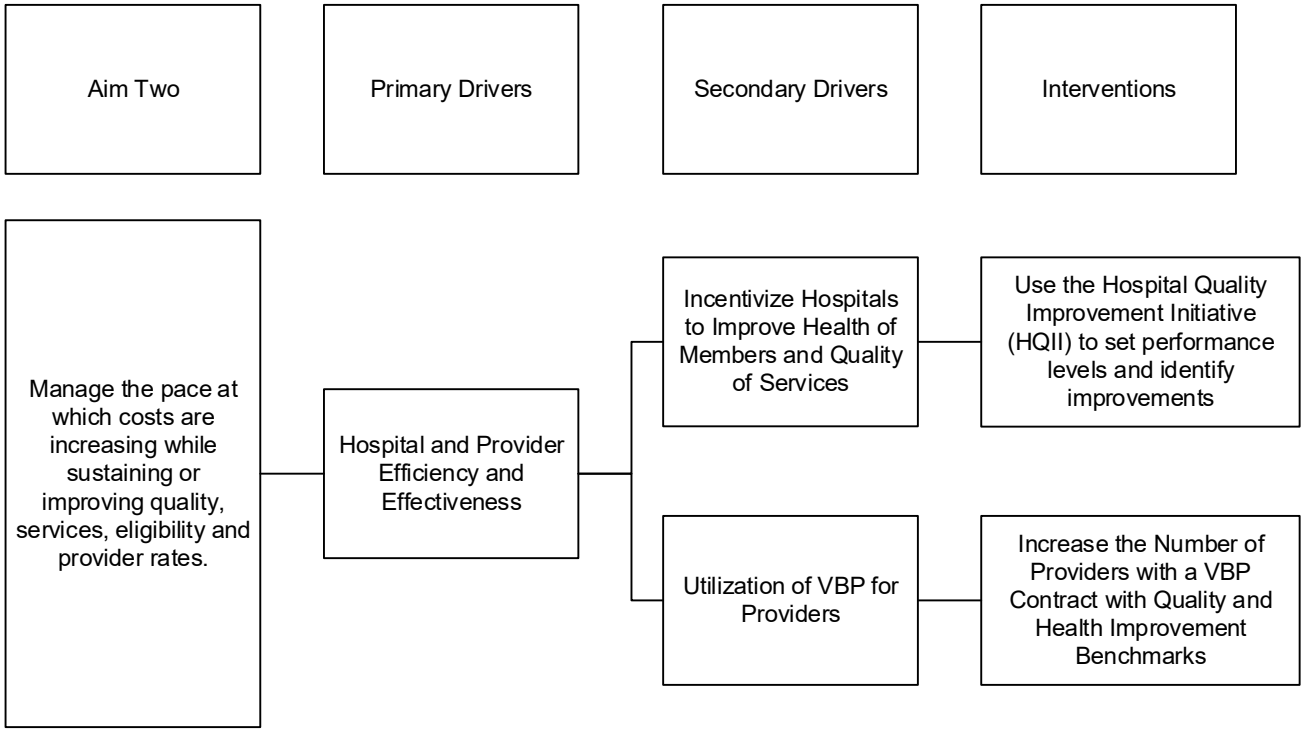
Aim One: Continue the use of appropriate services by members to enhance member access to services and quality of care.

PRIMARY DRIVER: HEALTHCARE SERVICES ARRAY
Hypothesis 1: Continuing to expand access to LTSS and maintaining the progress achieved through rebalancing efforts to serve more members in their homes and communities will maintain the number of members accessing Community Benefit (CB) services.
Q1: Has the number of members accessing CB services been maintained year-over-year?
PRIMARY DRIVER: BEHAVIORAL HEALTH/PHYSICAL HEALTH INTEGRATION
Hypothesis 2: Promoting participation in a health home will result in increased member engagement with the Health Home and increase access to integrated physical and behavioral health care in the community.
Q1: Is there an increase in the number/percentage of members enrolled in a Health Home?
Q2: Is the proportion of members engaged in a Health Home receiving any PH services higher than those not engaged in a Health Home?
Hypothesis 3: Enhanced care coordination supports integrated care interventions, which lead to higher levels of access to preventative/ ambulatory health services
Q1: Is there an increase in Centennial Care members who have at least one claim for preventative/ambulatory care in a year?
Q2: Does engagement in a Health Home result in beneficiaries receiving more ambulatory/ preventative health services?
Hypothesis 4: Engagement in a Health Home and care coordination support Integrative care interventions, which improve quality of care.
Q1: To what extent is Health Home engagement associated with improved disease management?
Q2: Does Health Home engagement result in increased follow up after hospitalization for mental illness?
PRIMARY DRIVER: PREVENTIVE SERVICES
Hypothesis 5: Expanding member access to and incentives for preventative care through the Centennial Home Visitation (CHV) pilot program and Centennial Rewards (CR) will encourage members to engage in preventative care services
Q1: Has the percentage of Centennial Care members participating in CR increased?
Q2: Are CR incentive redeeming members likely to receive more preventative/ ambulatory services on an annual basis than those who have not redeemed incentives in the 12 month period following the initial redemption?
Q3: Does use of CR encourage members to improve their health and make healthy choices?

PRIMARY DRIVER: HEALTHCARE SERVICES ARRAY

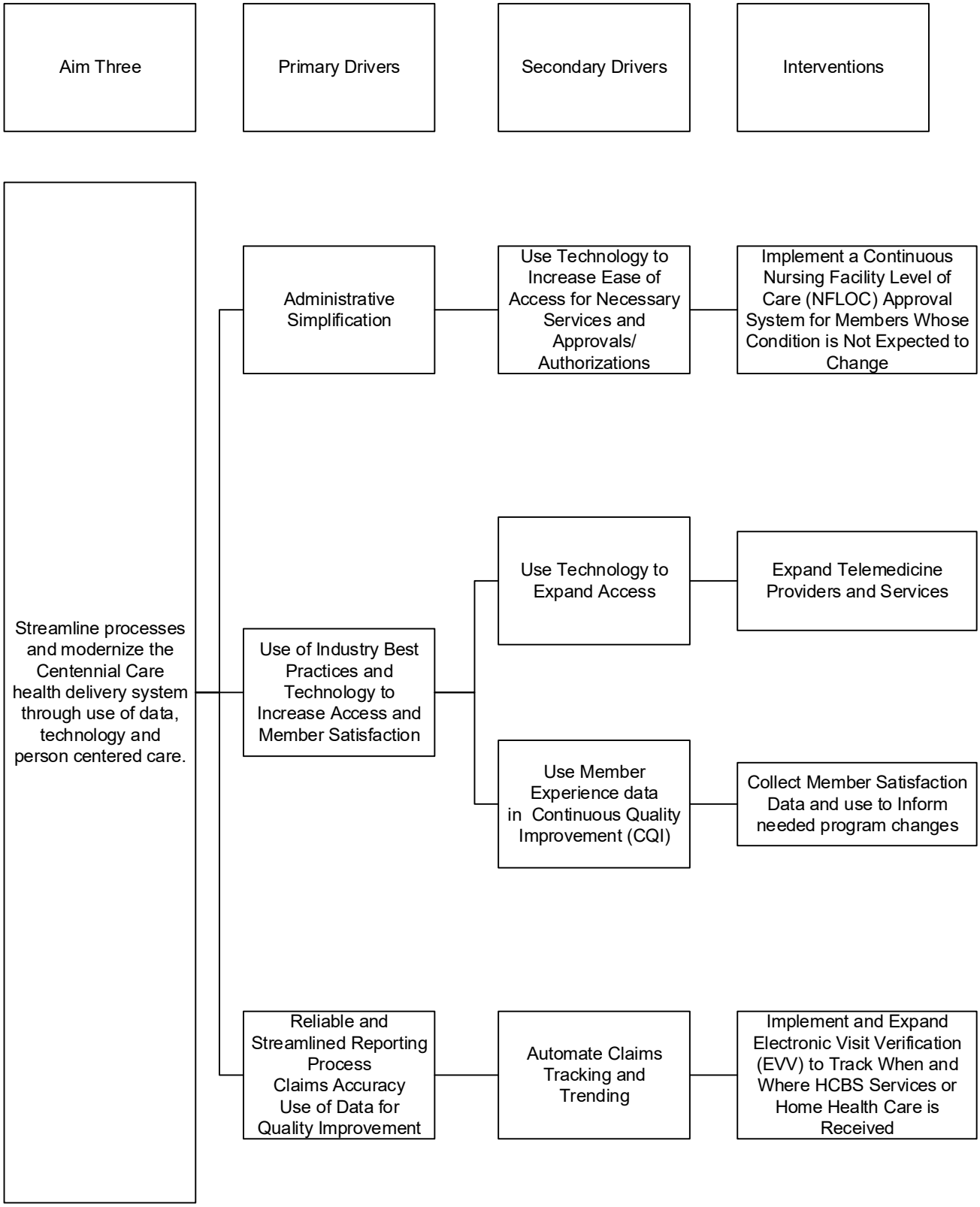
Q4: Is the percentage of babies born with low birth weight (< 2,500 grams[4]) to mothers participating in the CHV pilot program lower than the percentage of low birth weight babies born to Medicaid mothers who do not participate in the CHV pilot program?

[4] Specifications from the Medicaid Child Core Set.



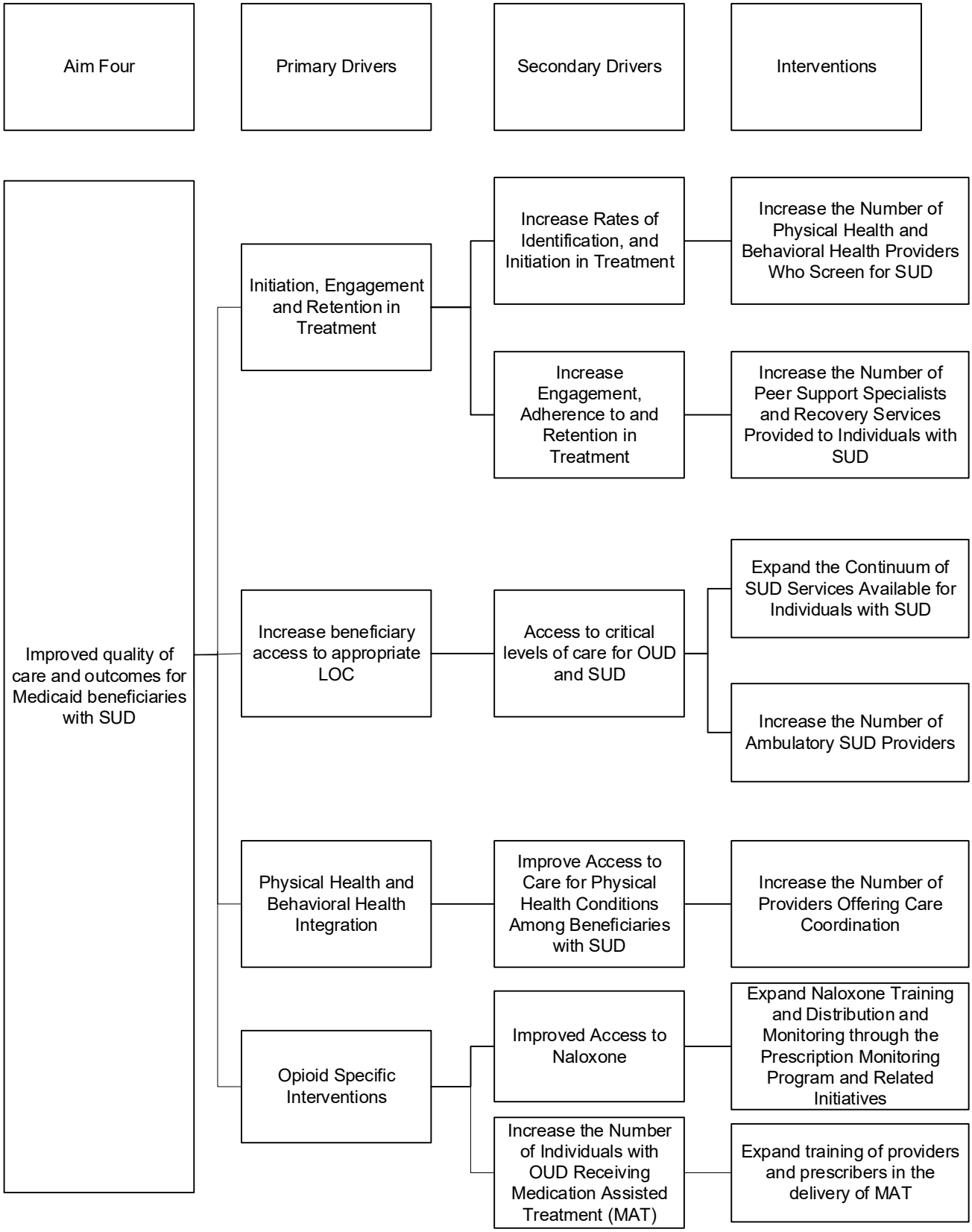
Aim Two: Manage the pace at which costs are increasing while sustaining or improving quality, services and eligibility.

PRIMARY DRIVER: HOSPITAL AND PROVIDER EFFICIENCY AND EFFECTIVENESS
Hypothesis 1: Incentivizing hospitals to improve health of members and quality of services and increasing the number of providers with VBP contracts will manage costs while sustaining or improving quality.
Q1: Has the number of providers with VBP contracts increased?
Q2: Has the number of providers participating in VBP arrangements, who meet quality metric targets increased?
Q3: Has the amount paid in VBP arrangements increased?
Q4: Has reported performance of Domain 1 measures in the Safety Net Care Pool (SNCP) Hospital Quality Improvement Program been maintained or improved?
Q5: Do cost trends align with expected reimbursement and benefit changes?


Aim Three
Primary Drivers
Secondary Drivers
Interventions
Streamline processes and modernize the Centennial Care health delivery system through use of data, technology and person centered care.
Administrative Simplification
Use Technology to Increase Ease of Access for Necessary Services and Approvals/ Authorizations
Implement a Continuous Nursing Facility Level of Care (NFLOC) Approval System for Members Whose Condition is Not Expected to Change
Use of Industry Best Practices and Technology to Increase Access and Member Satisfaction
Use Technology to Expand Access
Expand Telemedicine Providers and Services
Use Member Experience data in Continuous Quality Improvement (CQI)
Collect Member Satisfaction Data and use to Inform needed program changes
Reliable and Streamlined Reporting Process
Claims Accuracy
Use of Data for Quality Improvement
Automate Claims Tracking and Trending
Implement and Expand Electronic Visit Verification (EVV) to Track When and Where HCBS Services or Home Health Care is Received

Aim Three: Streamline processes and modernize the Centennial Care health delivery system through use of data, technology and person-centered care.

PRIMARY DRIVER: ADMINISTRATIVE SIMPLIFICATION
Hypothesis 1: The Demonstration will relieve administrative burden by implementing a continuous Nursing Facility Level of Care approval with specific criteria for members whose condition is not expected to change over time.
Q1: Has the number of continuous NFLOC approvals increased during the Demonstration?
PRIMARY DRIVER: USE OF INDUSTRY BEST PRACTICES AND TECHNOLOGY TO INCREASE ACCESS AND MEMBER SATISFACTION
Hypothesis 2: The use of technology and CQI processes align with increased access to services and member satisfaction.
Q1: Has the number of telemedicine providers increased during Centennial Care 2.0?
Q2: Has the number of unduplicated members with a telemedicine visit increased during Centennial Care 2.0?
Q3: Has member satisfaction increased during Centennial Care 2.0?
PRIMARY DRIVER: RELIABLE AND STREAMLINED REPORTING PROCESS, CLAIMS ACCURACY, USE OF DATA FOR QUALITY IMPROVEMENT
Hypothesis 3: Implementation of EVV is associated with increased accuracy in reporting services rendered.
Q1: Has the number of claims submitted through EVV increased?
Q2: Has the proportion of paid or unpaid hours retrieved due to false reporting decreased?


Aim Four
Primary Drivers
Secondary Drivers
Interventions
Improved quality of care and outcomes for Medicaid beneficiaries with SUD
Initiation, Engagement and Retention in Treatment
Increase Rates of Identification, and Initiation in Treatment
Increase the Number of Physical Health and Behavioral Health Providers Who Screen for SUD
Increase Engagement, Adherence to and Retention in Treatment
Increase the Number of Peer Support Specialists and Recovery Services Provided to Individuals with SUD
Increase beneficiary access to appropriate LOC
Access to critical levels of care for OUD and SUD
Expand the Continuum of SUD Services Available for Individuals with SUD
Increase the Number of Ambulatory SUD Providers
Physical Health and Behavioral Health Integration
Improve Access to Care for Physical Health Conditions Among Beneficiaries with SUD
Increase the Number of Providers Offering Care Coordination
Opioid Specific Interventions
Improved Access to Naloxone
Expand Naloxone Training and Distribution and Monitoring through the Prescription Monitoring Program and Related Initiatives
Increase the Number of Individuals with OUD Receiving Medication Assisted Treatment (MAT)
Expand training of providers and prescribers in the delivery of MAT

Aim Four: Improved quality of care and outcomes for Medicaid beneficiaries with SUD.

PRIMARY DRIVER: INITIATION, ENGAGEMENT AND RETENTION IN TREATMENT
Hypothesis 1: The demonstration will increase the number of providers that provide SUD screening, which will result in an increase in the number of individuals screened and the percentage of individuals who initiate treatment for Alcohol and Other Drug (AOD) Dependence Treatment.
Q1: Did the number of Behavioral Health and Physical Health providers who screen beneficiaries for SUD increase?
Q2: Did the number of individuals screened for SUD increase?
Q3: Has the percentage of individuals with SUD who received any SUD related service increased?
Q4: Did the percentage of individuals who initiated AOD treatment increase?
Hypothesis 2: The demonstration will increase peer support services which will result in more individuals engaging in and retained in AOD Dependence Treatment.
Q1: Has the percentage of individuals with a SUD diagnosis who received peer support services increased?
Q2: Does receiving peer support increase the percentage of individuals engaged in AOD treatment?
Q3: Does receiving peer support increase the treatment tenure for individuals receiving AOD treatment?
Q4: Does receiving peer support increase the treatment tenure for MAT for OUD?
PRIMARY DRIVER: INCREASE BENEFICIARY ACCESS TO APPROPRIATE LEVEL OF CARE
Hypothesis 3: The Demonstration will improve access to a comprehensive continuum of SUD care which will result in decreased utilization of ED and inpatient hospitalization and SUD inpatient readmissions.
Q1: Has the continuum of services available for individuals with SUD expanded in terms of which services are available?
Q2: Has capacity for ambulatory SUD services increased?
Q3: Has the utilization of EDs by individuals with SUD decreased?
Q4: Has the utilization of inpatient hospital settings for SUD related treatment decreased?
Q5: Has the utilization of inpatient hospital settings for withdrawal management decreased?
Q6: Have inpatient SUD readmissions decreased for individuals with SUD diagnoses?
Q7: Have increasing trends in total cost of care been slowed for individuals with SUD diagnoses?
Q8: Have SUD costs for individuals with SUD diagnoses changed proportionally as expected with increased identification and engagement in treatment?

PRIMARY DRIVER: PHYSICAL HEALTH AND BEHAVIORAL HEALTH INTEGRATION
Hypothesis 4: The Demonstration will Increase the number of individuals with fully delegated care coordination which includes screening for co-morbid conditions, which will result in increased utilization for physical health conditions.
Q1: Has the percentage of individuals diagnosed with SUD receiving care coordination increased?
Q2: Has the number of individuals with SUD receiving preventive health care increased?
PRIMARY DRIVER: OPIOID SPECIFIC INTERVENTIONS
Hypothesis 5: Hypothesis 5: The Demonstration will Increase use of naloxone, MAT and enhanced monitoring and reporting of opioid prescriptions through the prescription monitoring program, which will result in fewer overdose deaths due to opioid use.
Q1: Has there been an expansion of naloxone distribution and training?
Q2: Has the number of providers using MAT services increased?
Q3: Has the number of individuals with SUD receiving MAT increased?
Q4: Is there evidence of enhanced policies and practices related to the prescription monitoring program, real time prescription monitoring program updates, member/provider lock-in programs and limits/edits at pharmacy points-of-sale?
Q5: Is there a decrease in the number of deaths due to overdose?

C
METHODOLOGY

EVALUATION DESIGN

The evaluation design of the 1115 demonstration waiver will utilize a mixed-methods evaluation design. Quantitative methods will include descriptive statistics showing change over time in both counts and rates for specific metrics, interrupted time series analysis to assess the degree to which the timing of waiver interventions effect changes across specific outcome measures, and logistic regression to study characteristics of waiver intervention participants. Where possible, comparison groups will be used to demonstrate that effects are likely due to the waiver demonstration. For some evaluation questions, a comparison group may be possible. The research tables below describe the comparison group, if any, that will be used to answer each question. In some cases, a valid comparison group cannot be used, given the lack of a comparable population not targeted by the intervention for whom data is available. This occurs for interventions that will be implemented for all members throughout the state simultaneously. Where possible, national and regional benchmarks will be used for comparison for those measures for which data are available (e.g. HEDIS measures). Qualitative evaluation methods will include review of policy guides and provider education and outreach.

TARGET AND COMPARISON POPULATIONS

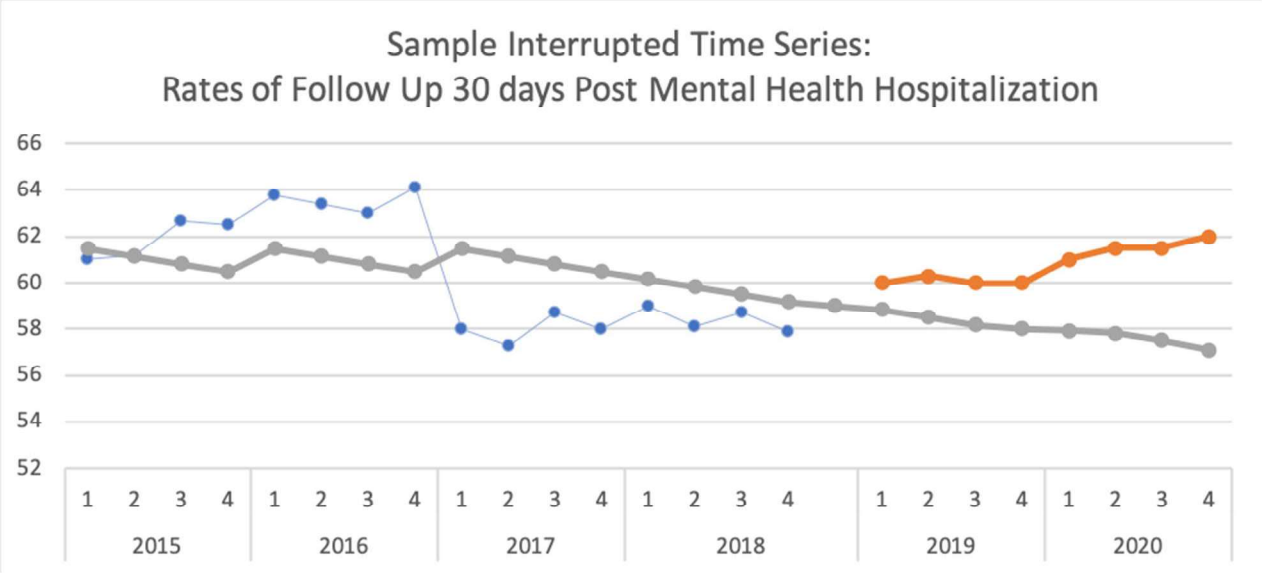
The target populations for the hypotheses in Aims 1 through 4 are managed care Centennial Care 2.0 members, subgroups of managed care members receiving the demonstration interventions and providers serving Centennial Care members.

Within Aims 1 through 3, the specific member subgroups to be studied include: long-term care members, LTSS members enrolled in CB (approximately 25,000), members enrolled in Health Homes (approximately 2,300), members receiving fully delegated care coordination from VBP contracted providers, members engaged in the CR program (approximately 313,000 participating, approximately 57,000 redeeming rewards), and members enrolled in the CHV pilot program (approximately 100 in three participating counties). Provider subgroups to be studied include: SNCP Hospital Quality Improvement incentivized hospitals, and providers with VBP contracts.

Within Aim 4, specific member subgroups to be studied are Centennial Care members with a SUD diagnosis (approximately 93,800), and members with a SUD diagnosis that are receiving MAT (approximately 77,000). The subgroup of members receiving peer support/recovery services is approximately 600. Providers serving members with a SUD diagnosis will also be studied.

The evaluation design does not include a treatment and a control group. That is, there is not a group of managed care members who would be eligible for the waiver interventions but who will not receive them based on random assignment. There are waiver programs (e.g. CHV Pilot) that do

allow for comparisons between groups. These groups are based on member self-selection, not randomization. The interrupted time series design will link events during the evaluation period, 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 many data points pre- and post- waiver implementation will be collected as possible across multiple years preceding waiver changes. A graphic example of an interrupted time series is below. While the dates for which certain measures are available vary, the overall evaluation design will examine the period from 2013 (one year prior to implementation of Centennial Care 1.0) through 2023 (the end of the demonstration). This will allow for adjustment of seasonal or other, cyclical variations in the data. Additionally, the design will examine multiple change points, identifying key areas of major program and policy adjustments, so that with each accomplishment (i.e. improved access to and quality of treatment, improved health outcomes, etc.), corresponding changes to metrics can be observed. Comparison groups will be matched to demonstration participants based on key individual characteristics (demographics, diagnoses, prior utilization) and geographic location (e.g. urban vs. rural residence).



EVALUATION PERIOD

The evaluation period is January 1, 2014 through December 31, 2023. The Final Evaluation Report analysis will allow for six months run out of encounter data; analysis will focus on the Centennial Care 2.0 period (2019 – 2023). Results across this time period will be included in the Draft Summative Evaluation Report due to CMS by June 30th, 2025. Draft interim results derived from a portion of this evaluation period, January 1, 2019 through December 2021 (with six months run out of encounter data) will be reported in the Draft Interim Evaluation Report due to CMS on December 31, 2022.

EVALUATION MEASURES AND DATA SOURCES

The evaluation design and evaluation measures are based on data 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, an independent evaluator will review the quality and completeness of data sources (including but not limited to encounters for pharmacy, professional and facility services as well as eligibility data). Example analyses the evaluator will use to determine reliability and accuracy of encounter data include, but are not limited to: referential integrity, lag triangles, frequency reports, valid values, missing values, date and numerical distributions duplicates, and encounter to cost report comparisons.

Consistent with recommendations in the CMS State Toolkit for Validating Medicaid Managed Care Encounter Data (August 2019) HSD currently has a comprehensive standardized reporting framework for the Centennial Care program quarterly and annual MCO financial reports that:

- Are specific to the Centennial Care program;
- Include comprehensive instructions, including detailed service categorization criteria;
- Are specific to each program (physical health (PH), behavioral health (BH), LTSS);
- Align with capitation rate structure (e.g., cohort and service category);
- Include monthly lag reports by date of service and date of payment by program and service category grouping;
- Capture paid claim amounts separate from estimated amounts for unpaid claims liability and separate from amounts for payments made outside the MCO's claims system;
- Capture MCO paid amounts for sub-capitated services separate from services paid on a fee-for-service basis;
- Capture medical expenses separate from non-medical/administrative expenses;
- Require MCOs to explain differences identified in the encounter/financial comparison report;
- Are reconciled to the MCO's audited financials; and
- Require a certification statement to be submitted with each report that's signed by the MCO's CFO or CEO attesting that the information submitted in the financial reports is current, complete, and accurate.

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. Information from additional data sources, such as the Department of Health, Office of the Medical

Investigator, Hospital Associations, and Pharmacy Boards will be assessed for completeness and accuracy to the best of the ability of the independent evaluator and based on State knowledge of the provider community and experience in New Mexico.

The following tables state the primary drivers, hypotheses, describe both process (implementation) and outcome measures for the evaluation, the measure steward (if applicable), defines the numerators and denominators where appropriate, the types of data (quantitative or qualitative) and the data sources.

Aim One: Continue the use of appropriate services by members to enhance member access to services and quality of care.

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Primary Driver: Healthcare services array						
Hypothesis 1: Continuing to expand access to LTSS and maintaining the progress achieved through rebalancing efforts to serve more members in their homes and communities will maintain the number of members accessing CB services.						
Q1: Has the number of members accessing CB services been maintained year-over-year?	• Number of Centennial Care members enrolled and receiving CB services.	N/A	Number of LTSS-eligible Centennial Care members enrolled and receiving CB services.	N/A	Medical Management Information System (MMIS)	Descriptive time series analysis. 2013-2023 Annual
Primary Driver: Behavioral health/physical health integration						
Hypothesis 2: Promoting participation in a Health Home will result in increased member engagement with a Health Home and increase access to integrated physical and behavioral health care in the community.						
Q1: Is there an increase in the number/ percentage of members enrolled in a Health Home?	• Number/percentage of Centennial Care members enrolled in a Health Home	N/A	Number of Centennial Care members enrolled in a Health Home.	Number of all eligible Centennial Care members	MMIS	Descriptive time series analysis 2015 (baseline) - 2023 Annual

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q2. Is the proportion of members engaged in a Health Home receiving any PH services higher than those not engaged in a Health Home?	• Number of Health Home members with at least 1 claim for PH service in the CY (confirm this time period)	N/A	**Treatment group:** Centennial Care members enrolled in a Health Home with at least 1 claim for PH service in the CY.	**Treatment group:** Centennial Care members enrolled in a Health Home.	MMIS	Interrupted time series analysis with comparison group 2015 (baseline) - 2023 Annual
			Comparison group: Centennial Care members not enrolled in a Health Home (matched) with at least 1 claim for PH service in the CY.	**Comparison group:** Centennial Care members not enrolled in a Health Home (matched).		
Hypothesis 3: Enhanced care coordination supports integrated care interventions, which lead to higher levels of access to preventative/ ambulatory health services						
Q1: Is there an increase in Centennial Care members who have at least one claim for preventative/ ambulatory care in a year?	Adults' access to preventive/ ambulatory health services (AAP). • The percentage of members 20 years and older who had an ambulatory or preventive care visit. The total rate will be reported; reporting	NCQA	Centennial Care members 20 years and older who had an ambulatory or preventive care visit	Centennial Care members 20 years and older	MMIS	Interrupted time series analysis 2015 (baseline) - 2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
	will not be stratified by age.					
	Children and adolescents' access to primary care practitioners (CAP). • The percentage of members 12 months–19 years of age who had a visit with a PCP.	NCQA	Centennial Care members 12 months–19 years of age who had a visit with a PCP.	Centennial Care members 12 months–19 years of age.	MMIS	Interrupted time series analysis 2015 (baseline) - 2023 Quarterly
	Well-child visits in the third, fourth, fifth and sixth years of life (W34). • The percentage of members 3–6 years of age who had one or more well-child visits with a PCP during the measurement year.	NCQA	Centennial Care members 3–6 years of age who had one or more well-child visits with a PCP during the measurement year.	Centennial Care members 3–6 years of age.	MMIS	Interrupted time series analysis 2015 (baseline) - 2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q2: Does engagement in a Health Home result in beneficiaries receiving more ambulatory/ preventative health services?	Adults' access to preventive/ ambulatory health services (AAP). • The percentage of Health Home members 20 years and older who had an ambulatory or preventive care visit. The total rate will be reported; reporting will not be stratified by age.	NCQA	**Treatment group:** Centennial Care members 20 years and older enrolled in a Health Home who had an ambulatory or preventive care visit.	**Treatment group:** Centennial Care members 20 years and older enrolled in a Health Home.	MMIS	Interrupted time series analysis with comparison group 2015 (baseline)-2023 Quarterly
			Comparison group: Centennial Care members 20 years and older not enrolled in a Health Home (matched) who had an ambulatory or preventive care visit.	**Comparison group:** Centennial Care members 20 years and older not enrolled in a Health Home (matched)		
	Children and adolescents' access to primary care practitioners (CAP). • The percentage of Health Home members 12 months–19 years of	NCQA	**Treatment group:** Centennial Care members 12 months – 19 years of age enrolled in a Health Home who had an ambulatory or preventive care visit.	**Treatment group:** Centennial Care members 12 months – 19 years of age enrolled in a Health Home.	MMIS	Interrupted time series analysis with comparison group 2015 (baseline)-2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
	age who had a visit with a PCP.		**Comparison group:** Centennial Care members 12 months – 19 years of age not enrolled in a Health Home (matched) who had an ambulatory or preventive care visit.	**Comparison group:** Centennial Care members 12 months - 19 years of age not enrolled in a Health Home (matched)		
Hypothesis 4: Engagement in a Health Home and care coordination support integrative care interventions, which improve quality of care.						
Q1: To what extent is Health Home engagement associated with improved disease management?	Diabetes screening for members with schizophrenia or bipolar disorder who are using antipsychotic medications (SSD). • The percentage of Health Home members 18 – 64	NCQA	**Treatment group:** Members in the treatment group denominator who were dispensed an antipsychotic medication and had a diabetes screening test during the measurement year.	**Treatment group:** Centennial Care members 18 – 64 years of age with SMI (schizophrenia or bipolar disorder) enrolled in a Health Home.	MMIS	Interrupted time series analysis with comparison group 2015 (baseline) - 2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
	years of age with schizophrenia or bipolar disorder, who were dispensed an antipsychotic medication and had a diabetes screening test during the measurement year.		**Comparison group:** Members in the comparison group denominator who were dispensed an antipsychotic medication and had a diabetes screening test during the measurement year.	**Comparison group:** Centennial Care members 18 – 64 years of age with SMI (schizophrenia or bipolar disorder) not enrolled in a Health Home (matched).		
	Anti-depressant medication management (AMM) Effective Acute Phase Treatment • The percentage of Health Home members 18 years of age and older who were treated with antidepressant	NCQA	**Treatment group:** Members in the treatment group denominator who remained on an antidepressant medication treatment for at least 84 days.	**Treatment group:** Centennial Care members 18 years of age and older enrolled in a Health Home who were treated with antidepressant medication, had a diagnosis of major depression.	MMIS	Interrupted time series analysis with comparison group 2015 (baseline) - 2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
	medication, had a diagnosis of major depression and who remained on an antidepressant medication treatment for at least 84 days (12 weeks).		**Comparison group:** Members in the comparison group denominator who remained on an antidepressant medication treatment for at least 84 days.	**Comparison group:** Centennial Care members 18 years of age and older not enrolled in a Health Home (matched) who were treated with antidepressant medication, had a diagnosis of major depression.		
	Anti-depressant medication management (AMM) Effective Continuation Phase Treatment • The percentage of Health Home members 18 years of age and older who were treated with antidepressant medication, had a	NCQA	**Treatment group:** Members in the treatment group denominator who remained on an antidepressant medication treatment for at least 180 days.	**Treatment group:** Centennial Care members 18 years of age and older enrolled in a Health Home who were treated with antidepressant medication, had a diagnosis of major depression.	MMIS	Interrupted time series analysis with comparison group 2015 (baseline) - 2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
	diagnosis of major depression and who remained on an antidepressant medication treatment for at least 180 days (6 months).		**Comparison group:** Members in the comparison group denominator who remained on an antidepressant medication treatment for at least 180 days.	**Comparison group:** Centennial Care members 18 years of age and older not enrolled in a Health Home (matched) who were treated with antidepressant medication, had a diagnosis of major depression.		
Q2: Does Health Home engagement result in increased follow up after hospitalization for mental illness?	7 – day follow up after hospitalizations for mental illness (FUH). • The percentage of discharges for members 6 years of age and older who were hospitalized for treatment of selected mental illness diagnoses	NCQA	**Treatment group:** Members in the treatment group denominator who had a follow-up visit with a mental health practitioner within 7 days after discharge.	**Treatment group:** Centennial Care members 6 years of age and older enrolled in a Health Home who were hospitalized for treatment of selected mental illness diagnoses.	MMIS	Interrupted time series analysis with comparison group 2015 (baseline)-2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
	and who had a follow-up visit within 7 days after discharge.		**Comparison group:** Members in the comparison group denominator who had a follow-up visit with a mental health practitioner within 7 days after discharge.	**Comparison group:** Centennial Care members 6 years of age and older not enrolled in a Health Home (matched) who were hospitalized for treatment of selected mental illness diagnoses.		
	30 – day follow up after hospitalizations for mental illness (FUH). • The percentage of discharges for members 6 years of age and older who were hospitalized for treatment of selected mental	NCQA	**Treatment group:** Members in the treatment group denominator who had a follow-up visit with a mental health practitioner within 30 days after discharge.	**Treatment group:** Centennial Care members 6 years of age and older enrolled in a Health Home who were hospitalized for treatment of selected mental illness diagnoses.	MMIS	Interrupted time series analysis with comparison group 2015 (baseline)-2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
	illness diagnoses and who had a follow-up visit within 30 days after discharge.		**Comparison group:** Members in the comparison group denominator who had a follow-up visit with a mental health practitioner within 30 days after discharge.	**Comparison group:** Centennial Care members 6 years of age and older not enrolled in a Health Home (matched) who were hospitalized for treatment of selected mental illness diagnoses.		
Primary Driver: Preventive services						
Hypothesis 5: Expanding member access to and incentives for preventative care through the CHV pilot program and CR will encourage members to engage in preventative care services						
Q1: Has the percentage of Centennial Care members participating in CR increased?	Percentage of CC members participating in CR.	N/A	Centennial Care members participating in CR. A participating member would be someone who has engaged (i.e. registered) and has earned points.	Total number of enrolled Centennial Care members	MMIS Finity	Descriptive time series. 2013-2023

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q2: Are CR incentive redeeming members likely to receive more preventative/ ambulatory services on an annual basis than those who have not redeemed incentives in the 12 month period following the initial redemption?	Percentage of CR participating members with an annual preventive/ ambulatory service.	N/A	**Treatment group:** Centennial Care members redeeming rewards with preventative/ ambulatory services in the 12-month period following the initial redemption.	**Treatment group:** Centennial Care members redeeming CR rewards during the calendar year.	MMIS & Finity	Interrupted time series analysis with comparison group. 2013-2023 Annual
			Comparison group: CC members not redeeming rewards with preventative/ ambulatory services in the 12-month period (matched with members redeeming rewards).	**Comparison group:** Centennial Care members not redeeming CR rewards during the calendar year (matched)		
Q3: Does use of CR encourage members to improve their health and make healthy choices?	Percent of CR users responding positively on satisfaction survey to question regarding if the program helped to improve their health and make healthy choices.	N/A	Number of CR user satisfaction survey respondents answering yes to question: Has the program helped to improve your health? Number of CR use satisfaction survey answering yes to	Number of CR user satisfaction survey respondents	Finity Satisfaction Survey data	Descriptive time series analysis 2018-2023

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
			question: Do rewards encourage you to make healthy choices?			
Q4: Is the percentage of babies born with low birth weight (< 2,500 grams[5]) to mothers participating in the CHV pilot program lower than the percentage of low birth weight babies born to Medicaid mothers who do not participate in the CHV pilot program?	Live births weighing less than 2,500 grams (low birth weight).	Centers for Disease Control and Prevention	**Treatment group:** Number of resident live births in the treatment denominator weighing less than 2,500 grams (low birth weight). **Comparison group:** Number of resident live births in the comparison denominator weighing less than 2,500 grams (low birth weight).	**Treatment group:** Number of resident live births in the state in the reporting period who are CHV pilot participants. **Comparison group:** Number of resident live births in the state in the reporting period who are non-CHV pilot participants (matched).	MMIS	Interrupted time series analysis with comparison group. 2018-2023 Annual Benchmark Comparison: Eligible CHV birth outcome with national benchmarks

[5] Specifications from the Medicaid Child Core Set.

Aim Two: Manage the pace at which costs are increasing while sustaining or improving quality, services and eligibility.

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Primary Driver: Hospital and provider efficiency and effectiveness						
Hypothesis 1: Incentivizing hospitals to improve health of members and quality of services and increasing the number of providers with VBP contracts will manage costs while sustaining or improving quality.						
Q1: Has the number of providers with VBP contracts increased?	Total number of providers with VBP contracts.	N/A	Centennial Care providers with VBP contracts.	N/A	MCO Report	Descriptive time series (annual) using CY2018 as baseline year.
Q2: Has the number of providers participating in VBP arrangements, who meet quality metric targets increased?	Number/ percentage of providers meeting quality threshold.	N/A	Centennial Care providers with VBP contracts who meet quality metric targets.	Centennial Care providers with VBP contracts.	MCO Report	Descriptive time series analysis. 2019 - 2023
Q3: Has the amount paid in VBP arrangements increased?	Percentage of total payments that are for providers in VBP arrangements	N/A	Total payments to Centennial Care providers with VBP contracts	Total payments to Centennial Care providers	MCO Report	Descriptive time series analysis. Jan 2017 - 2023

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q4: Has reported performance of Domain 1 measures in the SNCP Hospital Quality Improvement Program been maintained or improved?	Percentage of qualified Domain 1 SNCP Hospital Quality Incentive measures that have maintained or improved their reported performance rates over the previous year.	N/A	Number of Domain 1 SNCP Hospital Quality Incentive measures that have maintained or improved the reported performance rate.	Number of Domain 1 SNCP Hospital Quality Incentive performance measures.	DOH HIT, NM Hospital Association	Descriptive time series (annual) using CY2018 as baseline year with control chart.
Q5: Do cost trends align with expected reimbursement and benefit changes?	Cost per member trend.	N/A	Total cost of Centennial Care	Centennial Care managed care members.	MMIS CMS Report 64	Descriptive time series (annual) with control chart; using CY2013 as baseline year.
	Cost per user trend.	N/A	Total cost of Centennial Care	Centennial Care managed care users.	MMIS CMS Report 64	Descriptive time series (annual) with control chart; using CY2013 as baseline year.

Aim Three: Streamline processes and modernize the Centennial Care health delivery system through use of data, technology and person-centered care.

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Primary Driver: Administrative simplification						
Hypothesis 1: The Demonstration will relieve administrative burden by implementing a continuous Nursing Facility Level of Care (NFLOC) approval with specific criteria for members whose condition is not expected to change over time.						
Q1: Has the number of continuous NFLOC approvals increased during the Demonstration?	Number of continuous NFLOC approvals.	N/A	Number of continuous NFLOC approvals for Centennial Care members eligible for LTSS.	N/A	MCO Report	Descriptive time series analysis. 2018 (baseline) – 2023 Quarterly
Primary Driver: Use of industry best practices and technology to increase access and member satisfaction						
Hypothesis 2: The use of technology and CQI processes align with increased access to services and member satisfaction.						
Q1: Has the number of telemedicine providers increased during Centennial Care 2.0?	Number of telemedicine providers.		Number of Centennial Care telemedicine providers.	N/A	MCO Report	Descriptive time series. 2013 – 2023 Annually

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q2: Has the number of unduplicated members with a telemedicine visit increased during Centennial Care 2.0?	Number of members receiving telemedicine services.	N/A	Number of unduplicated Centennial Care members with a telemedicine visit.	N/A	MMIS	Descriptive time series. 2013 – 2023 Quarterly
Q3: Has member satisfaction increased during Centennial Care 2.0?	Member rating of health care.	NCQA CAHPS	Composite score CAHPS survey that reflects overall satisfaction with health care for Centennial Care members.	Number of Centennial Care CAHPS respondents rating overall satisfaction with health care.	CAHPS	Interrupted time series. 2014 – 2023 Annually
	Member rating of health plan.	NCQA	Composite score that reflects satisfaction with health plan for Centennial Care members.	Number of Centennial Care CAHPS respondents rating satisfaction with health plan.	CAHPS	Descriptive time series. 2014 – 2023 Annually
	Member rating of personal doctor.	NCQA	Composite score that reflects satisfaction with personal doctor for Centennial Care members.	Number of Centennial Care CAHPS respondents rating satisfaction with personal doctor.	CAHPS	Descriptive time series. 2014 – 2023 Annually
Primary Driver: Reliable and streamlined reporting process, claims accuracy, use of data for quality improvement						
Hypothesis 3: Implementation of electronic visit verification (EVV) is associated with increased accuracy in reporting services rendered.						

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q1: Has the number of claims submitted through EVV increased?	Number of claims submitted through EVV.	N/A	Number of Centennial Care claims submitted through EVV.	N/A	MCO Report	Descriptive time series. 2018 (baseline) – 2023 Quarterly
Q2: Has the proportion of paid or unpaid hours retrieved due to false reporting decreased?	Percent of paid or unpaid hours retrieved due to false reporting.	N/A	Number of paid or unpaid hours retrieved due to false reporting.	Centennial Care claims paid and unpaid hours reported	MCO Report	Descriptive time series. 2018 (baseline) – 2023 Quarterly

Aim Four: Improved quality of care and outcomes for Medicaid beneficiaries with SUD.

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Primary Driver: Initiation, engagement and retention in treatment						
Hypothesis 1: The demonstration will increase the number of providers that provide SUD screening, which will result in an increase in the number of individuals screened and the percentage of individuals who initiate treatment for AOD dependence treatment.						
Q1: Did the number of Behavioral Health and Physical Health providers who screen beneficiaries for SUD increase?	Number of providers who provide SUD screening.	N/A	Number of Centennial Care Physical Health and Behavioral Health providers who provide SUD screening	N/A	MMIS	Descriptive time series analysis. 2018 -2023 Quarterly
Q2: Did the number of individuals screened for SUD increase?	Number of individuals screened for SUD.	N/A	Centennial Care members screened for SUD	N/A	MMIS	Descriptive time series analysis. 2018 -2023 Quarterly
Q3: Has the percentage of individuals with SUD who received any SUD related service increased?	Percentage of individuals with a SUD diagnosis who received any SUD service during the measurement year.	N/A	Centennial Care Individuals with a SUD diagnosis who received any SUD service during the measurement year	Centennial Care Individuals with a SUD diagnosis	MMIS	Descriptive time series analysis. 2018 -2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q4: Did the percentage of individuals who initiated AOD treatment increase?	Initiation of AOD Abuse or Dependence Treatment (IET). • The percentage of members who initiate treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter or partial hospitalization, telehealth or MAT within 14 days of diagnosis.	NCQA	Centennial Care individuals with SUD diagnosis who initiate AOD treatment through an inpatient admission, outpatient visit, telemedicine, intensive outpatient encounter or partial hospitalization or MAT within 14 days of the IESD.	Centennial Care adolescent and adult members (13 years and older) with a new episode of AOD abuse or dependence.	MMIS	Interrupted time series analysis. 2018 -2023 Quarterly National or other state benchmarks change over time
Hypothesis 2: The demonstration will increase peer support services which will result in more individuals engaging in and retained in AOD Dependence Treatment.						

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q1: Has the percentage of individuals with a SUD diagnosis who received peer support services increased?	Percentage of individuals with a SUD diagnosis who received peer support.	N/A	Centennial Care members with a SUD diagnosis who receive peer support.	Centennial Care members with a SUD diagnosis.	MMIS	Interrupted time series analysis. 2018-2023 Quarterly
Q2: Does receiving peer support increase the percentage of individuals engaged in AOD treatment?	Engagement of AOD Abuse or Dependence Treatment (IET) • The percentage of members who initiated treatment and who had two or more additional AOD services or MAT within 34 days of the initiation visit.	NCQA	Centennial Care adolescent and adult members (13 years and older), with SUD diagnosis, receiving peer support, who initiated treatment and who had two or more additional AOD services or MAT within 34 days of the initiation visit.	Centennial Care adolescent and adult members (13 years and older) with a new episode of AOD abuse or dependence.	MMIS	Interrupted time series analysis. 2018 -2023 Quarterly National or other state benchmarks change over time
Q3: Does receiving peer support increase the treatment tenure for individuals receiving AOD treatment?	Average Length of Stay (ALOS).	N/A	Average Length of Stay for Centennial Care individuals with SUD in AOD treatment, receiving peer support.		MMIS	Interrupted time series analysis. 2018 -2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q4: Does receiving peer support increase the treatment tenure for MAT for OUD?	Continuity of Pharmaco-therapy for OUD. USC	USC	Individuals in the denominator who have at least 180 days of continuous pharmacotherapy with a medication prescribed for OUD without a gap of more than seven days.	Centennial Care members 18-64 years of age who had a diagnosis of OUD and at least one claim for an OUD medication.	MMIS	Interrupted time series analysis. 2018 -2023 Quarterly
Primary Driver: Increase beneficiary access to appropriate level of care						
Hypothesis 3: The Demonstration will improve access to a comprehensive continuum of SUD care which will result in decreased utilization of ED and inpatient hospitalization and SUD inpatient readmissions.						
Q1: Has the continuum of services available for individuals with SUD expanded in terms of which services are available?	Continuum of services available.[6]	N/A	Centennial Care continuum of care.	N/A	BHSD GeoMap reports, MCO Report	Descriptive data analysis. 2018-2023

[6] SBIRT, and other screening, HH, peer support, recovery services, CCSS, crisis stabilization, outpatient, intensive outpatient, partial hospitalization, MAT, residential, inpatient, pharmacy services, supported housing and transitional living services.

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q2: Has capacity for ambulatory SUD services increased?	Number of providers and capacity for ambulatory SUD services.	N/A	Number of Centennial Care providers and capacity for SUD services.	N/A	MMIS and MCO Report	Interrupted time series analysis. 2018 -2023 Quarterly
Q3: Has the utilization of EDs by individuals with SUD decreased?	Percentage of ED visits of individuals with SUD diagnoses.	N/A	Number of ED visits of Centennial Care members with a SUD diagnosis.	ED visits for Centennial Care members.	MMIS	Interrupted time series analysis. 2018 -2023 Quarterly
Q4: Has the utilization of inpatient hospital settings for SUD related treatment decreased?	Percentage of Inpatient admissions for SUD related treatment.		Inpatient admissions for SUD related treatment for Centennial Care members.	Inpatient admissions for Centennial Care members.	MMIS	Interrupted time series analysis. 2018 -2023 Quarterly
Q5: Has the utilization of inpatient hospital settings for withdrawal management decreased?	Percentage of Inpatient admissions of individuals with SUD for withdrawal management.	N/A	Inpatient admissions of individuals with SUD for withdrawal management for Centennial Care members.	Inpatient admissions of individuals with SUD for Centennial Care members.	MMIS	Descriptive time series analysis. 2018 -2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q6: Have inpatient SUD readmissions decreased for individuals with SUD diagnoses?	7 and 30 day inpatient and residential SUD readmission rates	N/A	7-day inpatient and residential readmission rates for Centennial Care users discharged with SUD diagnosis and readmitted with SUD diagnosis. 30-day inpatient and residential readmission rates for Centennial Care users discharged with SUD diagnosis. and readmitted with SUD diagnosis.	Unique Centennial Care Inpatient with discharge diagnosis of SUD diagnosis.	MMIS	Interrupted time series analysis. 2018 -2023 Quarterly
Q7: Have increasing trends in total cost of care been slowed for individuals with SUD diagnoses?	Total and PMPM cost (medical, behavioral and pharmacy) for members with SUD diagnosis.	N/A	Total cost (medical, behavioral and pharmacy) for Centennial Care members with SUD diagnosis	Number of Centennial Care members (and member months) with SUD diagnosis	MMIS	Descriptive time series analysis. 2018 -2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
	Total and PMPM costs (medical, behavioral and pharmacy) for members with SUD diagnosis by SUD source of care	N/A	Total cost (medical, behavioral and pharmacy) for Centennial Care members with SUD diagnosis by source of care	Number of Centennial Care members (and member months) with SUD diagnosis	MMIS	Descriptive time series analysis. 2018 -2023 Quarterly
Q8: Have SUD costs for individuals with SUD diagnoses changed proportionally as expected with increased identification and engagement in treatment?	Total and PMPM cost for SUD services for members with SUD diagnosis	N/A	Total SUD service cost for Centennial Care members with SUD diagnosis	Number of Centennial Care members (and member months) with SUD diagnosis	MMIS	Descriptive time series analysis. 2018 -2023 Quarterly
	Total and PMPM cost for SUD services by type of care (IP, OP, RX, etc.)	N/A	Total SUD service cost for Centennial Care members with SUD diagnosis by type of care (IP, OP, RX, etc.)	Number of Centennial Care members (and member months) with SUD diagnosis	MMIS	Descriptive time series analysis. 2018 -2023 Quarterly
Primary Driver: Physical health and behavioral health integration						
Hypothesis 4: The Demonstration will Increase the number of individuals with fully delegated care coordination which includes screening for co-morbid conditions, which will result in increased utilization of physical health services.						
Q1: Has the percentage of individuals diagnosed with SUD receiving care coordination increased?	Percentage of individuals diagnosed with SUD receiving care coordination.	N/A	Centennial Care members with SUD diagnosis in fully delegated care coordination.	Centennial Care members with SUD diagnosis.	MMIS Health Home enrollment roster	Interrupted time series analysis. 2018 -2023 Quarterly

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q2: Has the number of individuals with SUD receiving preventive health care increased?	Percentage of individuals with SUD receiving preventive/ ambulatory health services (AAP). The percentage of individuals with SUD who are 20 years and older who had an ambulatory or preventive care visit. The total rate will be reported; reporting will not be stratified by age.	NCQA	Centennial Care members with SUD diagnosis receiving preventive/ ambulatory health services.	Centennial Care members with SUD diagnosis.	MMIS	Interrupted time series analysis. 2018 -2023 Quarterly
Primary Driver: Opioid specific interventions						
Hypothesis 5: Hypothesis 5: The Demonstration will Increase use of naloxone, MAT and enhanced monitoring and reporting of opioid prescriptions through the prescription monitoring program, which will result in fewer overdose deaths due to opioid use.						
Q1: Has there been an expansion of naloxone distribution and training?	Number of naloxone training and kit distributions.	N/A	Number of naloxone training and kit distributions.to New Mexico residents.	N/A	DOH, BHSD	Descriptive data analysis. 2018 -2023 Annually

RESEARCH QUESTION	PROCESS/ OUTCOME MEASURE	STEWARD	NUMERATOR	DENOMINATOR	DATA SOURCES	ANALYTIC METHODS
Q2: Has the number of MAT providers increased?	Number of MCO network MAT providers.	N/A	Number of MCO network MAT providers.	N/A	MCO report	Descriptive time series. 2018 -2023 Annually
Q3: Has the number of individuals with SUD receiving MAT increased?	Percentage of individuals diagnosed with SUD with MAT claims.	N/A	MAT claims for Centennial Care individuals with SUD diagnosis.	Total claims for Centennial Care individuals with SUD diagnosis.	MMIS	Interrupted time series analysis. 2018 -2023 Quarterly
Q4: Is there evidence of enhanced policies and practices related to the prescription monitoring program, real time prescription monitoring program updates, member/provider lock-in programs and limits/edits at pharmacy points-of-sale?	Number of policy and procedure manual references.	N/A	Number of policy and procedure manual references about prescription monitoring program	N/A	NM Board of Pharmacy, MCO report	Descriptive data. 2018 -2023 Annually
Q5: Is there a decrease in the number of deaths due to overdose?	Rate of deaths due to overdose.	N/A	Overdose deaths of New Mexico residents.	Total deaths of New Mexico Residents	DOH epidemiology reports Office of Medical Investigator	Interrupted time series analysis. 2018 -2023 Annually

ANALYTIC METHODS

Multiple analytic techniques will be used, depending on the type of data for the measure and the availability of data. The Tables in Section B of this document detail the evaluation plan, including analytic methods for each measure. The following table summarizes the overall evaluation plan and analytic methods.

Descriptive, content analysis will be used to present data related to process evaluation measures gathered from document reviews. The data will be summarized in order to describe the activities undertaken, 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.

An interrupted time series design will include annual or quarterly observations of each measure over time, beginning at least one year prior to the demonstration implementation. The counterfactual for the analysis is the trend, as it would have happened, without being "interrupted" by the demonstration. It is anticipated that the slope of the trend line will change after implementation of specific waiver demonstration activities. Specific outcome measures will be collected for multiple time periods both before and after the first demonstration period and waiver renewal and related interventions. The evaluation design table contains the time span during which observations will be collected for each specific measure. Segmented regression analysis will be used to measure statistically the changes in level and slope in the post-intervention period compared to the pre-intervention period.

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

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).[7]

Where possible, comparison groups (and/or national benchmarks) will be used to strengthen causal inference in the design. In cases where a comparison group trend is available, we will conduct a

[7] Bernal, J.L., Cummins, S. and 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.

descriptive analysis of the differences in slope change between the treatment group and comparison trend lines.

D
METHODOLOGICAL LIMITATIONS

There are two main methodological limitations. The first is related to the difficulty in obtaining complete data to fully assess the impact of the waiver activities. The second is that the evaluation design, overall, does not include a treatment and a control group. There are a small number of programs (e.g. CHV Pilot) that will not be implemented with all members statewide simultaneously and, therefore, do allow for comparisons between groups. Similarly, some interventions (e.g. Health Homes) are not available throughout all regions of the state. However, these groups are based on member self-selection or service availability, not randomization. The state considered options for comparing members opting in to some services to those who do not. However, there are likely to be considerable differences among these groups that would result in significant selection bias in the design.

This evaluation primarily uses descriptive (either time series or pre-post comparison) analyses and an interrupted time series design, where possible. Interrupted time series analysis is often used in cases where an intervention is implemented across an entire population at the same time[8]. This design avoids selection bias, but can be confounded by other factors. In particular, historical threats to validity are a concern for this design. In this case, other events, happening during the same time period as the intervention could influence trends in outcome measures. To try to minimize the impact of historical threats to validity, the design includes interrupted time series analysis with a control series whenever possible, either in the form of a comparison group or national benchmarks.

Additionally, quarterly data points will be utilized and the timing of the intervention “interruption” will be specific to each intervention in the waiver, rather than the official start date of the waiver. This will ensure that pre and post-intervention data points occur as closely in time as possible to the actual change in policy or program being made. Any interpretation of findings will also include a description of any other intervening events that could have also impacted the measure.

According to the literature on interrupted time series 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[9]. Evaluators will need to work closely with program staff data teams to gather as many data points as possible and discuss limitations

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[8] Bernal, J.L., Cummins, S. and 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.

[9] 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.

within the evaluation findings if enough points cannot be collected, including sufficient data points pre-intervention to establish the counterfactual trend.

Another threat to validity in this design may be the ability to measure the outcome rates of interest for the desired period of time, both before and after waiver implementation. In some cases, data might not be available for the time period prior to the waiver or for a baseline measure. Evaluators will work closely with the program staff and data teams to assure that complete data is available for each measure and discuss any specific data concerns or considerations on a measure by measure basis.

It should also be noted that interrupted time series 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.

E
ATTACHMENTS

INDEPENDENT EVALUATOR

As part of the Standard Terms and Conditions, as set forth by the CMS, the demonstration project is required to arrange with an independent party to conduct an evaluation of the 1115 Demonstration Waiver and the SUD waiver to ensure that the necessary data is collected at the level of detail needed to research the approved hypotheses. To fulfill this requirement, the state of New Mexico will, through a request for proposal process, contract with an external entity to conduct the waiver evaluation.

Examples of the qualifications of the evaluator will be:

- Experience working with federal programs and/or demonstration waivers;
- Experience with evaluating effectiveness of complex, multi-partnered programs;
- Familiarity with CMS federal standards and policies for program evaluation;
- Familiarity with nationally-recognized data sources; and
- Analytical skills and experience with statistical testing methods.

The evaluator will be required to have the following key personnel designated:

- Engagement Leader;
- Lead Evaluator;
- Project Manager; and
- Statistician.

CONFLICT OF INTEREST

The Human Services Department (HSD) will take steps to ensure that the evaluator is free of any conflict of interest and will remain free from any such conflicts during the contract term. HSD considers it a conflict if the evaluator currently 1) provides services to any MCOs or health care providers doing business in New Mexico under the Medicaid program; or 2) provides direct services to individuals in HSD-administered programs included within the scope of the evaluation contract. If HSD discovers a conflict during the contract term, HSD may terminate the contract pursuant to the provisions in the contract.

PROPOSED EVALUATION BUDGET[10]

	2019	2020	2021	2022	2023	TOTAL
Salaries, Benefits & Taxes						
Total Salaries, Benefits & Taxes	100,000	100,000	100,000	100,000	100,000	500,000
Professional fees						
Evaluator	100,000	100,000	100,000	200,000	200,000	700,000
Subcontractor A	20,000	20,000	20,000	100,000	100,000	260,000
Subcontractor B	20,000	20,000	20,000	40,000	40,000	140,000
Total Professional Fees	100,000	100,000	100,000	200,000	200,000	700,000
Total Cost	240,000	240,000	240,000	440,000	440,000	1,600,000

The increased budget reflected in DY4 and DY5 has been allocated to the development and production of the Interim and Final Reports of the demonstration period.

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	56, 115	June 30, 2019
Final evaluation design due 60 days after comments received from CMS	53	60 days after comments received from CMS
Mid-point assessment due	55	September 30, 2020 (SUD) June 1, 2022 (1115)
Draft Interim Report due	120	December 31, 2022
Final Interim Report due 60 days after CMS comments received	120	60 days after comments received from CMS
Draft Summative Evaluation Report due 18 months following demonstration	122	June 30, 2025
Final Summative Evaluation Report due 60 days after CMS comments received	122	60 days after comments received from CMS

[10] This is a proposed estimate for the program evaluation pending independent evaluator contract award.

Appendix C. Measure Specifications

Each measure being evaluated is categorized into the four waiver goals and spread across the 14 hypotheses. The measure definitions are based on the most recent information available about the data to be used in the evaluation. Some definitions for some measures may require adjustment as additional information about the data is received.

Number of Centennial Care members enrolled and receiving Community Benefit (CB) services (Measure 1)	
Numerator	Number of long-term supports and services (LTSS) eligible Centennial Care members enrolled and receiving CB services during the measurement period. LTSS members enrolled in CB will be defined as those with one of the following Setting of Care identifiers: • Agency Based CB – Agency Non-Waiver (ANW) or Agency Direct Benefit (ADB) • Self-Directed CB – Self-Directed Non-Waiver (SNW) or Self-Directed Benefit (SDB) Members must be concurrently enrolled in Centennial Care.
Denominator	N/A
Comparison Population	N/A
Analytic Approach	Descriptive time series analysis
Measure Steward	N/A
Data Source	Medicaid Management Information System (MMIS)
Frequency	Annual
Desired Direction	No change
Notes for Measure Calculation	

Number/Percentage of Centennial Care members enrolled in a Health Home (Measure 2)	
Numerator	Among members identified in the denominator, the number of unique Medicaid members contained in Health Home roster files during the measurement period.
Denominator	The number of unique Medicaid members with Centennial Care enrollment (i.e., paid capitation) during the measurement period.
Comparison Population	N/A
Analytic Approach	Descriptive time series analysis
Measure Steward	N/A
Data Source	MMIS
Frequency	Month
Desired Direction	Higher is better
Notes for Measure Calculation	Members should have concurrent Health Home and Centennial Care enrollment to be counted for the numerator. Health Home and Centennial Care enrollment is captured monthly.

Number/Percentage of Health Home members with at least 1 claim for physical health (PH) service in the calendar year (CY) (Measure 3)	
Numerator	Treatment group: Among members identified in the denominator, the number of unique Medicaid members contained in Health Home roster files during the measurement period, and who have at least one physical health service claim/encounter. Comparison group: Centennial Care members not enrolled in a Health Home (matched) with at least one claim for a physical health service in the measurement period.
Denominator	Treatment group: The number of unique Centennial Care members contained in Health Home roster files during the measurement period. Comparison group: The number of unique Centennial Care members who have never participated in the Health Home program.
Comparison Population	Propensity score adjusted members who have never participated in the Health Home program.
Analytic Approach	Differences-in-differences
Measure Steward	N/A
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Notes for Measure Calculation	Physical health services are identified as having a non-behavioral health claim/encounter. Evaluation and management codes rendered by behavioral health providers were also excluded. Health Services Department (HSD) supplied a list of Current Procedural Terminology (CPT), Healthcare Common Procedure Coding System (HCPCS), and revenue codes to identify behavioral health claims/encounters and providers.

Adults' access to preventive/ambulatory health services (AAP) – Centennial Care (CC) population (Measure 4a)	
Numerator	The number of Centennial Care members among the denominator who had an ambulatory or preventive care visit during the measurement year.
Denominator	The number of Centennial Care members 20 years and older and were continuously enrolled with no more than one gap of up to 45 days during the measurement year.
Comparison Population	N/A
Analytic Approach	Interrupted time series analysis
Measure Steward	National Committee for Quality Assurance (NCQA)
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Notes for Measure Calculation	This measure follows NCQA specifications for Adults' Access to Preventive-Ambulatory Services.

Adults' access to preventive/ambulatory health services (AAP) -Health Home (HH) population (Measure 4b)	
Numerator	Among members identified in the denominator for each group, the number of unique Medicaid members who had an ambulatory or preventive care visit during the measurement period.

Adults' access to preventive/ambulatory health services (AAP) -Health Home (HH) population (Measure 4b)	
Denominator	Treatment group: The number of Centennial Care members 20 years and older continuously enrolled in Centennial Care with no more than one gap of up to 45 days during the measurement year. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1st, 2018. Comparison group: The number of Centennial Care members 20 years and older continuously enrolled in Centennial Care with no more than one gap of up to 45 days during the measurement year. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017 and had no exposure to a Health Home during or prior to the measurement year.
Comparison Population	Propensity score adjusted members who have never participated in the Health Home program.
Measure Steward	NCQA
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Difference-in-differences
Notes for Measure Calculation	This measure follows NCQA specifications for Adults' Access to Preventive-Ambulatory Services, with matching for comparison population. Enrollment in Health Home is defined as appearing in the monthly Health Home roster files.

Children and adolescents' access to primary care practitioners (CAP) - CC population (Measure 5a)	
Numerator	Among members identified in the denominator, the number of Centennial Care members who had a visit with a primary care physician (PCP).
Denominator	The number of Centennial Care members 12 months – 19 years of age. Children aged 12 months to 6 years must be continuously enrolled in Centennial Care during the measurement period, and children and adolescents aged 7 to 19 years must be continuously enrolled in Centennial Care during the measurement period and the year prior to the measurement period. Members must be continuously enrolled with no more than one gap of up to 45 days in each year.
Comparison Population	N/A
Analytic Approach	Interrupted time series analysis
Measure Steward	NCQA
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Notes for Measure Calculation	This measure follows NCQA specifications for Children and Adolescents' Access to Primary Care Practitioners.

Children and adolescents' access to primary care practitioners (CAP) - HH population (Measure 5b)	
Numerator	Among members identified in the denominator for each group, the number of unique Medicaid members who had a visit with a PCP during the measurement period.
Denominator	Treatment group: The number of Centennial Care members 12 months – 19 years of age. Children aged 12 months to 6 years must be continuously enrolled in Centennial Care during the measurement period, and children and adolescents aged 7 to 19 years must be continuously enrolled in Centennial Care during the measurement period and the year prior to the measurement period. Members must be continuously enrolled in Centennial Care with no more than one gap of up to 45 days in each year. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1st, 2018. Comparison group: The number of Centennial Care members 12 months – 19 years of age. Children aged 12 months to 6 years must be continuously enrolled in Centennial Care during the measurement period, and children and adolescents aged 7 to 19 years must be continuously enrolled in Centennial Care during the measurement period and the year prior to the measurement period. Members must be continuously enrolled with no more than one gap of up to 45 days in each year. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017 and had no exposure to a Health Home during or prior to the measurement year.
Comparison Population	Propensity score adjusted members who have never participated in the Health Home program.
Measure Steward	NCQA
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Difference-in-differences
Notes for Measure Calculation	This measure follows NCQA specifications for Children and Adolescents' Access to Primary Care Practitioners, with matching for comparison population. Enrollment in a Health Home is defined as appearing in the monthly Health Home roster files.

Well-child visits in the third, fourth, fifth, and sixth years of life (W34) (Measure 6)	
Numerator	The number of Centennial Care members meeting the denominator criteria who had one or more well-child visits with a PCP during the measurement year.
Denominator	The number of Centennial Care members 3–6 years of age continuously enrolled in Centennial Care with no more than one gap of up to 45 days.
Comparison Population	N/A
Measure Steward	NCQA
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Interrupted time series analysis
Notes for Measure Calculation	This measure follows NCQA specifications for Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life.

Diabetes screening for members with schizophrenia or bipolar disorder who are using antipsychotic medications (SSD) (Measure 7)	
Numerator	Among members identified in the denominator for each group, the number of unique Medicaid members who were dispensed an antipsychotic medication and had a diabetes screening test during the measurement year.
Denominator	Treatment group: The number of Centennial Care members 18 – 64 years of age with serious mental illness (SMI) (schizophrenia or bipolar disorder), continuously enrolled in Centennial Care with no more than one gap of up to 45 days. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1st, 2018. Comparison group: The number of Centennial Care members 18 – 64 years of age with SMI (schizophrenia or bipolar disorder), continuously enrolled in Centennial Care with no more than one gap of up to 45 days. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017 and had no exposure to a Health Home during or prior to the measurement year.
Comparison Population	Propensity score adjusted members who have never participated in the Health Home program.
Measure Steward	NCQA
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Difference-in-differences
Notes for Measure Calculation	This measure follows NCQA specifications for Diabetes Screening for People With Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications, with matching for comparison population. Enrollment in a Health Home is defined as appearing in the monthly Health Home roster files.

Anti-depressant medication management (AMM) Effective Acute Phase Treatment – HH population (Measure 8)	
Numerator	Among members identified in the denominator for each group, the number of unique Medicaid members who remained on an antidepressant medication treatment for at least 84 days.
Denominator	Treatment group: The number of Centennial Care members 18 years of age and older, who were treated with antidepressant medication, had a diagnosis of major depression, and were continuously enrolled in Centennial Care with no more than one gap of up to 45 days during the measurement period. Members aged 18 years and older must be continuously enrolled in Centennial Care 105 days prior to the index prescription start date (IPSD) through 231 days after the IPSD. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1st, 2018. Comparison group: The number of Centennial Care members 18 years of age and older, who were treated with antidepressant medication, had a diagnosis of major depression, and were continuously enrolled in Centennial Care with no more than one gap of up to 45 days during the measurement period. Members aged 18 years and older must be continuously enrolled in

Anti-depressant medication management (AMM) Effective Acute Phase Treatment – HH population (Measure 8)	
	Centennial Care 105 days prior to the IPSD through 231 days after the IPSD. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017 and had no exposure to a Health Home during or prior to the measurement year.
Comparison Population	Propensity score adjusted members who have never participated in the Health Home program.
Measure Steward	NCQA
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Difference-in-differences
Notes for Measure Calculation	This measure follows NCQA specifications for Antidepressant Medication Management, with matching for comparison group. Enrollment in a Health Home is defined as appearing in the monthly Health Home roster files.

Anti-depressant medication management (AMM) Effective Continuation Phase Treatment - HH population (Measure 9)	
Numerator	Among members identified in the denominator for each group, the number of unique Medicaid members who remained on an antidepressant medication treatment for at least 180 days.
Denominator	Treatment group: The number of Centennial Care members 18 years of age and older, who were treated with antidepressant medication, had a diagnosis of major depression, and were continuously enrolled in Centennial Care with no more than one gap of up to 45 days during the measurement period. Members aged 18 years and older must be continuously enrolled in Centennial Care 105 days prior to the IPSD through 231 days after the IPSD. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1st, 2018. Comparison group: The number of Centennial Care members 18 years of age and older, who were treated with antidepressant medication, had a diagnosis of major depression, and were continuously enrolled in Centennial Care with no more than one gap of up to 45 days during the measurement period. Members aged 18 years and older must be continuously enrolled in Centennial Care 105 days prior to the IPSD through 231 days after the IPSD. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017 and had no exposure to a Health Home during or prior to the measurement year.
Comparison Population	Propensity score adjusted members who have never participated in the Health Home program.
Measure Steward	NCQA
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Difference-in-differences
Notes for Measure Calculation	This measure follows NCQA specifications for Antidepressant Medication Management, with matching for comparison group. Enrollment in a Health Home is defined as appearing in the monthly Health Home roster files.

7-day follow up after hospitalization for mental illness (FUH) – HH population (Measure 10)	
Numerator	Of members identified in the denominator for each group, the number of unique Medicaid members who had a follow-up visit with a mental health practitioner within 7 days after discharge.
Denominator	Treatment group: The number of Centennial Care members 6 years of age and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in Centennial care during the measurement period. Members 6 years of age and older must be continuously enrolled in Centennial Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1st, 2018. Comparison group: The number of Centennial Care members 6 years of age and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in Centennial care during the measurement period. Members 6 years of age and older must be continuously enrolled in Centennial Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months in Centennial Care during the measurement year, and had no exposure to a Health Home during or prior to the measurement year.
Comparison Population	Propensity score adjusted members who have never participated in the Health Home program.
Measure Steward	NCQA
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Difference-in-differences
Notes for Measure Calculation	This measure follows NCQA specifications for 7-day Follow Up after Hospitalizations for Mental Illness, with matching for comparison group. Enrollment in a Health Home is defined as appearing in the monthly Health Home roster files.

30-day follow up after hospitalization for mental illness (FUH) – HH population (Measure 11)	
Numerator	Among members identified in the denominator for each group, the number of unique Medicaid members who had a follow-up visit with a mental health practitioner within 30 days after discharge.
Denominator	Treatment group: The number of Centennial Care members 6 years of age and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in Centennial care during the measurement period. Members 6 years of age and older must be continuously enrolled in Centennial Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months concurrently in a Health Home and Centennial Care during the measurement year, and had no exposure to a Health Home prior to January 1st, 2018. Comparison group: The number of Centennial Care members 6 years of age and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in Centennial care

30-day follow up after hospitalization for mental illness (FUH) – HH population (Measure 11)	
	during the measurement period. Members 6 years of age and older must be continuously enrolled in Centennial Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Centennial Care for 11 months during the baseline period of 2017, enrolled for 3 continuous months in Centennial Care during the measurement year, and had no exposure to a Health Home during or prior to the measurement year.
Comparison Population	Propensity score adjusted members who have never participated in the Health Home program.
Measure Steward	NCQA
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Difference-in-differences
Notes for Measure Calculation	This measure follows NCQA specifications for 30-day Follow Up after Hospitalizations for Mental Illness, with matching for comparison group. Enrollment in a Health Home is defined as appearing in the monthly Health Home roster files.

Percentage of CC members participating in Centennial Rewards (CR) (Measure 12)	
Numerator	The number of members who were engaged and have completed a reward activity.
Denominator	The total number of members who were eligible or conditional. Members are conditional if they failed to appear on at least one monthly eligibility file and are removed from the numerator after they have failed to appear on three consecutive eligibility files and are considered disenrolled.
Comparison Population	N/A
Measure Steward	N/A
Data Source	Finity
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Descriptive time series
Notes for Measure Calculation	

Percentage of CR participating members with an annual preventive/ambulatory service (Measure 13)	
Numerator	Treatment group: Total number of members who are engaged, earned any reward, have redeemed at least one reward (participated and redeemed), and have completed a second preventive/ambulatory visit in the twelve months following an initial preventive/ambulatory visit. Comparison group: Total number of members who are engaged, earned any reward, have not redeemed a reward (participated and not redeemed), and have completed a second preventive/ambulatory visit in the twelve months following an initial preventive/ambulatory visit.
Denominator	Treatment group: Total number of members who are engaged, earned any reward, have redeemed at least one reward (participated and redeemed), and had an initial preventive/ambulatory visit.

Percentage of CR participating members with an annual preventive/ambulatory service (Measure 13)	
	Comparison group: Total number of members who are engaged, earned any reward, have not redeemed a reward (participated and not redeemed), and had an initial preventive/ambulatory visit.
Comparison Population	Centennial Rewards participating members not redeeming CR rewards during the calendar year.
Measure Steward	N/A
Data Source	Finity
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Interrupted time series analysis with comparison group.
Notes for Measure Calculation	

Percent of CR users responding positively on satisfaction survey to question regarding if the program helped to improve their health and make healthy choices (Measure 14)	
Numerator	The number of positive responses to each question
Denominator	The total responses to each question
Comparison Population	N/A
Measure Steward	N/A
Data Source	Finity
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	

Live births weighing less than 2,500 grams (low birth weight) (Measure 15)	
Numerator	Treatment group: The number of resident live births in the treatment denominator weighing less than 2,500 grams (low birth weight). Comparison group: The number of resident live births in the comparison denominator weighing less than 2,500 grams (low birth weight).
Denominator	Treatment group: The number of live births among Centennial Care 2.0 members in the reporting period who are Centennial Home Visiting (CHV) pilot participants and had a delivery on or after their first program enrollment date. Comparison group: The number of live births among Centennial Care 2.0 members in the reporting period who have never participated in the CHV pilot program.
Comparison Population	Chronic Illness and Disability Payment System (CDPS) risk-score adjusted members who have never participated in the CHV program.
Measure Steward	Centers for Disease Control and Prevention (CDC)
Data Source	HSD-supplied list of deliveries and low birth weight deliveries

Live births weighing less than 2,500 grams (low birth weight) (Measure 15)	
	HSD-supplied list of CHV participants MMIS
Frequency	Annual
Desired Direction	Lower is better
Analytic Approach	Logistic regression by year controlling for CDPS risk score.
Notes for Measure Calculation	

Total number of providers with value-based payment (VBP) contracts (Measure 16)	
Numerator	The number of Centennial Care providers with VBP contracts in each calendar year.
Denominator	N/A
Comparison Population	N/A
Measure Steward	N/A
Data Source	Annual Supplemental VBP reports provided by managed care organizations (MCOs)
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	

Number/percentage of providers meeting quality threshold (Measure 17)	
Numerator	The number of Centennial Care providers with VBP contracts who meet quality metric targets.
Denominator	The total number of VBP providers reporting quality metrics
Comparison Population	N/A
Measure Steward	N/A
Data Source	Annual Supplemental VBP reports provided by MCOs
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	

Percentage of total payments that are for providers in VBP arrangements (Measure 18)	
Numerator	The total amount of payments to Centennial Care providers with VBP contracts
Denominator	The total amount of payments to Centennial Care providers
Comparison Population	N/A
Measure Steward	N/A
Data Source	Annual Supplemental VBP reports provided by MCOs
Frequency	Annual
Desired Direction	Higher is better

Percentage of total payments that are for providers in VBP arrangements (Measure 18)	
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	

Percentage of qualified Domain 1 Safety Net Care Pool (SNCP) Hospital Quality Incentive measures that have maintained or improved their reported performance rates over the previous year (Measure 19)	
Numerator	The number of Domain 1 SNCP Hospital Quality Incentive measures that have maintained or improved the reported performance rate. To identify whether a rate was maintained or improved, compare the annual performance rate to the improvement target rate. If the rate is lower than the target for measures in which a lower rate is better, then the measure has maintained or improved.
Denominator	The number of Domain 1 SNCP Hospital Quality Incentive performance measures.
Comparison Population	N/A
Measure Steward	N/A
Data Source	Department of Health (DOH) Health Information Technology (HIT) NM Hospital Association
Frequency	N/A
Desired Direction	Higher is better
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	

Cost per member trend (Measure 20)	
Numerator	The sum of total MCO paid claim/encounter amounts for all inpatient, long-term care, outpatient, professional and pharmacy categories of service.
Denominator	The sum of all Centennial Care member months including enrollees who had claims/encounters and those who had no claims/encounters.
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS Centers of Medicare & Medicaid Services (CMS)-64 Report
Frequency	Annual
Desired Direction	No significant change from projections
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	

Cost per user trend (Measure 21)	
Numerator	The sum of total MCO paid claim/encounter amounts for all inpatient, long-term care, outpatient, professional and pharmacy categories of service
Denominator	The sum of all Centennial Care member months only including enrollees who had claims/encounters.
Comparison Population	N/A

Cost per user trend (Measure 21)	
Measure Steward	N/A
Data Source	MMIS CMS-64 Report
Frequency	Annual
Desired Direction	No significant change from projections
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	

Rate of continuous nursing facility level of care (NF LOC) approvals (Measure 22)	
Numerator	The number of nursing facility beneficiaries enrolled in Centennial Care with a continuous NF LOC approval
Denominator	The number of nursing facility beneficiaries enrolled in Centennial Care
Comparison Population	N/A
Measure Steward	N/A
Data Source	Summary report of open ended LTC spans
Desired Direction	Higher is better
Frequency	Quarterly
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	Rates are calculated per 10,000 NF beneficiaries.

Number of telemedicine providers (Measure 23)	
Numerator	The number of unique Centennial Care telemedicine providers that offer telehealth services. Step 1: Identify encounters for telehealth services using the following codes: • Any service with a telehealth modifier or place of service (Telehealth Modifier Value Set or Telehealth Place of Service (POS) Value Set) • A telephone visit (Telephone Visits Value Set) • An e-visit or virtual check-in (Online Assessments Value set) • Any service from Table A **Table A—HSD Telemedicine Service Codes** 99441, 99442, 99443, 99451, 99452 G2010, G2012, G2061, G2062, G2063, D9995 Step 2: Calculate the number of unique servicing/rendering providers with at least one encounter from Step 1 with a date of service in the measurement period.
Denominator	N/A
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS
Frequency	Annual

Number of telemedicine providers (Measure 23)	
Desired Direction	Higher is better
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	Value sets are from Healthcare Effectiveness Data and Information Set (HEDIS®[C-1]) measurement year (MY) 2020 technical specifications.

Number of members receiving telemedicine services (Measure 24)	
Numerator	The number of Centennial Care members with a telemedicine visit. Step 1: Identify encounters for telehealth services using the following codes: • Any service with a telehealth modifier or place of service (Telehealth Modifier Value Set or Telehealth POS Value Set) • A telephone visit (Telephone Visits Value Set) • An e-visit or virtual check-in (Online Assessments Value Set) • Any service from Table A **Table A—HSD Telemedicine Service Codes** 99441, 99442, 99443, 99451, 99452 G2010, G2012, G2061, G2062, G2063, D9995 Step 2: Calculate the number of unique members with at least one encounter from Step 1 with a date of service in the measurement period.
Denominator	N/A
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS
Frequency	Quarterly
Desired Direction	Higher is better
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	Value sets are from HEDIS MY 2020 technical specifications.

Member rating of health care (Measure 25)	
Numerator	Summary rates will be evaluated based on an 8+9+10 top-box rating system as indicated in the table below. The numerator will be defined as the response score value or numerator compliance for each member answering the following question: "Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your health care in the last 6 months?" Responses and their corresponding score values and numerator compliance are as follows: **Response Choices** / **Score Value** 0 – Worst health care possible / 0

[C-1] HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

Member rating of health care (Measure 25)	
	1 – 0 2 – 0 3 – 0 4 – 0 5 – 0 6 – 0 7 – 0 8 – 1 9 – 1 10 – Best health care possible – 1
Denominator	The number of Centennial Care respondents with a valid response to overall satisfaction with health care.
Comparison Population	N/A
Measure Steward	NCQA
Data Source	MCO Consumer Assessment of Healthcare Providers and Systems (CAHPS®[C-2]) Reports
Measurement Period	Annual
Desired Direction	Higher is better
Analytic Approach	Trend analysis
Notes for Measure Calculation	Rates are provided by the MCOs and have not been independently validated by Health Services Advisory Group (HSAG).

Member rating of health plan (Measure 26)	
Numerator	Summary rates will be evaluated based on an 8+9+10 top-box ratings system as indicated in the table below. The numerator value will be defined as the response score value or numerator compliance for each member answering the following question: "Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your health plan?" Responses and their corresponding score values are as follows:

Response Choices	Score Value
0 – Worst health plan possible	0
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	1
9	1
10 – Best health plan possible	1

Denominator	The number of Centennial Care respondents with a valid response to overall satisfaction with health plan.
Comparison Population	N/A
Measure Steward	NCQA
Data Source	MCO CAHPS Reports

[C-2] CAHPS® is a registered trademark of the Agency for Healthcare Research and Quality (AHRQ).

Member rating of health plan (Measure 26)	
Measurement Period	Annual
Desired Direction	Higher is better
Analytic Approach	Trend analysis
Notes for Measure Calculation	Rates are provided by the MCOs and have not been independently validated by HSAG.

Member rating of personal doctor (Measure 27)	
Numerator	Summary rates will be evaluated based on an 8+9+10 top-box ratings system as indicated in the table below. The numerator value will be defined as the response score value or numerator compliance for each member answering the following question: "Using any number from 0 to 10, where 0 is the worst personal doctor possible and 10 is the best personal doctor possible, what number would you use to rate your personal doctor?" Responses and their corresponding score values are as follows:
Denominator	The number of Centennial Care respondents with a valid response to overall satisfaction with personal doctor.
Comparison Population	N/A
Measure Steward	NCQA
Data Source	MCO CAHPS Reports
Measurement Period	Annual
Desired Direction	Higher is better
Analytic Approach	Trend analysis
Notes for Measure Calculation	Rates are provided by the MCOs and have not been independently validated by HSAG.

Response Choices	Score Value
0 – Worst personal doctor possible	0
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	1
9	1
10 – Best personal doctor possible	1

Number of submitted claims through electronic visit verification (EVV) (Measure 28)	
Numerator	The number of Centennial Care claims submitted through a web or interactive voice response (IVR) system, or mobile app.
Denominator	N/A
Comparison Population	N/A
Measure Steward	N/A
Data Source	MCO Report
Desired Direction	

Number of submitted claims through electronic visit verification (EVV) (Measure 28)	
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	

Percent of paid or unpaid hours retrieved due to false reporting (Measure 29)	
Numerator	Number of paid or unpaid hours retrieved due to false reporting.
Denominator	Centennial Care claims paid and unpaid hours reported
Comparison Population	N/A
Measure Steward	N/A
Data Source	MCO Report
Desired Direction	
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	

Number of providers who provide substance use disorder (SUD) screening (Measure 30)	
Numerator	The number of Centennial Care Physical Health and Behavioral Health providers who provide SUD screening. Step 1: Identify encounters with any of the following procedure codes: • H0049 – Screening, Brief Intervention, and Referral to Treatment (SBIRT) screening • G0444 – Other behavioral health (BH) screening • H2000 – comprehensive multidisciplinary team evaluation • H0002 – American Society of Addition Medicine (ASAM) assessment • H0031 – comprehensive MH assessment for patients who are not SMI or severe emotional disturbance (SED) Step 2: Limit the rendering or servicing providers with encounters from Step 1 to providers serving CC members. Step 3: Calculate the number of de-duplicated rendering or servicing providers in the measurement period.
Denominator	N/A
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS
Frequency	Quarterly
Desired Direction	Higher is better
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	

Number of individuals screened for SUD (Measure 31)	
Numerator	The number of Centennial Care members screened for SUD. Step 1: Identify encounters with any of the following procedure codes:

Number of individuals screened for SUD (Measure 31)	
	• H0049 – SBIRT screening • G0444 – Other BH screening • H2000 – comprehensive multidisciplinary team evaluation • H0002 – ASAM assessment • H0031 – comprehensive mental health (MH) assessment for patients who are not SMI or SED Step 2: Calculate the number of de-duplicated Centennial Care members with encounters from Step 1 in the measurement period.
Denominator	N/A
Comparison Population	N/A
Measure Steward	CMS*
Data Source	MMIS
Desired Direction	Higher is better
Frequency	Quarterly
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	*Measure specifications rely on *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #1: Assessed for SUD Treatment Needs Using a Standardized Screening Tool. No subpopulation categories will be reported. HSD supplied codes for identifying SUD screening services.

Percentage of individuals with a SUD diagnosis who received any SUD service during the measurement year (Measure 32)	
Numerator	The number of Centennial Care members among the denominator with a SUD diagnosis who received any SUD service during the measurement year.
Denominator	The number of unique Centennial Care beneficiaries (de-duplicated total) enrolled in the measurement period who receive medication assisted treatment (MAT) or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 12 months before the measurement period.
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS
Frequency	Quarterly
Desired Direction	Higher is better
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	Measure specifications rely on *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #4: Medicaid Beneficiaries with SUD Diagnosis, annually (denominator), and Metric #6: Any SUD Treatment (numerator)

Initiation of Alcohol or Other Drug (AOD) Abuse or Dependence Treatment (IET) (Measure 33)	
Numerator	The number of Centennial Care individuals with SUD diagnosis who initiate AOD treatment through an inpatient admission, outpatient visit, telemedicine, intensive outpatient encounter or partial hospitalization or MAT within 14 days of the index episode start date (IESD).
Denominator	The number of Centennial Care adolescent and adult members (13 years and older) with a new episode of AOD abuse or dependence.
Comparison Population	N/A
Measure Steward	NCQA
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Trend analysis National or other state benchmarks change over time
Notes for Measure Calculation	This measure follows NCQA specifications for Initiation of Alcohol and Other Drug Abuse or Dependence Treatment.

Percentage of individuals with a SUD diagnosis who received peer support (Measure 34)	
Numerator	Among members identified in the denominator, the number of Medicaid members who receive peer support services (Peer Support Services Value Set).
Denominator	The number of unique beneficiaries (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 12 months before the measurement period.
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS
Frequency	Quarterly
Desired Direction	Higher is better
Analytic Approach	Interrupted time series analysis
Notes for Measure Calculation	The measure denominator is adapted from *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly).

Engagement of AOD Abuse or Dependence Treatment (IET) (Measure 35)	
Numerator	Among members identified in the denominator, the number of unique Medicaid members who initiated treatment and who had two or more additional AOD services or MAT within 34 days of the initiation visit.
Denominator	Peer Support Services Group The number of Centennial Care adolescent and adult members (13 years and older) with a new episode of AOD abuse or dependence and received peer support services (Peer Support Services Value Set) within 48 days following the IESD. Comparison Group

Engagement of AOD Abuse or Dependence Treatment (IET) (Measure 35)	
	The number of Centennial Care adolescent and adult members (13 years and older) with a new episode of AOD abuse or dependence and had never utilized peer support services (Peer Support Services Value Set) within 48 days following the IESD.
Comparison Population	Centennial Care members meeting the NCQA eligible population criteria and had never utilized peer support services.
Measure Steward	NCQA (modified)
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Difference-in-differences
Notes for Measure Calculation	This measure follows modified NCQA specifications for Initiation and Engagement of AOD Abuse or Dependence Treatment (engagement indicator).

Average Length of Stay (ALOS) (Measure 36)	
Numerator	Peer Support Services Group The number of days between the AOD index episode and the last date of treatment (measured in monthly increments), and who received peer support services during this time (Peer Support Services Value Set). Comparison Group The number of days between the AOD index episode and the last date of treatment (measured in monthly increments), and who did not receive peer support services during this time. For example, if a member had an index episode in January and treatment in January, February, and March, then length of treatment spans from January through March. If a member had treatment in January and March, then the length of treatment only spans January.
Denominator	The number of Centennial Care members with an AOD episode, as identified by NCQA Technical Specifications for Initiation and Engagement of AOD Abuse or Dependence Treatment (Event/diagnosis).
Comparison Population	Centennial Care members meeting the denominator criteria and had never utilized peer support services during treatment tenure.
Measure Steward	N/A
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Difference-in-differences
Notes for Measure Calculation	

Continuity of Pharmacotherapy for Opioid Use Disorder (OUD) (Measure 37)	
Numerator	Among members identified in the denominator, the number of unique Medicaid members who have at least 180 days of continuous pharmacotherapy with a medication prescribed for OUD without a gap of more than seven days.
Denominator	Peer Support Services Group The number of Centennial Care members 18-64 years of age who had a diagnosis of OUD and at least one claim for an OUD medication.

Continuity of Pharmacotherapy for Opioid Use Disorder (OUD) (Measure 37)	
	Members must have received peer support services (Peer Support Services Value Set) within 180 days after an OUD medication. Comparison Group The number of Centennial Care members 18-64 years of age who had a diagnosis of OUD and at least one claim for an OUD medication. Members must not have received peer support services (Peer Support Services Value Set) within 180 days after an OUD medication.
Comparison Population	N/A
Measure Steward	University of Southern California (USC) (National Quality Forum [NQF] #3175)
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Difference-in-differences
Notes for Measure Calculation	

Continuum of services available (Measure 38)	
Numerator	The number of different types of BH facilities and BH practitioner types reported by currently contracted MCOs. The number of providers associated with each BH facility and practitioner types.
Denominator	N/A
Comparison Population	N/A
Measure Steward	N/A
Data Source	MCO Reports
Frequency	Quarterly
Desired Direction	Higher is better
Analytic Approach	Descriptive data analysis
Notes for Measure Calculation	This measure is a quantitative data synthesis of the types of services reported by MCOs as well as the number of providers by facility type.

Number of providers and capacity for ambulatory SUD services (Measure 39)	
Numerator	The number of SUD providers and the total panel size reported by currently contracted MCOs for 2018 through 2021, compared to projected panel size between 2019 and 2021. Provider panel was identified by calculating the unique number of Medicaid members with a claim/encounter for each provider. Projected panel size was calculated by taking the average panel size among SUD providers in 2018 prior to Centennial Care 2.0, and multiplying by the number of providers in each year during the study period (2019 through 2021). Stratify actual and projected panel size by existing providers (i.e., those contracted with Blue Cross Blue Shield (BCBS) or Presbyterian Health Plan (PHP) in 2018, prior to CC 2.0) and new providers (i.e., those not contracted with BCBS or PHP in 2018).
Denominator	N/A
Comparison Population	N/A
Measure Steward	N/A

Number of providers and capacity for ambulatory SUD services (Measure 39)	
Data Source	MMIS, MCO SUD Provider Reports
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Descriptive data analysis
Notes for Measure Calculation	

Percentage of emergency department (ED) visits of individuals with SUD diagnoses (Measure 40)	
Numerator	The number of ED visits among Centennial Care members with an SUD diagnosis. Step 1. Identify members with an SUD diagnosis (monthly), as specified through *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #3: Medicaid Beneficiaries with SUD Diagnosis (monthly). Step 2. Calculate the number of ED visits among members retained from Step 1. Count each visit to an ED once, regardless of the intensity or duration of the visit. Count multiple ED visits on the same date of service as one visit. Identify ED visits using either of the following: • An ED visit (ED Value Set). • A procedure code (ED Procedure Code Value Set) with an ED place of service code (ED POS Value Set). Do not include ED visits that result in an inpatient stay (Inpatient Stay Value Set).
Denominator	The number of ED visits among all Centennial Care members. Count each visit to an ED once, regardless of the intensity or duration of the visit. Count multiple ED visits on the same date of service as one visit. Identify ED visits using either of the following: • An ED visit (ED Value Set). • A procedure code (ED Procedure Code Value Set) with an ED place of service code (ED POS Value Set). Do not include ED visits that result in an inpatient stay (Inpatient Stay Value Set).
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS
Frequency	Quarterly
Desired Direction	Lower is better
Analytic Approach	Interrupted time series analysis
Notes for Measure Calculation	

Percentage of Inpatient admissions for SUD related treatment (Measure 41)	
Numerator	The number of inpatient services for SUD related treatment for Centennial Care members. Step 1. Among claims retained in the denominator, identify claims with a diagnosis code (any diagnosis on the claim) listed under one of the following Value Sets: • Alcohol Abuse and Dependence Value Set • Opioid Abuse and Dependence Value Set

Percentage of Inpatient admissions for SUD related treatment (Measure 41)	
	• Other Drug Abuse and Dependence Value Set Step 2. Calculate the number of inpatient discharges meeting the criteria in Step 1.
Denominator	The number of inpatient admissions for Centennial Care members. Step 1. Identify all inpatient stays (acute and nonacute) during the measurement period (Inpatient Stay Value Set). Step 2. Identify and exclude claims for residential treatment using the Uniform Billing (UB) Revenue codes listed below: • 1001 – Residential treatment, psychiatric • 1002 – Residential treatment – chemical dependency Step 3. Identify the discharge date for the stay. Retain only stays with discharge dates that fall within the measurement period.
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS
Frequency	Quarterly
Desired Direction	Lower is better
Analytic Approach	Interrupted time series analysis
Notes for Measure Calculation	To count beneficiaries using ***inpatient services***, use the stay discharge date to identify claims in the measurement period. Count only stays that include a discharge during the measurement period. If a discharge date is not explicitly reported, identify all claims associated with a single stay and use the latest end date of service on the claims to assign the claim to a measurement period. Use one of the following approaches to combine claims for the same stay: • Combine claims for the same beneficiary, provider, and admission date; or • If an admission date is not reported on all claims, combine claims for the same beneficiary and provider that have less than a one-day break between the end date of the first claim and the start date of the next claim. For example, if the end date of the first claim is December 18 and the start date of the next claim is December 19, then combine the claims as a single stay. However, if the second claim has a start date of December 20 or later, then do not combine the claims.

Percentage of Inpatient admissions of individuals with SUD for withdrawal management (Measure 42)	
Numerator	The number of inpatient admissions of individuals with SUD for withdrawal management for Centennial Care members. Step 1. Among claims retained in Denominator Step 4, identify claims for withdrawal management (Detoxification Value Set) Step 2. Calculate the number of inpatient discharges meeting the criteria in Step 1.
Denominator	The number of inpatient services for SUD related treatment for Centennial Care members. Step 1. Identify all inpatient stays (acute and nonacute) during the measurement period (Inpatient Stay Value Set). Step 2. Identify and exclude claims for residential treatment using the UB Revenue codes listed below: • 1001 – Residential treatment, psychiatric • 1002 – Residential treatment – chemical dependency

Percentage of Inpatient admissions of individuals with SUD for withdrawal management (Measure 42)	
	Step 3. Identify the discharge date for the stay. Retain only stays with discharge dates that fall within the measurement period. Step 4. Among claims retained in Step 3, identify claims with a diagnosis code (any diagnosis on the claim) listed under any of the following Value Sets: • Alcohol Abuse and Dependence Value Set • Opioid Abuse and Dependence Value Set • Other Drug Abuse and Dependence Value Set Step 5. Calculate the number of inpatient discharges meeting the criteria in Steps 1, 2, 3, and 4.
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS
Frequency	Quarterly
Desired Direction	Lower is better
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	To count beneficiaries using ***inpatient services***, use the stay discharge date to identify claims in the measurement period. Count only stays that include a discharge during the measurement period. If a discharge date is not explicitly reported, identify all claims associated with a single stay and use the latest end date of service on the claims to assign the claim to a measurement period. Use one of the following approaches to combine claims for the same stay: • Combine claims for the same beneficiary, provider, and admission date; or • If an admission date is not reported on all claims, combine claims for the same beneficiary and provider that have less than a one-day break between the end date of the first claim and the start date of the next claim. For example, if the end date of the first claim is December 18 and the start date of the next claim is December 19, then combine the claims as a single stay. However, if the second claim has a start date of December 20 or later, then do not combine the claims.

7- and 30-day inpatient and residential SUD readmission rates (Measure 43)	
Numerator	The number of 7-day inpatient and residential readmission rates for Centennial Care users discharged with SUD diagnosis and readmitted to either inpatient or residential treatment with SUD diagnosis. 30-day inpatient and residential readmission rates for Centennial Care users discharged with SUD diagnosis and readmitted to either inpatient or residential treatment with SUD diagnosis.
Denominator	The number of inpatient discharges with a principal diagnosis of SUD. Step 1: Calculate the Denominator: Count of Index Hospital Stays Step 1a. Identify all acute inpatient discharges with any diagnosis in the first 11 months of the measurement year. To identify acute inpatient discharges: • Identify all acute and nonacute inpatient stays (Inpatient Stay Value Set). • Exclude nonacute inpatient stays (Nonacute Inpatient Stay Value Set). • Determine whether the discharge date for the stay falls in the first 11 months of the measurement year.

7- and 30-day inpatient and residential SUD readmission rates (Measure 43)	
	Inpatient stays where the discharge date from the first setting and the admission date to the second setting are two or more calendar days apart must be considered distinct inpatient stays. This measure includes acute discharges from any type of acute facility (including behavioral healthcare facilities). Step 1b. Address acute-to-acute direct transfers as described below in "Additional Guidance." Exclude the hospital stay if the direct transfer's discharge date occurs in the last 30 days of the measurement year. Step 1c. Exclude hospital stays where the Index Admission Date is the same as the Index Discharge Date. Step 1d. Exclude hospital stays for the following reasons: • The beneficiary died during the stay. • Female beneficiaries with a principal diagnosis of pregnancy (Pregnancy Value Set) on the discharge claim. • A principal diagnosis of a condition originating in the perinatal period (Perinatal Conditions Value Set) on the discharge claim. Note: For hospital stays where there was an acute-to-acute direct transfer (identified in Step 1), use both the original stay and the direct transfer stay to identify exclusions in this step. Step 1e. Identify stays with a principal diagnosis for SUD (AOD Abuse and Dependence Value Set). Step 1f. To calculate the count of Index Hospital Stays (i.e., the denominator), count the number of Index Hospital Stays that meet the criteria in Steps 1a-1e.
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS
Frequency	Quarterly
Desired Direction	Lower is better
Analytic Approach	Interrupted time series analysis
Notes for Measure Calculation	

Total and per member per month (PMPM) cost (medical, behavioral and pharmacy) for members with SUD diagnosis (Measure 44)	
Numerator	The sum of total MCO paid claim/encounter amounts for all inpatient, long-term care, outpatient, professional and pharmacy categories of service for members flagged with an SUD diagnosis
Denominator	The sum of all Centennial Care member months flagged with an SUD diagnosis based on the following criteria. The number of unique beneficiaries (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 11 months before the measurement period, as outlined in the *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly).
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS

Total and per member per month (PMPM) cost (medical, behavioral and pharmacy) for members with SUD diagnosis (Measure 44)	
Frequency	Quarterly
Desired Direction	No significant change from projections
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	The denominator specifications follow *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly)

Total and PMPM cost (medical, behavioral and pharmacy) for members with SUD diagnosis by SUD source of care (Measure 45)	
Numerator	The sum of total MCO paid claim/encounter amounts stratified by inpatient, long-term care, outpatient, professional and pharmacy categories of service for members flagged with an SUD diagnosis.
Denominator	The sum of all Centennial Care member months flagged with an SUD diagnosis based on the following criteria. The number of unique beneficiaries (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 11 months before the measurement period, as outlined in the *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly).
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS
Frequency	Quarterly
Desired Direction	No significant change from projections
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	The numerator specifications follow CMS' *SMI/SED and SUD Evaluation Design Guidance Appendix C* The denominator specifications follow *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0, Metric #3*: Medicaid Beneficiaries with SUD diagnosis (monthly)

Total and PMPM cost for SUD services for members with SUD diagnosis (Measure 46)	
Numerator	The sum of total MCO paid claim/encounter amounts for all inpatient, long-term care, outpatient, professional and pharmacy categories of service related to SUD claims/encounters only for members flagged with an SUD diagnosis.
Denominator	The sum of all Centennial Care member months flagged with an SUD diagnosis based on the following criteria. The number of unique beneficiaries (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 11 months before the measurement period, as outlined in the *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly).
Comparison Population	N/A

Total and PMPM cost for SUD services for members with SUD diagnosis (Measure 46)	
Measure Steward	N/A
Data Source	MMIS
Measurement Period	Quarterly
Desired Direction	No significant change from projections
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	The numerator specifications follow CMS' *SMI/SED and SUD Evaluation Design Guidance Appendix C.* The denominator specifications follow *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly).

Total and PMPM cost for SUD services by type of care (inpatient [IP], outpatient [OP], pharmacy [RX], etc.) (Measure 47)	
Numerator	The sum of total MCO paid claim/encounter amounts stratified by inpatient, long-term care, outpatient, professional and pharmacy categories of service related to SUD claims/encounters only for members flagged with an SUD diagnosis
Denominator	The sum of all Centennial Care member months flagged with an SUD diagnosis based on the following criteria. The number of unique Centennial Care beneficiaries (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 11 months before the measurement period as outlined in the *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly)
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS
Frequency	Quarterly
Desired Direction	No significant change from projections
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	The numerator specifications follow CMS' *SMI/SED and SUD Evaluation Design Guidance Appendix C.* The denominator specifications follow *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly).

Percentage of individuals diagnosed with SUD receiving care coordination (Measure 48)	
Numerator	Among members identified in the denominator, the number of Centennial Care members in fully delegated care coordination during the measurement period. Fully delegated care coordination is defined as participating in a Health Home program.
Denominator	The number of unique Centennial Care beneficiaries (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with a SUD diagnosis and a SUD-related treatment service during the measurement period and/or in the 11 months before the measurement period.

Percentage of individuals diagnosed with SUD receiving care coordination (Measure 48)	
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS, Health Home enrollment roster
Frequency	Quarterly
Desired Direction	Higher is better
Analytic Approach	Descriptive time series analysis with statistical processing control (SPC) chart
Notes for Measure Calculation	Denominator specifications follow *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #3: Medicaid Beneficiaries with SUD diagnosis (monthly)

Percentage of individuals with SUD receiving preventive/ambulatory health services (AAP) (Measure 49)	
Numerator	The number of Centennial Care members with SUD diagnosis receiving preventive/ambulatory health services.
Denominator	The number of Centennial Care members with SUD diagnosis and meeting eligible population criteria.
Comparison Population	N/A
Measure Steward	CMS (modified NCQA)
Data Source	MMIS
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Trend analysis
Notes for Measure Calculation	Measure specifications follow *Medicaid Section 1115 SUD Demonstrations: Technical Specifications for Monitoring Metrics, version 4.0*, Metric #32: Access to Preventive/Ambulatory Health Services for Adult Medicaid Beneficiaries with SUD.

Number of naloxone training and kit distributions (Measure 50)	
Numerator	The number of naloxone training and kit distributions to New Mexico residents.
Denominator	N/A
Comparison Population	N/A
Measure Steward	N/A
Data Source	DOH, Behavioral Health Services Division (BHSD)
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Descriptive data analysis
Notes for Measure Calculation	Numbers were provided by DOH/BHSD and have not been independently validated by HSAG.

Number of MCO network MAT providers (Measure 51)	
Numerator	The number of MCO network MAT providers.

Number of MCO network MAT providers (Measure 51)	
Denominator	N/A
Comparison Population	N/A
Measure Steward	N/A
Data Source	MCO Report
Frequency	Annual
Desired Direction	Higher is better
Analytic Approach	Descriptive time series analysis
Notes for Measure Calculation	Numbers are provided by the MCOs and have not been independently validated by HSAG.

Percentage of individuals diagnosed with SUD with MAT claims (Measure 52)	
Numerator	Among members identified in the denominator, the number of Medicaid members with a claim for MAT during the measurement year. MAT claims are identified through one of the following dispensing events: • Alcohol Use Disorder Treatment Medication List • Opioid Use Disorder Treatment Medication List
Denominator	The number of Centennial Care members with an AOD/OUD diagnosis OR an MAT dispensing event. Identify members with any claim for any of the following diagnoses or dispensing events during the measurement year: • Alcohol Abuse and Dependence Value Set • Opioid Abuse and Dependence Value Set • Alcohol Use Disorder Treatment Medication List • Opioid Use Disorder Treatment Medication List
Comparison Population	N/A
Measure Steward	N/A
Data Source	MMIS
Frequency	Quarterly
Desired Direction	Higher is better
Analytic Approach	Interrupted time series analysis
Notes for Measure Calculation	

Number of providers using the prescription monitoring program (Measure 53)	
Numerator	Number of Providers who made at least one Prescription Monitoring Program (PMP) request in the quarter.
Denominator	Number of Providers Needing 10+ PMP Reports in the quarter.
Comparison Population	N/A
Measure Steward	N/A
Data Source	New Mexico (NM) Board of Pharmacy, MCO Report
Frequency	Annual

Number of providers using the prescription monitoring program (Measure 53)	
Desired Direction	N/A
Analytic Approach	Descriptive data analysis
Notes for Measure Calculation	

Rate of deaths due to overdose (Measure 54)	
Numerator	Proportionate mortality and cause-specific death rates were calculated for both the whole New Mexico population and the New Mexico Medicaid population. Proportionate mortality rates are defined as the number of overdose deaths divided by all deaths among the population of interest. Cause-specific death rates are defined as the total overdose deaths divided by the size of the population of interest. Specific numerator and denominator definitions are included below. **Proportionate Mortality Rate**: The total number of overdose deaths among the denominator. **Cause-Specific Death Rate**: The total number of overdose deaths among the denominator.
Denominator	**Proportionate Mortality Rate**: The total number of deaths among New Mexico Residents. **Cause-Specific Death Rate**: The total New Mexico population.
Comparison Population	Rates were calculated for the overall New Mexico population and for the New Mexico Medicaid population
Measure Steward	N/A
Data Source	DOH epidemiology reports, Office of Medical Investigator American Community Survey
Frequency	Annual
Desired Direction	Lower is better
Analytic Approach	Descriptive data analysis
Notes for Measure Calculation	