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

November 13, 2025

Dana Flannery
Medicaid Director, Medical Assistance Division
New Mexico Human Services Department
State Capitol
Room 400
Sante Fe, NM 87501

Dear Director Flannery:

The Centers for Medicare & Medicaid Services (CMS) completed its review of the Evaluation Design, which is required by the Special Terms and Conditions (STCs), specifically, STC #16.6 "Evaluation Design Approval and Updates" of New Mexico's section 1115 demonstration, "Turquoise Care Medicaid 1115 Demonstration" (Project No: 11W 00285/6), effective through December 31, 2029. CMS has determined that the Evaluation Design, which was submitted on January 17, 2025 and June 30, 2025, meets the requirements set forth in the STCs and our evaluation design guidance, and therefore approves the state's Evaluation Design.

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

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

We appreciate our continued partnership with New Mexico on the Turquoise Care section 1115 demonstration. If you have any questions, please contact your CMS demonstration team.

Sincerely,

DANIELLE DALY -S

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Date: 2025.11.13 12:12:34 -05'00'

Danielle Daly
Director
Division of Demonstration Monitoring and Evaluation

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

State of New Mexico Health Care Authority

Medicaid Section 1115 Demonstration Waiver – Turquoise Care

Evaluation Design

June 2025

HSAG HEALTH SERVICES ADVISORY GROUP

Table of Contents

1. Background

Since 2014, New Mexico has utilized Section 1115 Demonstration Waiver Authority to operate its comprehensive managed care system, Centennial Care, along with the home- and community-based services (HCBS) Community Benefit (CB) program and several pilot programs serving Medicaid and Children's Health Insurance Program (CHIP) members. On December 9, 2022, the New Mexico Health Care Authority (HCA) submitted an application to the Centers for Medicare & Medicaid Services (CMS) to extend its Section 1115 Demonstration Waiver, Centennial Care 2.0, under a new name, Turquoise Care.[1-1] Aside from the name change, Turquoise Care aims to continue to build upon the successes of Centennial Care (January 2014–December 2018) and Centennial Care 2.0 (January 2019–June 2024) by providing critical healthcare coverage and access, improving health outcomes, and addressing the social and economic determinants of health. CMS approved Turquoise Care on July 25, 2024, with a demonstration period of July 25, 2024, through December 31, 2029.[1-2] Through Turquoise Care, the State intends to accomplish four distinct goals:

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

Turquoise Care specifically targets five population groups due to their historical experiences of social inequities, disparities, and demands for healthcare services. The waiver's key initiatives and authorities were created to support these populations in receiving equitable care. These targeted populations include:

- Prenatal, postpartum, and members parenting children, including children in State custody.
- Seniors and members with long-term support services (LTSS) needs.
- Members with behavioral health (BH) conditions.
- Native American members.
- Justice-involved individuals.

Turquoise Care expands on several key initiatives introduced during Centennial Care and Centennial Care 2.0, including:

- Expanding access to LTSS through the CB.
- Expanding Member Rewards (MR), formerly known as Centennial Rewards (CR), and providing incentives for members to pursue healthy behaviors.

1-1 Centers for Medicare & Medicaid Services. State Application – Demonstration Extension. Available at: https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/nm-centennial-care-pa5.pdf. Accessed on: Oct 10, 2024.

1-2 Centers for Medicare & Medicaid Services. Demonstration Approval. Available at: https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/nm-centennial-care-dmnstrtn-extn-aprvl-07252024.pdf. Accessed on: Oct 10, 2024.

- Expanding New Mexico's care coordination program for members requiring additional support and coordination, including high fidelity wraparound (HFW) intensive care coordination for children and youth with complex care requirements.
- Expanding home visiting services focused on perinatal care and early childhood development.
- Implementing initiatives to improve substance use disorder (SUD) services and ensure that the appropriate level of treatment is provided, medication-assisted treatment (MAT) is available, and care coordination between levels of care is enhanced.
- Implementing pre-tenancy and tenancy services for members who are homeless or at risk of experiencing homelessness and meet specific eligibility criteria.
- Maintaining and enhancing access to mental health services and expanding the delivery system to provide more comprehensive and coordinated treatment to members with serious mental illness (SMI) and serious emotional disturbance (SED).

In addition to expanding many of the Centennial Care 2.0 initiatives, CMS approved two new programs through Turquoise Care. First, New Mexico can provide reentry services for eligible individuals up to 90 days prior to their release from incarceration. This pre-release benefit package aims to improve inmates' transition back into the community by promoting continuity of coverage, access to care, quality of care, and early identification of physical health (PH), BH, and health-related social needs (HRSN). The benefits include case management, MAT services, diagnostic services, prescription medication, peer support, and PH and BH consultation services.

Additionally, Turquoise Care authorizes New Mexico to provide HRSN support services for individuals meeting State-defined social and clinical eligibility criteria. HRSN services include short-term post-hospitalization recuperative services with room and board for up to six months, as well as medically tailored meals tailored to the health risk of pregnant individuals who meet specific risks and needs-based criteria. Finally, the housing supports expansion through Turquoise Care authorizes providers to refer members who are homeless or at risk of experiencing homelessness to pre-tenancy and tenancy supports.

CMS approved an amendment to Turquoise Care on October 16, 2024, which granted New Mexico the authority to provide Medicaid reimbursement for traditional health care practices (THCP) provided through Indian Health Service (IHS) facilities, facilities operated by Tribes or Tribal organizations under the Indian Self-Determination and Education Assistance Act, and facilities operated by urban Indian organizations under Title V of the Indian Health Care Improvement Act. [1-3, 1-4] The amendment expands American Indian and Alaska Native (AI/AN) members' access to culturally appropriate care within the State, as determined by each Tribe, Pueblo, or Nation, which is intended to improve health outcomes and quality of care, and reduce disparities among AI/AN members. Provider participation in the THCP initiative is voluntary.

[1-3] Urban Indian Organizations will not deliver Medicaid reimbursable THCP services through Turquoise Care.

[1-4] Centers for Medicare & Medicaid Services. Demonstration Approval. Available at: https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/nm-turquoise-care-dmnstrtn-aprvl-10162024.pdf. Accessed on: Apr 8, 2025.

Impacted Populations

Table 1-1 presents the eligibility groups served through Turquoise Care, as defined in the Special Terms and Conditions (STCs).[1-5] As of May 2024, New Mexico's Medicaid program provides care for over 776,000 members throughout the State.[1-6] In June 2023, 83 percent of Medicaid members in New Mexico were enrolled in managed care.[1-7]

Table 1-1—Turquoise Care Covered Eligibility Groups

Group	Covered Populations
TANF and Related	• Parents/caretakers • Extension due to spousal support • Pregnant individuals • Children under 19 • Current and former foster care children • Breast and Cervical Cancer Program • Transitional Medical Assistance
Medicaid Expansion	• Non-pregnant adults ages 19 years through 64 years with income at or below 133 percent FPL
SSI Medicaid	• Aged, blind, and disabled • Institutionalized individuals
SSI Dual Eligible	• Aged, blind, and disabled • Institutionalized individuals

Note: FPL: federal poverty level; SSI: supplemental security income; TANF: Temporary Assistance for Needy Families

The following populations are excluded from Turquoise Care:

- Qualified Medicare members – 1902(a)(10)(E)(i); 1905(p)
- Specified low-income Medicare members – 1902(a)(10)(E)(iii)
- Qualifying individuals – 1902(a)(10)(E)(iv)
- Qualified disabled working individuals – 1902(a)(10)(E)(ii); 1905(s)
- Non-citizens only eligible for emergency medical services – 1903(v)
- Program for All-Inclusive Care for the Elderly (PACE) participants – 1934

1-5 Centers for Medicare & Medicaid Services. Demonstration Approval. Available at: https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/nm-centennial-care-dmnstrtn-extn-aprvl-07252024.pdf. Accessed on: Oct 10, 2024.

1-6 KKF. Medicaid and CHIP Monthly Enrollment. Available at: https://www.kff.org/other/state-indicator/medicaid-and-chip-monthly-enrollment/?currentTimeframe=0&selectedRows=%7B%22states%22:%7B%22new-mexico%22:%7B%7D%7D%7D&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D. Accessed on: Oct 10, 2024.

1-7 New Mexico Legislative Finance Committee. 2023 Accountability Report. Available at: https://www.nmlegis.gov/Entity/LFC/Documents/Program_Evaluation_Reports/Medicaid%20Accountability%20Report.pdf. Accessed on: Oct 10, 2024.

- Individuals residing in intermediate care facilities for individuals with intellectual disabilities (ICFs/IID) – 1905(a)(15)
- Developmental Disabilities Waiver, Mi Via Waiver, Medically Fragile Waiver participants and Supports Waiver participants for HCBS only
- Individuals receiving family planning-only benefits through the Family Planning category of eligibility (except as provided in STC 4.9)

Previous Report Findings

The April 2023 Centennial Care 2.0 Interim Evaluation Report, approved by CMS on September 29, 2023, demonstrated New Mexico's progress toward its Section 1115 Demonstration Waiver goals.[1-8] Despite the challenges and disruptions to the healthcare system resulting from the coronavirus disease 2019 (COVID-19) public health emergency (PHE), there were several notable successes of Centennial Care 2.0. Members who received peer support showed improvements in engagement of SUD treatment. Additionally, members engaged with a HH maintained high rates of preventive care visits, even when care was disrupted due to the COVID-19 PHE. Utilization of telemedicine increased between the start of Centennial Care 2.0 and the start of the COVID-19 PHE, which necessitated a shift toward this care delivery model and significantly increased its usage. However, the COVID-19 PHE impacted care in several areas, including Centennial Care 2.0 members' access to preventive and well-care visits. The measures utilized to evaluate CR were insufficient to rigorously evaluate the impact of the program, as they did not control for participant self-selection bias. Additionally, some programs, such as the Centennial Home Visiting (CHV) program, did not include a comparison group to properly identify a counterfactual and only included one measure to assess the program. The independent evaluator recommended that the State identify additional robust measures to successfully evaluate CR and CHV.

Turquoise Care Evaluation Design Additions

This Evaluation Design builds upon the Evaluation Design used to evaluate Centennial Care 2.0.[1-9] To address the introduction of multiple new programs with the approval of Turquoise Care and to further refine pre-existing programs, additional research questions and measures have been added to the Turquoise Care Evaluation Design. Table 1-2 lists the research questions that are new to Turquoise Care.

Table 1-2—New Research Questions

New Turquoise Care Research Questions
Aim One: Continue the use of appropriate services by members to enhance member access to services and quality of care while maintaining cost-effective care.
Has the number of continuous NFLOC approvals maintained or increased?
Has the percentage of members ages 0–5 years with continuous enrollment increased?
Has the percentage of members ages 0–5 years with access to preventive services increased?
Has the percentage of members ages 0–5 years utilization of hospital services changed?

1-8 Centers for Medicare & Medicaid Services. Interim Evaluation Report. Available at: https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/nm-centennial-interim-evaluation-rpt.pdf. Accessed on: Oct 10, 2024.

1-9 Additional supplemental information to the Evaluation Design including the evaluation timeline, proposed budget, and measure specifications are available in Appendix A, Attachments.

New Turquoise Care Research Questions
Is the rate of preventive health services the same or higher than prior to the renewal period?
Is the rate of management of BH conditions the same or better than prior to the renewal period?
Have members' self-assessed healthcare quality and outcomes maintained or improved?
Has access to telemedicine services maintained or improved?
Has the percentage of Turquoise Care members participating in MR and accessing preventive health services increased?
Does the HFW program increase utilization of preventive health services?
Have the payment amounts for providers in VBP arrangements increased?
Does Turquoise Care provide cost-effective care?
Aim Two: Improve quality of care and outcomes for Medicaid members with SUD.
Did Turquoise Care provide cost-effective care among members with an SUD diagnosis?
Aim Three: Improve quality of care and outcomes for Medicaid members with SMI/SED.
Did Turquoise Care provide cost-effective care among members with SMI/SED diagnoses?
Aim Four: Improve health outcomes and reduce health inequities among members through HRSN services and the reentry program.
Did members eligible for short-term post-hospitalization recuperative services have increased access to recuperative services?
Did members eligible for short-term post-hospitalization recuperative services increase utilization of preventive care?
Did members utilizing short-term post-hospitalization recuperative services change their utilization of hospital services?
Did the short-term post-hospitalization recuperative services provide cost-effective care for members?
How did local investments in short-term post-hospitalization recuperative services change over the course of the evaluation?
Did the expansion of pre-tenancy and tenancy services increase the number of members receiving housing supports?
Did the expansion of pre-tenancy and tenancy services improve follow-up care among eligible members?
Did the expansion of pre-tenancy and tenancy services improve members' health outcomes?
Did nutrition assistance increase access to medically tailored meals?
Did nutrition assistance increase utilization of preventive care?
Did nutrition assistance impact hospital utilization?
Did nutrition assistance improve health outcomes?
Did the nutrition assistance program provide cost-effective care for members?
How did local investments in nutrition assistance change over the course of the evaluation?
Do home visiting services improve health outcomes among perinatal individuals and infants?
What are barriers or facilitators to implementing the reentry program?
Does engagement in the reentry program increase members' access to preventive health services?
Does engagement in the reentry program increase members' access to BH treatment?
Does engagement in the reentry program increase members' access to SUD providers and treatment?
Does engagement in the reentry program impact hospital utilization?
Do members participating in the reentry program have reduced rates of mortality, overdose, and suicide?
Did the reentry program provide cost-effective care for members?

New Turquoise Care Research Questions
What are barriers or facilitators of the THCP initiative?
Did members access services covered under the THCP initiative?
Did the THCP initiative provide cost-effective care for members?

Note: BH: behavioral health; HFW: high-fidelity wraparound; HRSN: health-related social needs; MR: member rewards; NFLOC: nursing facility level of care; SED: serious emotional disturbance; SMI: serious mental illness; SUD: substance use disorder; THCP: traditional health care practices; VBP: value-based purchasing

2. Evaluation Questions and Hypotheses

This section provides the logic models, hypotheses, research questions, and measures for each aim of the evaluation of the Turquoise Care Section 1115 Demonstration Waiver.

Aim One

Logic Model

Figure 2-1 illustrates that by maintaining or expanding the array of healthcare services, enhancing the integration of behavioral health (BH) and physical health (PH) services, and increasing access to ambulatory and preventive services, members will experience improved access to services and better quality of care. New Mexico aims to achieve these goals by promoting cost-effective care, sustaining or improving service eligibility and provider rates, and enhancing hospital and provider efficiency and effectiveness.

Figure 2-1—Aim One Logic Model

Aim One

Continue the use of appropriate services by members to enhance member access to services and quality of care while maintaining cost-effective care

Primary Drivers	Secondary Drivers	Interventions
Healthcare services array	Expand or maintain the availability of HCBS	Continue to expand access to LTSS and maintain the progress achieved through rebalancing efforts to serve more members in their homes and communities Increase the total enrollment limit for the CB program
	Maintain continuity of healthcare	Provide continuous eligibility for children ages 0–5 years Continue to provide a continuous NFLOC approval system for members whose condition is not expected to change
	Provide integrated healthcare through the Medicaid delivery system	Expand telemedicine providers and services Contract with MCOs to provide comprehensive care to members, including acute care, pharmacy benefits, BH services, institutional services, and HCBS
PH and BH integration	Maintain member engagement with HH	Continue to promote participation in HH for eligible members
	Enhance care coordination expectations	Refine care coordination to better meet the needs of high-cost, high-need members Provide HFW to children with an SED diagnosis
Ambulatory and preventive services	Increase access and incentivize members to engage in preventive services	Expand MR Increase utilization of preventive care services
Hospital and provider efficiency and effectiveness	Incentivize hospitals to improve the health of members and quality of services	Provide hospital-directed payment and primary care payment reform incentives
	Cost-effective care	Promote coordinated care and preventive services for members through Turquoise Care

Note: BH: behavioral health; CB: Community Benefit; HCBS: home- and community-based services; HFW: high-fidelity wraparound; HH: health home; LTSS: long-term services and supports; MCO: managed care organization; MR: Member Rewards; NFLOC: Nursing Facility Level of Care; PH: physical health; SED: serious emotional disturbance

Hypotheses and Research Questions

To comprehensively evaluate Aim One, eight hypotheses will be tested using 17 research questions (Table 2-1).

Table 2-1—Aim One Hypotheses

	Aim One Hypotheses
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 or increase the number of members accessing CB services.
2	The ability for LRI to provide PCS to individuals receiving CB or EPSDT PCS will ensure member access to CB or EPSDT PCS and improve continuity of care through NFLOC approvals.
3	Providing continuous eligibility will improve continuity of care among children ages 0 to 5 years.
4	Managed care or care coordination through the HH program will maintain access to effective and quality care.
5	Expanding member incentives for preventive care through the MR program will encourage members to engage in preventive care services.
6	The continuation of the HFW program will serve high-needs members with an SED diagnosis.
7	Turquoise Care will provide cost-effective care.

Note: CB: community benefit; EPSDT: Early and Period Screening, Diagnostic, and Treatment; HFW: high-fidelity wraparound; HH: Health Homes; LRI: legally responsible individuals; LTSS: long-term services and supports; MR: Member Rewards; NFLOC: nursing facility level of care PCS: personal care services; SED: serious emotional disturbance

Hypothesis 1 (Table 2-2) measures whether the number of members accessing Community Benefit (CB) services will be maintained through expanding access to long-term services and supports (LTSS) and rebalancing services to deliver care to more members in their homes and communities.

Table 2-2—Hypothesis 1 Research Questions and Measures

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 or increase the number of members accessing CB services.	
Research Question 1.1: Has the percentage of members accessing CB services increased or maintained year-over-year?	
1	Number and percentage of Turquoise Care members enrolled and receiving CB services
2	Number and percentage of CB members receiving home-delivered meals

Note: CB: community benefit; LTSS: long-term services and supports

Hypothesis 2 (Table 2-3) measures whether authorizing legally responsible individuals (LRIs) to provide personal care services (PCS) to members receiving CB or Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) PCS will ensure member access to CB or EPSDT PCS. In addition, Hypothesis 2 assesses if the number of members eligible for nursing facility level of care (NFLOC) maintained or increased during the Demonstration renewal.

Table 2-3—Hypothesis 2 Research Questions and Measures

Hypothesis 2: The ability for LRI to provide PCS to individuals receiving CB or EPSDT PCS will ensure member access to CB or EPSDT PCS and improve continuity of care through NFLOC approvals.	
Research Question 2.1: Is the percentage of members receiving CB or EPSDT PCS the same or higher after the implementation of this benefit?	
3	Percentage of members receiving EPSDT PCS
4	Percentage of LTSS-eligible members receiving CB PCS
5	Average number of EPSDT PCS per utilizing member
6	Average number of CB PCS per utilizing member
Research Question 2.2: Has the number of continuous NFLOC approvals maintained or increased?	
7	Number of continuous NFLOC approvals

Note: CB: community benefit; EPSDT: Early and Periodic Screening, Diagnostic, and Treatment; LRI: legally responsible individual; LTSS: long-term services and supports; NFLOC: nursing facility level of care; PCS: personal care services

Hypothesis 3 (Table 2-4) determines whether children's continuity of and access to care will be improved through continuous eligibility.

Table 2-4—Hypothesis 3 Research Questions and Measures

Hypothesis 3: Providing continuous eligibility will improve continuity of care among children ages 0 to 5 years.	
Research Question 3.1: Has the percentage of members ages 0–5 years with continuous enrollment increased?	
8	Length of enrollment among members ages 0–5 years
9	Percentage of members ages 0–5 years who had a gap in Medicaid coverage
10	Average number of gaps in Medicaid coverage for members ages 0–5 years
11	Average number of days per gap in Medicaid coverage for members ages 0–5 years
Research Question 3.2: Has the percentage of members ages 0–5 years with access to preventive services increased?	
12	Percentage of members who had a well-child visit in the first 30 months of life
13	Percentage of children and adolescents who had a well-care visit
14	Percentage of children 2 years of age with appropriate immunization status
Research Question 3.3: Has the percentage of members ages 0–5 years utilization of hospital services changed?	
15	Number of potentially preventable ED visits, per 1,000 MM
16	Number of all-cause ED visits, per 1,000 MM

Note: ED: emergency department; MM: member months

Hypothesis 4 (Table 2-5) evaluates whether there will be increased access to preventive and BH services among members enrolled in Turquoise Care and among those participating in a Health Home (HH).

Table 2-5—Hypothesis 4 Research Questions and Measures

Hypothesis 4: Managed care or care coordination through the HH program will maintain access to effective and quality care.	
Research Question 4.1: Is there an increase in the percentage of members enrolled in a HH?	
17	Number/percentage of Turquoise Care members enrolled in a HH
Research Question 4.2: Does the HH program increase access to care coordination?	
18	Number and percentage of members receiving care coordination
Research Question 4.3: Does engagement in a HH increase utilization of preventive health services and improve disease management and quality of care?	
19	Percentage of adults who accessed preventive/ambulatory health services
20	Percentage of children and adolescents who had a well-care visit
21	Percentage of members with schizophrenia or bipolar disorder who are using antipsychotic medications who are screened for diabetes
22	Percentage of members who remained on an antidepressant medication treatment
23	Percentage of members with a follow-up visit after hospitalization for mental illness
Research Question 4.4: Is the rate of preventive health services the same or higher than prior to the renewal period?	
24	Percentage of adults who accessed preventive/ambulatory health services
25	Percentage of children and adolescents who had a well-care visit in the first 30 months of life
26	Percentage of children and adolescents who had a well-care visit
Research Question 4.5: Is the rate of management of BH conditions the same or better than prior to the renewal period?	
27	Percentage of members who remained on an antidepressant medication treatment
28	Percentage of members with a follow-up visit after hospitalization for mental illness
Research Question 4.6: Have members' self-assessed healthcare quality and outcomes maintained or improved?	
29	Percentage of members who reported a high rating of overall healthcare (8, 9, or 10)
30	Percentage of respondents who reported a high rating of health plan (8, 9, or 10)
31	Percentage of respondents who reported a rating of overall health as very good or excellent
32	Percentage of respondents who reported a rating of overall mental or emotional health as very good or excellent
Research Question 4.7: Has access to telemedicine services maintained or improved?	
33	Number of telemedicine providers
34	Number of members receiving telemedicine services

Note: BH: behavioral health; HH: Health Home

Hypothesis 5 evaluates if participation in Member Rewards (MR) will improve member engagement in preventive care. The research question and measures associated with Hypothesis 5 are presented in Table 2-6.

Table 2-6—Hypothesis 5 Research Questions and Measures

Hypothesis 5: Expanding member incentives for preventive care through the MR program will encourage members to engage in preventive care services.	
Research Question 5.1: Has the percentage of Turquoise Care members participating in MR and accessing preventive health services increased?	
35	Percentage of Turquoise Care members participating in MR
36	Percentage of MR participating members and non-participating members with an annual preventive service
37	Percentage of MR participating and redeeming, and MR participating and non-redeeming members with an annual preventive service

Note: MR: Member Rewards

Hypothesis 6 measures the impact of the high-fidelity wraparound (HFW) program on members with a serious emotional disturbance (SED). The research questions and measures associated with Hypothesis 6 are presented in Table 2-7.

Table 2-7—Hypothesis 6 Research Questions and Measures

Hypothesis 6: The continuation of the HFW program will serve high-needs members with an SED diagnosis.	
Research Question 6.1: Is the HFW program enrolling the intended target population?	
38	Number of HFW members enrolled in the program
39	Percentage of HFW members with SED diagnosis in the 11 months prior to enrollment
Research Question 6.2: Does the HFW program increase utilization of preventive health services?	
40	Percentage of children and adolescents who had a well-care visit
41	Percentage of members with a follow-up visit after hospitalization for mental illness
42	Percentage of members with a follow-up visit after ED visit for mental illness

Note: ED: emergency department; HFW: high-fidelity wraparound; SED: serious emotional disturbance

Hypothesis 7 (Table 2-8) measures the cost-effectiveness of Turquoise Care.

Table 2-8—Hypothesis 7 Research Questions and Measures

Hypothesis 7: Turquoise Care will provide cost-effective care.	
Research Question 7.1: Have the payment amounts for providers in VBP arrangements increased?	
43	Percentage of total payments that are for providers in VBP arrangements
Research Question 7.2: Does Turquoise Care provide cost-effective care?	
44	Total and PMPM cost (among managed care members)
45	Total and PMPM cost (among managed care users)

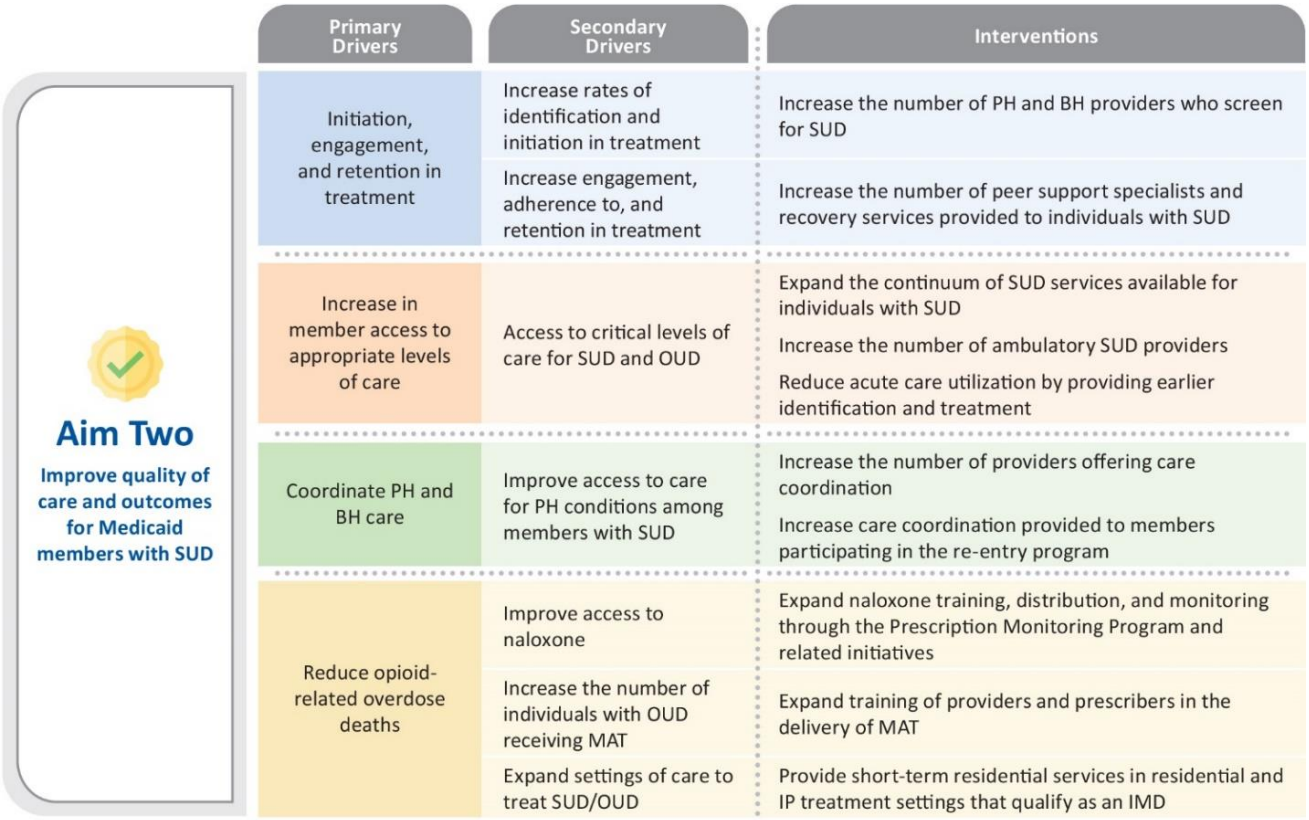
Note: PMPM: per-member per-month; VBP: value-based purchasing

Aim Two

Logic Model

Figure 2-2 illustrates that the quality of care and outcomes for members with a substance use disorder (SUD) will be improved by enhancing members' initiation, engagement, and retention in SUD treatment; improving access to appropriate levels of care; coordinating BH and PH services; and reducing deaths caused by opioid overdoses.

Figure 2-2—Aim Two Logic Model



Note: BH: behavioral health; IMD: Institution for Mental Diseases; IP: inpatient; MAT: medication-assisted treatment; OUD: opioid use disorder; PH: physical health; SUD: substance use disorder

Hypotheses and Research Questions

To comprehensively evaluate Aim Two, five hypotheses will be tested using six research questions (Table 2-9).

Table 2-9—Aim Two Hypotheses

	Aim Two Hypotheses
1	Turquoise Care will increase or maintain 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 SUD.
2	Turquoise Care will increase or maintain peer support services, which will result in more individuals engaging in and retaining in SUD treatment.

Aim Two Hypotheses	
3	Turquoise Care will improve or maintain access to a comprehensive continuum of SUD care, which will result in decreased utilization of ED and IP hospitalization and SUD IP readmissions.
4	Turquoise Care will maintain or increase use of MAT and reduce the number of high dosage opioid prescriptions, which will result in fewer overdose deaths due to opioid use
5	Turquoise Care will provide cost-effective care for members with an SUD.

Note: ED: emergency department; IP: inpatient; MAT: medication-assisted treatment; SUD: substance use disorder

Hypothesis 1 (Table 2-10) measures whether screening for and initiation in SUD treatment will increase as the number of providers screening for SUD is increased or maintained.

Table 2-10—Hypothesis 1 Research Questions and Measures

Hypothesis 1: Turquoise Care will increase or maintain 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 SUD.	
Research Question 1.1: Did the number of individuals screened and treated for SUD maintain or increase?	
46	Number/percentage of individuals screened for SUD
47	Percentage of individuals with an SUD diagnosis who received any SUD service during the MY

Note: MY: measurement year; SUD: substance use disorder

Hypothesis 2 measures if Turquoise Care increases the availability of peer support services, which will increase engagement and retention in treatment for SUD. The research questions and measures associated with Hypothesis 2 are presented in Table 2-11.

Table 2-11—Hypothesis 2 Research Questions and Measures

Hypothesis 2: Turquoise Care will increase or maintain peer support services, which will result in more individuals engaging in and retaining in SUD treatment.	
Research Question 2.1: Has the percentage of individuals with an SUD diagnosis who received peer support services and treatment maintained or increased?	
48	Percentage of individuals with an SUD diagnosis who received peer support
49	Initiation of SUD treatment
50	Engagement of SUD treatment
51	Continuity of pharmacotherapy for OUD

Note: OUD: opioid use disorder; SUD: substance use disorder

Hypothesis 3 (Table 2-12) measures whether an increased or maintained continuum of SUD services will decrease emergency department (ED) and inpatient (IP) utilization and SUD IP readmissions.

Table 2-12—Hypothesis 3 Research Questions and Measures

Hypothesis 3: Turquoise Care will improve or maintain access to a comprehensive continuum of SUD care, which will result in decreased utilization of ED and IP hospitalization and SUD IP readmissions.	
Research Question 3.1: Has the utilization of acute care settings by individuals with SUD decreased?	
52	Percentage of members with an SUD diagnosis who used SUD services stratified by the following settings: any setting, early intervention, OP, intensive OP, and residential and IP
53	Percentage of ED visits among individuals with SUD diagnoses

Hypothesis 3: Turquoise Care will improve or maintain access to a comprehensive continuum of SUD care, which will result in decreased utilization of ED and IP hospitalization and SUD IP readmissions.	
54	Average LOS in an ED among members with an SUD diagnosis prior to admission to an IMD
55	Percentage of IP admissions for SUD-related treatment
56	7- and 30-day IP and residential SUD readmission rates

Note: ED: emergency department; IMD: Institutions for Mental Diseases; IP: inpatient; LOS: length of stay; MM: member months; OP: outpatient; SUD: substance use disorder

Hypothesis 4 measures if there will be fewer opioid deaths as a result of medication-assisted treatment (MAT) and the prescription monitoring program. The research questions and measures associated with Hypothesis 4 are presented in Table 2-13.

Table 2-13—Hypothesis 4 Research Questions and Measures

Hypothesis 4: Turquoise Care will maintain or increase use of MAT and reduce the number of high dosage opioid prescriptions, which will result in fewer overdose deaths due to opioid use.	
Research Question 4.1: Has the number of individuals with OUD or SUD receiving MAT increased or maintained?	
57	Percentage of members who have a claim for MAT for SUD
Research Question 4.2: Is there a decrease or maintenance of the number of deaths due to overdose?	
58	Use of opioids at high dosage in persons without cancer
59	Rate of deaths due to overdose

Note: MAT: medication-assisted treatment; OUD: opioid use disorder; SUD: substance use disorder

Hypothesis 5 (Table 2-14) assesses whether Turquoise Care provides cost-effective care for members with an SUD.

Table 2-14—Hypothesis 5 Research Questions and Measures

Hypothesis 5: Turquoise Care will provide cost-effective care for members with an SUD.	
Research Question 5.1: Did Turquoise Care provide cost-effective care among members with an SUD diagnosis?	
60	Total and PMPM cost
61	Total and PMPM cost of SUD, SUD-IMD, SUD-other, and non-SUD care, by setting (including claims data, IP, OP, pharmacy, LTC, and capitated payments to MCOs)

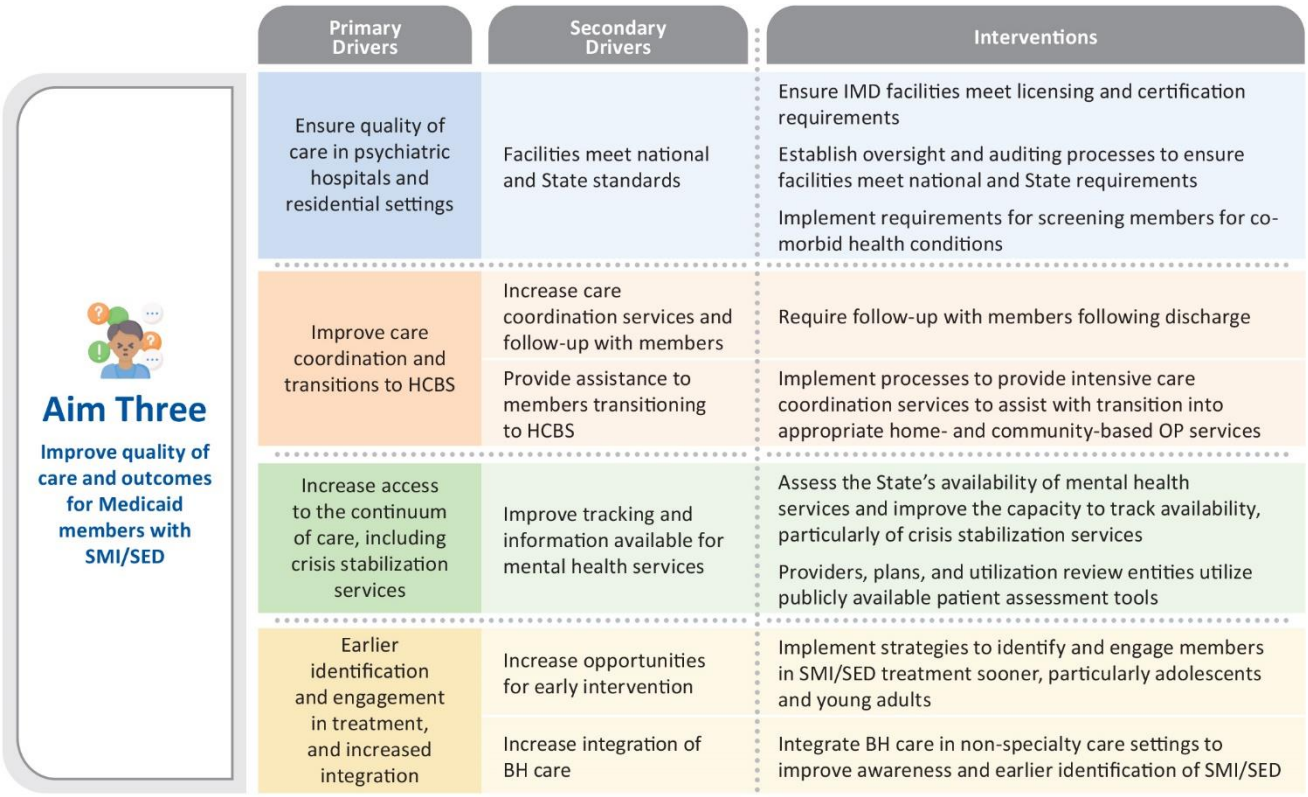
Note: IMD: Institutions for Mental Diseases; IP; inpatient; LTC: long-term care; MCO: managed care organization; OP: outpatient; PMPM: per member per month; SUD: substance use disorder

Aim Three

Logic Model

Figure 2-3 illustrates that the quality of care and outcomes for members with a serious mental illness (SMI)/SED will be improved by ensuring quality of care in psychiatric and residential settings, enhancing care coordination and transitions to community-based care, expanding access to the continuum of care, and promoting early identification and engagement in treatment.

Figure 2-3—Aim Three Logic Model



Note: BH: behavioral health; HCBS: home- and community- based services; OP: outpatient; SED: serious emotional disturbance; SMI: serious mental illness

Hypotheses and Research Questions

To comprehensively evaluate Aim Three, five hypotheses will be tested using five research questions (Table 2-15).

Table 2-15—Aim Three Hypotheses

	Aim Three Hypotheses
1	Turquoise Care will increase the identification of individuals engaged with SMI/SED and increase treatment integration, including specialized services.
2	Turquoise Care will maintain an average LOS for IMDs of 30 days.
3	Turquoise Care will result in increased rates of care coordination for members with SMI/SED.
4	Turquoise Care will decrease utilization and LOS in EDs among Medicaid members who met eligibility criteria of members with SMI/SED.
5	Turquoise Care will provide cost-effective care for members with an SMI/SED diagnosis.

Note: ED: emergency department; IMD: Institution for Mental Diseases; LOS: length of stay; SED: serious emotional disturbance; SMI: serious mental illness

Hypothesis 1 assesses if there will be an increase in the engagement and integration of SMI/SED treatment as a result of Turquoise Care. The research questions and measures associated with Hypothesis 1 are presented in Table 2-16.

Table 2-16—Hypothesis 1 Research Questions and Measures

Hypothesis 1: Turquoise Care will increase the identification of individuals engaged with SMI/SED and increase treatment integration, including specialized services.	
Research Question 1.1: Has the number of individuals identified and/or engaged in SMI/SED treatment increased?	
62	Percentage of individuals identified with an SMI/SED who have used services related to mental health
63	Number of members diagnosed with an SMI/SED condition by non-BH providers
64	Number of registered mobile crisis providers
65	Number of members with antipsychotic medications that received psychosocial care
66	Number of members newly prescribed an antipsychotic medication, who received follow-up care

Note: BH: behavioral health; SED: serious emotional disturbance; SMI: serious mental illness

Hypothesis 2 (Table 2-17) measures whether the average length of stay (LOS) in an Institution for Mental Diseases (IMD) will be maintained at 30 days during Turquoise Care.

Table 2-17—Hypothesis 2 Research Questions and Measures

Hypothesis 2: Turquoise Care will maintain an average LOS for IMDs of 30 days.	
Research Question 2.1: Has the average LOS for IMDs been maintained at 30 days?	
67	Average LOS in an IMD

Note: IMD: Institution for Mental Diseases; LOS: length of stay

Hypothesis 3 (Table 2-18) measures whether care coordination for members with SMI/SED will increase during Turquoise Care.

Table 2-18—Hypothesis 3 Research Questions and Measures

Hypothesis 3: Turquoise Care will result in increased rates of care coordination for members with SMI/SED.	
Research Question 3.1: Has the percentage of members with SMI/SED receiving care coordination increased?	
68	Percentage of members with SMI/SED receiving care coordination
69	Percentage of members with a follow-up visit after an ED visit for mental illness
70	Percentage of members with a follow-up visit after hospitalization for mental illness

Note: ED: emergency department; SED: serious emotional disturbance SMI: serious mental illness

Hypothesis 4 assesses if Turquoise Care will decrease ED utilization by members with SUD. The research questions and measures associated with Hypothesis 4 are presented in Table 2-19.

Table 2-19—Hypothesis 4 Research Questions and Measures

Hypothesis 4: Turquoise Care will decrease utilization and LOS in EDs among Medicaid members who met eligibility criteria of members with SMI/SED.	
Research Question 4.1: Has the utilization of hospital services by individuals with SMI/SED decreased?	
71	Number of all-cause ED visits per 1,000 MM among members who met the eligibility criteria of members with an SMI/SED
72	Number of members with an SMI/SED who used ED services for mental health during the measurement period
73	Average LOS in an ED among members with an SMI/SED prior to admission to an IMD
74	Number of members with an SMI/SED all-cause unplanned readmission within 30 days of psychiatric hospitalization

Note: ED: emergency department; LOS: length of stay; MM: member months; SED: serious emotional disturbance; SMI: serious mental illness

Hypothesis 5 (Table 2-20) measures whether Turquoise Care will provide cost-effective SMI/SED care.

Table 2-20—Hypothesis 5 Research Questions and Measures

Hypothesis 5: Turquoise Care will provide cost-effective care for members with an SMI/SED diagnosis.	
Research Question 5.1: Did Turquoise Care provide cost-effective care among members with SMI/SED diagnoses?	
75	Total and PMPM cost
76	Total and PMPM cost of SMI/SED diagnosis, by IMD and other setting (including claims data, IP, OP, pharmacy, LTC, and capitated payments to MCOs)

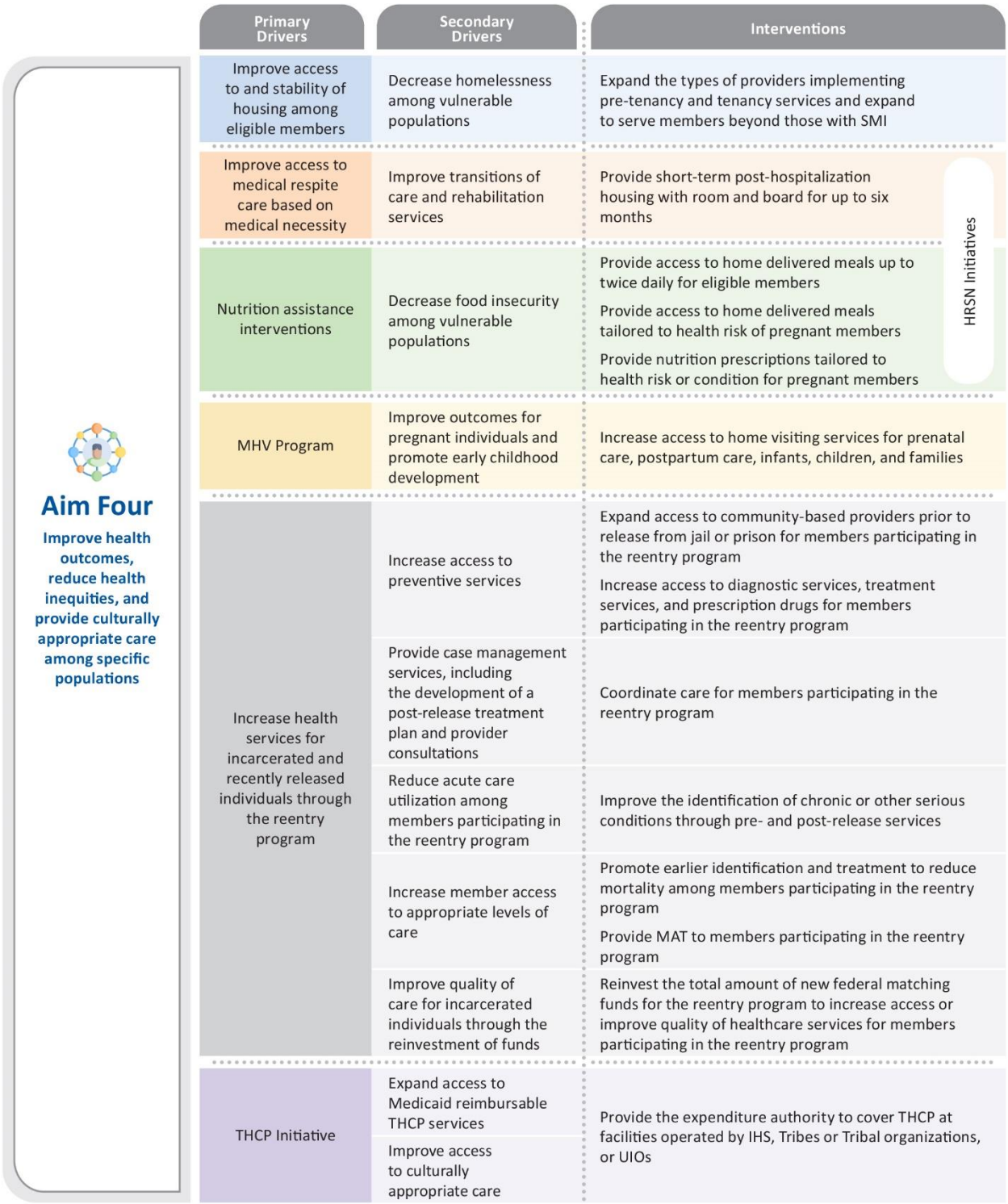
Note: IMD: Institution for Mental Diseases; IP: inpatient; LTC: long-term care; MCO: managed care organization; OP; outpatient; PMPM: per member per month; SED: serious emotional disturbance; SMI: serious mental illness

Aim Four

Logic Model

Figure 2-4 illustrates that members in the reentry program and those with health-related social needs (HRSN) will experience improved outcomes and reduced inequities through enhanced access to stable housing, nutrition assistance, home visitation opportunities, and increased health services provided by the reentry program.

Figure 2-4—Aim Four Logic Model



Note: HRSN: health-related social needs; IHS: Indian Health Service; MAT: medication-assisted treatment; MHV: Medicaid Home Visiting; SMI: serious mental illness; THCP: traditional healthcare practices; UIO: Urban Indian Organization

Hypotheses and Research Questions

To comprehensively evaluate Aim Four, seven hypotheses will be tested using 18 research questions (Table 2-21).

Table 2-21—Aim Four Hypotheses

	Aim Four Hypotheses
1	Providing post-hospitalization recuperative support and rehabilitation services will improve health outcomes and housing stability to prevent rehospitalization.
2	Short-term post-hospitalization recuperative services will provide cost-effective services.
3	Expanding providers implementing pre-tenancy and tenancy services will decrease homelessness in vulnerable populations.
4	Providing nutrition assistance will decrease food insecurity and improve healthcare among vulnerable populations.
5	Nutrition assistance will provide cost-effective services.
6	Expanding member access to MHV will improve perinatal and infant health.
7	The reentry program will improve access to preventive services.
8	The reentry program will provide cost-effective care for members.
9	Eligible members will access services covered under the THCP initiative.
10	The THCP initiative will provide cost-effective services.

Note: MHV: Medicaid Home Visiting; THCP: traditional health care practices

Hypothesis 1 (Table 2-22) measures if providing post-hospitalization recuperative support and rehabilitation services will improve health outcomes and housing stability.

Table 2-22—Hypothesis 1 Research Questions and Measures

	Hypothesis 1: Providing post-hospitalization recuperative support and rehabilitation services will improve health outcomes and housing stability to prevent rehospitalization.
Research Question 1.1: Did members eligible for short-term post-hospitalization recuperative services have increased access to recuperative services?	
77	Number of members receiving short-term post-hospitalization recuperative services
Research Question 1.2: Did members eligible for short-term post-hospitalization recuperative services increase utilization of preventive care?	
78	Percentage of adults who accessed preventive/ambulatory health services
Research Question 1.3: Did members utilizing short-term post-hospitalization recuperative services change their utilization of hospital services?	
79	Number of potentially preventable ED visits, per 1,000 MM
80	Number of all-cause ED visits, per 1,000 MM
81	Number of IP visits, per 1,000 MM
82	Number of unplanned readmissions for any diagnosis within 30 days

Note: ED: emergency department; IP: inpatient; MM: member month

Hypothesis 2 measures if providing post-hospitalization recuperative support and rehabilitation services is cost-effective. The research questions and measures associated with Hypothesis 2 are presented in Table 2-23.

Table 2-23—Hypothesis 2 Research Questions and Measures

Hypothesis 2: Short-term post-hospitalization recuperative services will provide cost-effective services.	
Research Question 2.1: Did the short-term post-hospitalization recuperative services provide cost-effective care for members?	
83	Total and PMPM cost among members receiving short-term post-hospitalization recuperative services
Research Question 2.1: How did local investments in short-term post-hospitalization recuperative services change over the course of the evaluation?	
84	Key informants' description of changes in short-term post-hospitalization recuperative services outside of Turquoise Care

Note: PMPM: per-member per-month

Hypothesis 3 measures if homelessness in vulnerable populations will be reduced when providers implement pre-tenancy and tenancy services. Additionally, this hypothesis assesses care coordination and health outcomes among members receiving pre-tenancy and tenancy services. The research questions and measures associated with Hypothesis 3 are presented in Table 2-24.

Table 2-24—Hypothesis 3 Research Questions and Measures

Hypothesis 3: Expanding providers implementing pre-tenancy and tenancy services will improve housing stability and utilization of health services	
Research Question 3.1: Did the expansion of pre-tenancy and tenancy services increase the number of members receiving housing supports?	
85	Number of members eligible for and receiving pre-tenancy and tenancy services
Research Question 3.2: Did the expansion of pre-tenancy and tenancy services improve follow-up care among eligible members?	
86	Percentage of members with a follow-up visit after an ED visit for mental illness
87	Percentage of members with a follow-up visit after hospitalization for mental illness
Research Question 3.3: Did the expansion of pre-tenancy and tenancy services improve members' health outcomes?	
88	Percentage of members with persistent asthma who had a ratio of controller medications to total asthma medications of at least 50 percent
89	Percentage of members with clinical atherosclerotic cardiovascular disease who received and adhered to statin therapy
90	All-cause mortality rate

Note: ED: emergency department

Hypothesis 4 (Table 2-25) assesses if food insecurity in vulnerable populations will be decreased through the provision of nutrition assistance.

Table 2-25—Hypothesis 4 Research Questions and Measures

Hypothesis 4: Providing nutrition assistance will decrease food insecurity and improve healthcare among vulnerable populations.	
Research Question 4.1: Did nutrition assistance increase access to medically tailored meals?	
91	Number of medically tailored meals provided to eligible members
Research Question 4.2: Did nutrition assistance increase utilization of preventive care?	
92	Percentage of adults who accessed preventive/ambulatory health services
93	Percentage of members who accessed timely prenatal care

Hypothesis 4: Providing nutrition assistance will decrease food insecurity and improve healthcare among vulnerable populations.	
Research Question 4.3: Did nutrition assistance impact hospital utilization?	
94	Number of potentially preventable ED visits, per 1,000 MM
Research Question 4.4: Did nutrition assistance improve health outcomes for mothers and newborns?	
95	Percentage of births with low birth weight
96	Percentage of births with high birth weight
97	Percentage of births with cesarean delivery
98	Percentage of preterm births
99	Percentage of members with gestational diabetes developing type 2 diabetes

Note: ED: emergency department; IP: inpatient; MM: member months

Hypothesis 5 measures if providing nutrition assistance is cost-effective. The research questions and measures associated with Hypothesis 5 are presented in Table 2-26.

Table 2-26—Hypothesis 5 Research Questions and Measures

Hypothesis 5: Nutrition assistance will provide cost-effective services.	
Research Question 5.1: Did the nutrition assistance program provide cost-effective care for members?	
100	Total and PMPM cost among members receiving nutrition assistance
Research Question 5.2: How did local investments in nutrition assistance change over the course of the evaluation?	
101	Key informants' description of changes in nutrition assistance provided outside of Turquoise Care

Note: PMPM: per-member per-month

Hypothesis 6 determines whether perinatal and infant health will be improved by increased access to perinatal services provided by the Medicaid Home Visiting (MHV) program. The research questions and measures associated with Hypothesis 6 are presented in Table 2-27.

Table 2-27—Hypothesis 6 Research Questions and Measures

Hypothesis 6: Expanding member access to MHV will improve perinatal and infant health.	
Research Question 6.1: Do home visiting services improve health outcomes among perinatal individuals and infants?	
102	Number of members receiving home visiting services
103	Percentage of pregnant or postpartum members diagnosed with a mental health disorder
104	Percentage of members with a postpartum visit between 7 and 84 days after delivery
105	Percentage of members who had a well-child visit in the first 30 months of life (15 months)
106	Percentage of children 2 years of age with appropriate immunization status

Note: MHV: Medicaid Home Visiting

Hypothesis 7 (Table 2-28) measures if access to preventive services will be improved through the reentry program.

Table 2-28—Hypothesis 7 Research Questions and Measures

Hypothesis 7: The reentry program will improve access to preventive services.	
Research Question 7.1: What are barriers or facilitators to implementing the reentry program?	
107	Stakeholders' reported barriers and facilitators of success to implementing the reentry program
108	Stakeholders' experience with cross-system communication and coordination
109	Stakeholders' experience with connections between correctional and community services
110	Stakeholders' experiences providing pre-release services with potentially short duration (e.g., among individuals incarcerated for less than 30 days)
Research Question 7.2: Does engagement in the reentry program increase members' access to preventive health services?	
111	Number of members receiving pre-release services
112	Number and types of pre-release services provided to members
113	Number of eligible members accessing care coordination services prior to release from jail or prison
114	Percentage of adults who accessed preventive/ambulatory health services in the 12 months following release
115	Percentage of children and adolescents who had a well-care visit in the 12 months following release
Research Question 7.3: Does engagement in the reentry program increase members' access to BH treatment?	
116	Percent of individuals identified with an SMI/SED who have used services related to mental health in the 12 months following release
117	Percentage of members who remained on antidepressant medication treatment in the 12 months following release
Research Question 7.4: Does engagement in the reentry program increase members' access to SUD providers and treatment?	
118	Percentage of members who have a claim for MAT or MOUD for SUD in the 12 months following release
119	Number of MOUD providers
120	Number of OP pharmacy providers
Research Question 7.5: Does engagement in the reentry program impact hospital utilization?	
121	Number of potentially preventable ED visits in the 12 months following release, per 1,000 MM
122	Number of all-cause ED visits in the 12 months following release, per 1,000 MM
123	Number of IP visits in the 12 months following release, per 1,000 MM
Research Question 7.6: Do members participating in the reentry program have reduced rates of mortality, overdose, and suicide?	
124	All-cause mortality in the 12 months following release
125	Rate of deaths due to overdose in the 12 months following release
126	Rate of suicide in the 12 months following release

Note: BH: behavioral health; ED: emergency department; IP: inpatient; MAT: medication-assisted treatment; MM: member months; MOUD: medication for opioid use disorder; OP: outpatient; SUD: substance use disorder

Hypothesis 8 (Table 2-29) measures the cost-effectiveness of the reentry program.

Table 2-29—Hypothesis 8 Hypotheses and Research Questions

Hypothesis 8: The reentry program will provide cost-effective care for members.	
Research Question 8.1: Did the reentry program provide cost-effective care for members?	
127	Total and PMPM cost (among members in the reentry program)

Note: PMPM: per-member per-month

Hypothesis 9 (Table 2-30) outlines the two measures to which HCA limited the evaluation of the traditional health care practices (THCP) amendment, consisting of the number of providers offering THCP services and the number of members receiving THCP services.

Table 2-30—Hypothesis 9 Hypotheses and Research Questions

Hypothesis 9: Eligible members will access services covered under the THCP initiative.	
Research Question 9.1: What are barriers or facilitators of the THCP initiative?	
128	Stakeholders' reported barriers and successes of the THCP initiative
129	Stakeholders' reported accessibility and quality of care provided through the THCP initiative
Research Question 9.2: Did members access services covered under the THCP initiative?	
130	Number of providers enrolled in or offering Medicaid reimbursable THCP services
131	Number of members receiving Medicaid reimbursable THCP services
132	Number and type of Medicaid reimbursable THCP services provided to eligible members

Note: THCP: traditional health care practices

Hypothesis 10 (Table 2-31) measures the cost-effectiveness of THCP services.

Table 2-31—Hypothesis 10 Hypotheses and Research Questions

Hypothesis 10: The THCP initiative will provide cost-effective services.	
Research Question 10.1: Did the THCP initiative provide cost-effective care for members?	
133	Total and PMPM cost among members accessing services covered under the THCP initiative

Note: PMPM: per-member per-month; THCP: traditional health care practices

3. Methodology

To assess the impact of Turquoise Care, a comparison of outcomes between the intervention group and a valid counterfactual—the intervention group had they 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 comparison group, which would serve as the counterfactual. However, random assignment is rarely feasible or desirable 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 using at least one of these methodologies. The selected methodology depends on data availability factors relating to: (1) data to measure the outcomes, (2) data for a valid comparison group, and (3) data during the time periods of interest—typically defined as the year prior to implementation and annually thereafter. Table 3-1 illustrates a sampling of standard analytic approaches 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—Sampling of Analytic Approaches

Analytic Approach	Baseline Data	Comparison Group	Allows Causal Inference	Notes
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.
Pre-Test/Post-Test	✓	--	--	
Descriptive Time Series	--	--	--	Relies on descriptive interpretation; does not involve statistical testing.

Note: -- signifies that the element is not applicable to the analytic approach.

Evaluation Design Summary

This Evaluation Design builds upon the Centennial Care 2.0 Evaluation Design by incorporating new programs and modified pre-existing programs, as necessary. Turquoise Care will be evaluated through a mixed-methods approach, utilizing both quantitative and qualitative methods coupled with a wide variety of data sources to address metrics pertaining to program participation, access to and quality of care, health outcomes, and obtaining stakeholders' perspectives. Specifically, qualitative methods will be utilized to gather stakeholder perspectives on implementing the reentry program. Quantitative methods outlined in this Evaluation Design include descriptive time series to show change over time in rates and counts, as well as pre-test/post-test and interrupted time series (ITS) analyses to assess Turquoise Care's impact on outcome measures. For measures in which a comparison group can be identified, a difference-in-differences (DiD) or comparative ITS approach will be considered. Comparison groups may be constructed through propensity score matching to ensure that the comparison group shares similar baseline characteristics with the treatment group. The independent evaluator may compare rates within the Turquoise Care managed care population to national benchmarks to provide additional context for

Turquoise Care performance. Noninferiority testing will determine if the rates calculated in the evaluation period were the "same or better" than the baseline period. A health equity analysis will be conducted for measures where reliable demographic data are available. The independent evaluator will employ the most rigorous method that is supported by the data for all outlined analytic approaches.

Target and Comparison Populations

The target population includes all members enrolled in Turquoise Care at any point during each year of the demonstration period, including those in managed care and subgroups receiving specific Turquoise Care interventions and programs. Where possible, comparison groups based on member self-selection or specific outreach criteria will be utilized, with adjustments to account for differences between the target and comparison groups. Table 3-2 details the specific member subgroups receiving specific Turquoise Care interventions and indicates where a comparison group will be feasible. Some Turquoise Care programs do not have viable comparison groups.

Table 3-2—Turquoise Care Target and Comparison Populations

Turquoise Care Program/Initiative	Comparison Group
Managed care	--
Community Benefit program receiving LTSS	--
Continuous eligibility	--
High-Fidelity Wraparound	✓
Health Homes	✓
Medicaid Home Visiting	✓
Member Rewards	✓
Pre-tenancy and tenancy services	--
Nutrition assistance	✓
Reentry	--
Short-term post-hospitalization recuperative services	--
Serious Mental Illness/Serious Emotional Disturbance	--
SUD peer support	✓
Traditional health care practices	--

Note: -- represent programs that do not have viable comparison groups. LTSS: long-term services and supports; SUD: substance use disorder

Evaluation Period

Table 3-3 presents the baseline and evaluation periods for the Turquoise Care evaluation.[3-1] Baseline periods indicated as N/A reflect that no pre-implementation data are available to assess changes in pre and post implementation outcomes. Although Turquoise Care was approved on July 25, 2024, the evaluation will treat July 1, 2024, as the effective start date to align the evaluation with state fiscal year (SFY) and/or calendar year (CY) measurement periods.[3-2]

Table 3-3—Evaluation Periods

Program	Baseline Period	Evaluation Period
Managed care	July 1, 2021–June 30, 2024	July 1, 2024–December 31, 2029
Reentry	N/A	July 1, 2025–December 31, 2029
Short-term post-hospitalization recuperative services	N/A	July 1, 2025–December 31, 2029[1]
Nutrition assistance	N/A	July 1, 2025–December 31, 2029[1]
Traditional health care practices	N/A	October 1, 2025–December 31, 2029[1]

Note: The managed care population includes all sub-programs that are tailored to provide more intensive care to members, unless otherwise noted.
N/A signifies that there will not be a baseline period as there are no available and supportive data.
[1]The start of the evaluation period is subject to change based on when the program is implemented.

3-1 The managed care population includes all sub-programs that are tailored to provide more intensive care to members, unless otherwise noted. Not all sub-programs were approved concurrently, and the baseline and evaluation periods will be modified during the interim and summative evaluations, as necessary.

3-2 Centers for Medicare & Medicaid Services. Demonstration Approval. Available at: https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/nm-centennial-care-dmnstrtn-extn-aprvl-07252024.pdf. Accessed on: Oct 10, 2024.

Evaluation Measures

Table 3-4 presents the evaluation measures, comparison groups, data sources, analytic approaches, frequency of calculation, and measure stewards for the evaluation of Aim One. Full measure specifications, including the numerator, denominator, stratifications, and desired direction are provided in Appendix A, Attachments.

Table 3-4—Aim One Evaluation Measures

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
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 or increase the number of members accessing CB services.						
Research Question 1.1: Has the percentage of members accessing CB services increased or maintained year-over-year?	1: Number and percentage of Turquoise Care members enrolled and receiving CB services	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	2: Number and percentage of CB members receiving home-delivered meals	• MMIS • Program participation data	• N/A	• Descriptive time series	• Annually/ monthly	• N/A
Hypothesis 2: The ability for LRI to provide PCS to individuals receiving CB or EPSDT PCS will ensure member access to CB or EPSDT PCS and improve continuity of care through NFLOC approvals.						
Research Question 2.1: Is the percentage of members receiving CB or EPSDT PCS the same or higher after the implementation of this benefit?	3: Percentage of members receiving EPSDT PCS	• MMIS	• N/A	• ITS • Pre-test/post-test • Descriptive time series	• Annually/ monthly	• N/A
	4: Percentage of LTSS-eligible members receiving CB PCS	• MMIS	• N/A	• ITS • Pre-test/post-test • Descriptive time series	• Annually/ monthly	• N/A

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
	5: Average number of EPSDT PCS per utilizing member	• MMIS	• N/A	• ITS • Pre-test/post-test • Descriptive time series	• Annually/ monthly	• N/A
	6: Average number of CB PCS per utilizing member	• MMIS	• N/A	• ITS • Pre-test/post-test • Descriptive time series	• Annually/ monthly	• N/A
Research Question 2.2: Has the number of continuous NFLOC approvals maintained or increased?	7: Number of continuous NFLOC approvals	• Summary report of open-ended LTC spans • MCO reports	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
Hypothesis 3: Providing continuous eligibility will improve continuity of care among children ages 0 to 5 years.						
Research Question 3.1: Has the percentage of members ages 0–5 years with continuous enrollment increased?	8: Length of enrollment among members ages 0–5 years	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	9: Percentage of members ages 0–5 years who had a gap in Medicaid coverage	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	10: Average number of gaps in Medicaid coverage for members ages 0–5 years	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	11: Average number of days per gap in Medicaid coverage for members ages 0–5 years	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Research Question 3.2: Has the percentage of members ages 0–5 years with access to preventive services increased?	12: Percentage of members who had a well-child visit in the first 30 months of life	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS Child Core Set
	13: Percentage of children and adolescents who had a well-care visit	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• Modified CMS Child Core Set
	14: Percentage of children 2 years of age with appropriate immunization status	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS Child Core Set
Research Question 3.3: Has the percentage of members ages 0–5 years utilization of hospital services changed?	15: Number of potentially preventable ED visits, per 1,000 MM	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• Modified AHRQ
	16: Number of all-cause ED visits, per 1,000 MM	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• NCQA
Hypothesis 4: Managed care or care coordination through the HH program will maintain access to effective and quality care.						
Research Question 4.1: Is there an increase in the percentage of members enrolled in a HH?	17: Number and percentage of Turquoise Care members enrolled in a HH	• MMIS • Program participation data	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
Research Question 4.2: Does the HH program increase access to care coordination?	18: Number and percentage of members receiving care coordination	• MMIS • Program participation data	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Research Question 4.3: Does engagement in a HH increase utilization of preventive health services and improve disease management and quality of care?	19: Percentage of adults who accessed preventive/ambulatory health services	• MMIS • Program participation data	• Propensity score adjusted members who have never participated in the HH program	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• NCQA
	20: Percentage of children and adolescents who had a well-care visit	• MMIS • Program participation data	• Propensity score adjusted members who have never participated in the HH program	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• CMS Child Core Set
	21: Percentage of members with schizophrenia or bipolar disorder who are using antipsychotic medications who are screened for diabetes	• MMIS • Program participation data	• Propensity score adjusted members who have never participated in the HH program	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• CMS Adult Core Set
	22: Percentage of members who remained on an antidepressant medication treatment	• MMIS • Program participation data	• Propensity score adjusted members who have never participated in the HH program	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• CMS Adult Core Set
	23: Percentage of members with a follow-up visit after hospitalization for mental illness	• MMIS • Program participation data	• Propensity score adjusted members who have never participated in the HH program	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• CMS Child and Adult Core Set

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Research Question 4.4: Is the rate of preventive health services the same or higher than prior to the renewal period?	24: Percentage of adults who accessed preventive/ambulatory health services	• MMIS • National/regional benchmarks	• N/A	• ITS • Pre-test/post-test • Comparison to national/regional benchmarks	• Annually/ monthly	• NCQA
	25: Percentage of children and adolescents who had a well-care visit in the first 30 months of life	• MMIS • National/regional benchmarks	• N/A	• ITS • Pre-test/post-test • Comparison to national/regional benchmarks	• Annually/ monthly	• CMS Child Core Set
	26: Percentage of children and adolescents who had a well-care visit	• MMIS • National/regional benchmarks	• N/A	• ITS • Pre-test/post-test • Comparison to national/regional benchmarks	• Annually/ monthly	• CMS Child Core Set
Research Question 4.5: Is the rate of management of BH conditions the same or better than prior to the renewal period?	27: Percentage of members who remained on an antidepressant medication treatment	• MMIS • National/regional benchmarks	• N/A	• ITS • Pre-test/post-test • Comparison to national/regional benchmarks	• Annually/ monthly	• CMS Adult Core Set
	28: Percentage of members with a follow-up visit after hospitalization for mental illness	• MMIS • National/regional benchmarks	• N/A	• ITS • Pre-test/post-test • Comparison to national/regional benchmarks	• Annually/ monthly	• CMS Child and Adult Core Set

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Research Question 4.6: Have members' self-assessed healthcare quality and outcomes maintained or improved?	29: Percentage of respondents who reported a high rating of overall healthcare (8, 9, or 10)	• CAHPS statewide survey	• N/A	• ITS • Pre-test/post-test	• Annually	• NCQA
	30: Percentage of respondents who reported a high rating of health plan (8, 9, or 10)	• CAHPS statewide survey	• N/A	• ITS • Pre-test/post-test	• Annually	• NCQA
	31: Percentage of respondents who reported a rating of overall health as very good or excellent	• CAHPS statewide survey	• N/A	• ITS • Pre-test/post-test	• Annually	• NCQA
	32: Percentage of respondents who reported a rating of overall mental or emotional health as very good or excellent	• CAHPS statewide survey	• N/A	• ITS • Pre-test/post-test	• Annually	• NCQA
Research Question 4.7: Has access to telemedicine services maintained or improved?	33: Number of telemedicine providers	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	34: Number of members receiving telemedicine services	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
Hypothesis 5: Expanding member incentives for preventive care through the MR program will encourage members to engage in preventive care services.						
Research Question 5.1: Has the percentage of Turquoise Care members participating in MR and accessing preventive health services increased?	35: Percentage of Turquoise Care members participating in MR	• MMIS • Program participation data	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	36: Percentage of MR participating members and non-participating members with an annual preventive service	• MMIS • Program participation data	• Members not participating in MR	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• N/A

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
	37: Percentage of MR participating and redeeming, and MR participating and non-redeeming members with an annual preventive service	• MMIS • Program participation data	• Members participating but not redeeming MR	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• N/A
Hypothesis 6: The continuation of the HFW program will serve high-needs members with an SED diagnosis.						
Research Question 6.1: Is the HFW program enrolling the intended target population?	38: Number of HFW members enrolled in the program	• MMIS • Program participation data	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	39: Percentage of HFW members with SED diagnosis in the 11 months prior to enrollment	• MMIS • Program participation data	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
Research Question 6.2: Does the HFW program increase utilization of preventive health services?	40: Percentage of children and adolescents who had a well-care visit	• MMIS • Program participation data	• Members who have never participated in the HFW program	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• CMS Child Core Set
	41: Percentage of members with a follow-up visit after hospitalization for mental illness	• MMIS • Program participation data	• Members who have never participated in the HFW program	• DiD • ITS • Pre-test/post-test	• Annually	• CMS Child Core Set
	42: Percentage of members with a follow-up visit after ED visit for mental illness	• MMIS • Program participation data	• Members who have never participated in the HFW program	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• CMS Child Core Set

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Hypothesis 7: Turquoise Care will provide-cost effective care.						
Research Question 7.1: Have the payment amounts for providers in VBP arrangements increased?	43: Percentage of total payments that are for providers in VBP arrangements	• MCO reports	• N/A	• ITS • Pre-test/post-test	• Annually	• N/A
Research Question 7.2: Does Turquoise Care provide cost-effective care?	44: Total and PMPM cost (among managed care members)	• MMIS	• N/A	• ITS	• Annually	• N/A
	45: Total and PMPM cost (among managed care users)	• MMIS	• N/A	• ITS	• Annually	• N/A

Note: AHRQ: Agency for Healthcare Research and Quality; BH: behavioral health; CAHPS: Consumer Assessment of Healthcare Providers and Systems; CB: community benefit; CMS: Centers for Medicare & Medicaid Services; DiD: difference-in-differences; ED: emergency department; EPSDT: Early and Period Screening, Diagnostic, and Treatment; HFW: high-fidelity wraparound; HH: Health Home; ITS: interrupted time series; LRI: legally responsible individuals; LTC: long-term care; LTSS: long-term services and supports; MCO: managed care organization; MM: member months; MMIS: Medicaid Management Information System; MR: Member Rewards; NCQA: National Committee for Quality Assurance; PCS: personal care services; PMPM: per-member per-month; SED: serious emotional disturbance; VBP: value-based purchasing

Table 3-5 presents the evaluation measures, comparison groups, data sources, analytic approaches, frequency of calculation, and measure stewards for the evaluation of Aim Two. Full measure specifications, including the numerator, denominator, stratifications, and desired direction are provided in Appendix A, Attachments.

Table 3-5—Aim Two Evaluation Measures

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Hypothesis 1: Turquoise Care will increase or maintain 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 SUD.						
Research Question 1.1: Did the number of individuals screened and treated for SUD maintain or increase?	46: Number and percentage of individuals screened for SUD	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS SUD Monitoring Metrics
	47: Percentage of individuals with an SUD diagnosis who received any SUD service during the MY	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• Modified CMS SUD Monitoring Metrics
Hypothesis 2: Turquoise Care will increase or maintain peer support services, which will result in more individuals engaging in and retaining in SUD treatment.						
Research Question 2.1: Has the percentage of individuals with an SUD diagnosis who received peer support services and treatment maintained or increased?	48: Percentage of individuals with an SUD diagnosis who received peer support	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• Modified CMS SUD Monitoring Metrics
	49: Initiation of SUD treatment	• MMIS • National/regional benchmarks	• Turquoise Care members meeting the NCQA eligible population criteria and had never utilized peer support	• DiD • ITS • Pre-test/post-test • Comparison to national benchmarks	• Annually/ monthly	• NCQA
	50: Engagement of SUD treatment	• MMIS • National/regional benchmarks	• Turquoise Care members meeting the NCQA eligible population criteria and had never utilized peer support	• DiD • ITS • Pre-test/post-test • Comparison to national benchmarks	• Annually/ monthly	• NCQA

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
	51: Continuity of pharmacotherapy for OUD	• MMIS	• Turquoise Care members meeting the NCQA eligible population criteria and had never utilized peer support	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• USC NQF #3175
Hypothesis 3: Turquoise Care will improve or maintain access to a comprehensive continuum of SUD care, which will result in decreased utilization of ED and IP hospitalization and SUD IP readmissions.						
Research Question 3.1: Has the utilization of acute care settings by individuals with SUD decreased?	52: Percentage of members with an SUD diagnosis who used SUD services stratified by the following settings: any setting, early intervention, OP, intensive OP, and residential and IP	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS SUD Monitoring Metrics
	53: Percentage of ED visits among individuals with SUD diagnoses	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	54: Average LOS in an ED among members with an SUD diagnosis prior to admission to an IMD	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	55: Percentage of IP admissions for SUD-related treatment	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS SUD Monitoring Metrics
	56: 7- and 30-day IP and residential SUD readmission rates	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Hypothesis 4: Turquoise Care will maintain or increase use of MAT and reduce the number of high dosage opioid prescriptions, which will result in fewer overdose deaths due to opioid use.						
Research Question 4.1: Has the number of individuals with OUD or SUD receiving MAT increased or maintained?	57: Percentage of members who have a claim for MAT for SUD	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS SUD Monitoring Metrics
Research Question 4.2: Is there a decrease or maintenance of the number of deaths due to overdose?	58: Use of opioids at high dosage in persons without cancer	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS Adult Core Set
	59: Rate of deaths due to overdose	• MMIS • Vital statistics • ACS • DOH, overdose and mortality reports • CDC WONDER	• Statewide rate	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
Hypothesis 5: Turquoise Care will provide cost-effective care for members with an SUD.						
Research Question 5.1: Did Turquoise Care provide cost-effective care among members with an SUD diagnosis?	60: Total and PMPM cost	• MMIS	• N/A	• ITS	• Annually/ monthly	• N/A
	61: Total and PMPM costs of SUD, SUD-IMD, SUD-other, and non-SUD care, by setting (including claims data, IP, OP, pharmacy, LTC, and capitated payments to MCOs)	• MMIS	• N/A	• ITS	• Annually/ monthly	• N/A

Note: ACS: American Community Survey; BHSD: Behavioral Health Services Division; CDC: Centers for Disease Control and Prevention; CMS: Centers for Medicare & Medicaid Services; DiD: difference-in-differences; DOH: Department of Health; ED: emergency department; IMD: institution for Mental Diseases; IP: inpatient; ITS: interrupted time series; LOS: length of stay; LTC: long-term care; MAT: medication-assisted treatment; MCO: managed care organization; MM: member months; MMIS: Medicaid Management Information System; MY: measurement year; NCQA: National Committee for Quality Assurance; NQF: National Quality Forum; OMI: Office of the Medical Investigator; OP: outpatient; OUD: opioid use disorder; PMPM: per member per month; SUD: substance use disorder; USC: University of Southern California; WONDER: Wide-Ranging Online Data for Epidemiologic Research

Table 3-6 presents the evaluation measures, comparison groups, data sources, analytic approaches, frequency of calculation, and measure stewards for the evaluation of Aim Three. Full measure specifications, including the numerator, denominator, stratifications, and desired direction are provided in Appendix A, Attachments.

Table 3-6—Aim Three Evaluation Measures

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Hypothesis 1: Turquoise Care will increase the identification of individuals engaged with SMI/SED and increase treatment integration, including specialized services.						
Research Question 1.1: Has the number of individuals identified and/or engaged in SMI/SED treatment increased?	62: Percentage of individuals identified with an SMI/SED who have used services related to mental health	• MMIS • DOH, BHSD reports	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS SMI/SED Monitoring Metrics
	63: Number of members diagnosed with an SMI/SED condition by non-BH providers	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	64: Number of registered mobile crisis providers	• MMIS • DOH, BHSD reports	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	65: Number of members with antipsychotic medications that received psychosocial care	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS Child Core Set
	66: Number of members newly prescribed an antipsychotic medication, who received follow-up care	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS SMI/SED Monitoring Metrics
Hypothesis 2: Turquoise Care will maintain an average LOS for IMDs of 30 days.						
Research Question 2.1: Has the average LOS for IMDs been maintained at 30 days?	67: Average LOS in an IMD	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS SMI/SED Monitoring Metrics

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Hypothesis 3: Turquoise Care will result in increased rates of care coordination for members with SMI/SED.						
Research Question 3.1: Has the percentage of members with SMI/SED receiving care coordination increased?	68: Percentage of members with SMI/SED receiving care coordination	• MMIS • Program participation data	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	69: Percentage of members with a follow-up visit after an ED visit for mental illness	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS Adult and Child Core Set
	70: Percentage of members with a follow-up visit after hospitalization for mental illness	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS Adult and Child Core Set
Hypothesis 4: Turquoise Care will decrease utilization and LOS in EDs among Medicaid members who met eligibility criteria of members with SMI/SED.						
Research Question 4.1: Has the utilization of hospital services by individuals with SMI/SED decreased?	71: Number of all-cause ED visits per 1,000 MM among members who met the eligibility criteria of members with an SMI/SED	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	72: Number of members with an SMI/SED who used ED services for mental health during the measurement period	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS SMI/SED Monitoring Metrics
	73: Average LOS in an ED among members with an SMI/SED prior to admission to an IMD	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	74: Number of members with an SMI/SED all-cause unplanned readmission within 30 days of psychiatric hospitalization	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS SMI/SED Monitoring Metrics

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Hypothesis 5: Turquoise Care will provide cost-effective care for members with an SMI/SED diagnosis.						
Research Question 5.1: Did Turquoise Care provide cost-effective care among members with SMI/SED diagnoses?	75: Total and PMPM cost	• MMIS	• N/A	• ITS	• Annually/ monthly	• N/A
	76: Total and PMPM costs of SMI/SED diagnosis, by IMD and other setting (including claims data, IP, OP, pharmacy, LTC, and capitated payments to MCOs)	• MMIS	• N/A	• ITS	• Annually/ monthly	• N/A

Note: BHSD: Behavioral Health Services Division: BH: behavioral health; CMS: Centers for Medicare & Medicaid Services; DOH: Department of Health; ED: emergency department; IMD: Institution for Mental Diseases; IP: inpatient; ITS: interrupted time series; LOS: length of stay; LTC: long-term care; MCO: managed care organization; MM: member months; MMIS: Medicaid Management Information System; NQF: National Quality Forum; OP: outpatient; PMPM: per member per month; SED: serious emotional disturbance; SMI: serious mental illness; SPC: statistical processing control

Table 3-7 presents the evaluation measures, comparison groups, data sources, analytic approaches, frequency of calculation, and measure stewards for the evaluation of Aim Four. Full measure specifications, including the numerator, denominator, stratifications, and desired direction are provided in Appendix A, Attachments.

Table 3-7—Aim Four Evaluation Measures

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Hypothesis 1: Providing post-hospitalization recuperative support and rehabilitation services will improve access to housing services and health outcomes.						
Research Question 1.1: Did members eligible for short-term post-hospitalization recuperative services have increased access to recuperative services?	77: Number of members receiving short-term post-hospitalization recuperative services	• MMIS	• N/A	• Descriptive time series	• Annually/ monthly	• N/A
Research Question 1.2: Did members eligible for short-term post-hospitalization recuperative services increase utilization of preventive care?	78: Percentage of adults who accessed preventive/ambulatory health services	• MMIS	• N/A	• Descriptive time series	• Annually/ monthly	• NCQA
Research Question 1.3: Did members utilizing short-term post-hospitalization recuperative services change their utilization of hospital services?	79: Number of potentially preventable ED visits, per 1,000 MM	• MMIS	• N/A	• Descriptive time series	• Annually/ monthly	• AHRQ
	80: Number of all-cause ED visits, per 1,000 MM	• MMIS	• N/A	• Descriptive time series	• Annually/ monthly	• NCQA
	81: Number of IP visits, per 1,000 MM	• MMIS	• N/A	• Descriptive time series	• Annually/ monthly	• NCQA
	82: Number of unplanned readmissions for any diagnosis within 30 days	• MMIS	• N/A	• Descriptive time series	• Annually/ monthly	• CMS Adult Core Set

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Hypothesis 2: Short-term post-hospitalization recuperative services will provide cost-effective services.						
Research Question 2.1: Did the short-term post-hospitalization recuperative services provide cost-effective care for members?	83: Total and PMPM cost among members receiving short-term post-hospitalization recuperative services	• MMIS	• N/A	• Descriptive time series	• Annually/ monthly	• N/A
Research Question 2.2: How did local investments in short-term post-hospitalization recuperative services change over the course of the evaluation?	84: Key informants' description of changes in short-term post-hospitalization recuperative services outside of Turquoise Care	• Key Informant Interviews	• N/A	• Qualitative Synthesis	• Two rounds	• N/A
Hypothesis 3: Expanding providers implementing pre-tenancy and tenancy services will improve housing stability and utilization of health services.						
Research Question 3.1: Did the expansion of pre-tenancy and tenancy services increase the number of members receiving housing supports?	85: Number of members eligible for and receiving pre-tenancy and tenancy services	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
Research Question 3.2: Did the expansion of pre-tenancy and tenancy services improve follow-up care among eligible members?	86: Percentage of members with a follow-up visit after an ED visit for mental illness	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS Adult and Child Core Set
	87: Percentage of members with a follow-up visit after hospitalization for mental illness	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS Adult and Child Core Set

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Research Question 3.3: Did the expansion of pre-tenancy and tenancy services improve members' health outcomes?	88: Percentage of members with persistent asthma who had a ratio of controller medications to total asthma medications of at least 50 percent	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• CMS Adult and Child Core Set
	89: Percentage of members with clinical atherosclerotic cardiovascular disease who received and adhered to statin therapy	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• NCQA
	90: All-cause mortality rate	• MMIS • Vital Records	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
Hypothesis 4: Providing nutrition assistance will decrease food insecurity and improve healthcare among vulnerable populations.						
Research Question 4.1: Did nutrition assistance increase access to medically tailored meals?	91: Number of medically tailored meals provided to eligible members	• MMIS	• N/A	• Descriptive time series	• Annually/ monthly	• N/A
Research Question 4.2: Did nutrition assistance increase utilization of preventive care?	92: Percentage of adults who accessed preventive/ambulatory health services	• MMIS	• Members who are eligible, but not receiving nutrition assistance • Members who are participating in MHV, but not receiving nutrition assistance	• Descriptive time series	• Annually	• NCQA

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
	93: Percentage of members who accessed timely prenatal care	• MMIS	• Members who are eligible, but not receiving nutrition assistance • Members who are participating in MHV, but not receiving nutrition assistance	• Descriptive time series	• Annually	• CMS Child and Adult Core Set
Research Question 4.3: Did nutrition assistance impact hospital utilization?	94: Number of potentially preventable ED visits, per 1,000 MM	• MMIS	• Members who are eligible, but not receiving nutrition assistance • Members who are participating in MHV, but not receiving nutrition assistance	• Descriptive time series	• Annually/ monthly	• Modified AHRQ
Research Question 4.4: Did nutrition assistance improve health outcomes for mothers and newborns?	95: Percentage of births with low birth weight	• MMIS • Vital statistics	• Members who are eligible, but not receiving nutrition assistance • Members who are participating in MHV, but not receiving nutrition assistance	• Descriptive time series	• Annually/ monthly	• CMS Child Core Set

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
	96: Percentage of births with high birth weight	• MMIS • Vital statistics	• Members who are eligible, but not receiving nutrition assistance • Members who are participating in MHV, but not receiving nutrition assistance	• Descriptive time series	• Annually/ monthly	• N/A
	97: Percentage of births with cesarean delivery	• MMIS • Vital statistics	• Members who are eligible, but not receiving nutrition assistance • Members who are participating in MHV, but not receiving nutrition assistance	• Descriptive time series	• Annually/ monthly	• CMS Child Core Set
	98: Percentage of preterm births	• MMIS • Vital statistics	• Members who are eligible, but not receiving nutrition assistance • Members who are participating in MHV, but not receiving nutrition assistance	• Descriptive time series	• Annually/ monthly	• N/A

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
	99: Percentage of members with gestational diabetes developing type 2 diabetes	• MMIS	• Members who are eligible, but not receiving nutrition assistance • Members who are participating in MHV, but not receiving nutrition assistance	• Descriptive time series	• Annually/ monthly	• N/A
Hypothesis 5: Nutrition assistance will provide cost-effective services.						
Research Question 5.1: Did the nutrition assistance program provide cost-effective care for members?	100: Total and PMPM cost among members receiving nutrition assistance	• MMIS	• Members who were eligible but did not receive nutrition assistance	• Descriptive time series	• Annually/ monthly	• N/A
Research Question 5.2: How did local investments in nutrition assistance change over the course of the evaluation?	101: Key informants' description of changes in nutrition assistance provided outside of Turquoise Care	• Key Informant Interviews	• N/A	• Qualitative Synthesis	• N/A	• N/A
Hypothesis 6: Expanding member access to MHV will improve perinatal and infant health.						
Research Question 6.1: Do home visiting services improve health outcomes among perinatal individuals and infants?	102: Number of members receiving home visiting services	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	103: Percentage of pregnant or postpartum members diagnosed with a mental health disorder	• MMIS	• Non-MHV participating members	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• NCQA

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
	104: Percentage of members with a postpartum visit between seven and 84 days after delivery	• MMIS	• Non-MHV participating members	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• CMS Adult Core Set
	105: Percentage of members who had a well-child visit in the first 30 months of life (15 months)	• MMIS	• Non-MHV participating members	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• CMS Child Core Set
	106: Percentage of children 2 years of age with appropriate immunization status	• MMIS	• Non-MHV participating members	• DiD • ITS • Pre-test/post-test	• Annually/ monthly	• CMS Child Core Set
Hypothesis 7: The reentry program will improve access to preventive services.						
Research Question 7.1: What are barriers or facilitators to implementing the reentry program?	107: Stakeholders' reported barriers and facilitators of success to implementing the reentry program	• Key informant interviews	• N/A	• Qualitative synthesis	• Two rounds	• N/A
	108: Stakeholders' experience with cross-system communication and coordination	• Key informant interviews	• N/A	• Qualitative synthesis	• Two rounds	• N/A
	109: Stakeholders' experience with connections between correctional and community services	• Key informant interviews	• N/A	• Qualitative synthesis	• Two rounds	• N/A

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
	110: Stakeholders' experiences providing pre-release services with potentially short duration (e.g., among individuals incarcerated for less than 30 days)	• Key informant interviews	• N/A	• Qualitative synthesis	• Two rounds	• N/A
Research Question 7.2: Does engagement in the reentry program increase members' access to preventive health services?	111: Number of members receiving pre-release services	• Program participation data	• N/A	• Descriptive time series • Subgroup analysis	• Annually/ monthly	• N/A
	112: Number and types of pre-release services provided to members	• MMIS • Program participation data	• N/A	• Descriptive time series • Subgroup analysis	• Annually/ monthly	• N/A
	113: Number of eligible members accessing care coordination services prior to release from jail or prison	• MMIS • Program participation data	• N/A	• Descriptive time series • Subgroup analysis	• Annually/ monthly	• N/A
	114: Percentage of adults who accessed preventive/ambulatory health services in the 12 months following release	• MMIS • Program participation data	• N/A	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test	• Annually/ monthly	• Modified NCQA
	115: Percentage of children and adolescents who had a well-care visit in the 12 months following release	• MMIS • Program participation data	• N/A	• Descriptive time series • Subgroup analysis • ITS • Pre-test/Post-test	• Annually/ monthly	• Modified CMS Child Core Set

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Research Question 7.3: Does engagement in the reentry program increase members' access to BH treatment?	116: Percentage of individuals identified with an SMI/SED who have used services related to mental health in the 12 months following release	• MMIS • Program participation data	• N/A	• Descriptive time series • Subgroup analysis • ITS • Pre-test/Post-test	• Annually/ monthly	• Modified CMS SMI/SED Monitoring Metrics
	117: Percentage of members who remained on antidepressant medication treatment in the 12 months following release	• MMIS • Program participation data	• N/A	• Descriptive time series • Subgroup analysis • ITS • Pre-test/Post-test	• Annually/ monthly	• Modified CMS Adult Core Set
Research Question 7.4: Does engagement in the reentry program increase members' access to SUD providers and treatment?	118: Percentage of members who have a claim for MAT or MOUD for SUD in the 12 months following release	• MMIS • Program participation data	• Members with SUD not receiving 30-day MOUD prescriptions prior to release	• Descriptive time series • Subgroup analysis • ITS • Pre-test/Post-test	• Annually/ monthly	• Modified CMS SUD Monitoring Metrics
	119: Number of MOUD providers	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
	120: Number of OP pharmacy providers	• MMIS	• N/A	• ITS • Pre-test/post-test	• Annually/ monthly	• N/A
Research Question 7.5: Does engagement in the reentry program impact hospital utilization?	121: Number of potentially preventable ED visits in the 12 months following release, per 1,000 MM	• MMIS • Program participation data	• N/A	• Descriptive time series • ITS • Pre-test/Post-test	• Annually/ monthly	• Modified AHRQ
	122: Number of all-cause ED visits in the 12 months following release, per 1,000 MM	• MMIS • Program participation data	• N/A	• Descriptive time series • Subgroup analysis • ITS • Pre-test/Post-test	• Annually/ monthly	• Modified NCQA

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
	123: Number of IP visits in the 12 months following release, per 1,000 MM	• MMIS • Program participation data	• N/A	• Descriptive time series • Subgroup analysis • ITS • Pre-test/Post-test	• Annually/ monthly	• Modified NCQA
Research Question 7.6: Do members participating in the reentry program have reduced rates of mortality, overdose, and suicide?	124: All-cause mortality in the 12 months following release	• MMIS • Program participation data • Vital statistics • DOH, overdose and mortality reports	• N/A	• Descriptive time series • Subgroup analysis • ITS • Pre-test/Post-test	• Annually/ monthly	• N/A
	125: Rate of deaths due to overdose in the 12 months following release	• MMIS • Program participation data • Vital statistics • DOH, overdose and mortality reports	• N/A	• Descriptive time series • Subgroup analysis • ITS • Pre-test/Post-test	• Annually/ monthly	• N/A
	126: Rate of suicide in the 12 months following release	• MMIS • Program participation data • Vital statistics • DOH, overdose and mortality reports	• N/A	• Descriptive time series • Subgroup analysis • ITS • Pre-test/Post-test	• Annually/ monthly	• N/A

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Hypothesis 8: The reentry program will provide cost-effective care for members.						
Research Question 8.1: Did the reentry program provide cost-effective care for members?	127: Total and PMPM cost (among members in the reentry program)	• MMIS • Program participation data	• N/A	• Descriptive time series • Subgroup analysis • ITS • Pre-test/Post-test	• Annually/ monthly	• N/A
Hypothesis 9: Eligible members will access services covered under the THCP initiative.						
Research Question 9.1: What are barriers or facilitators of the THCP initiative?	128: Stakeholders' reported barriers and successes of the THCP initiative	• Key informant interviews	• N/A	• Qualitative synthesis	• N/A	• N/A
	129: Stakeholders' reported accessibility and quality of care provided through the THCP initiative	• Key informant interviews	• N/A	• Qualitative synthesis	• N/A	• N/A
Research Question 9.2: Did members access services covered under the THCP initiative?	130: Number of providers enrolled in or offering Medicaid reimbursable THCP services	• MMIS	• N/A	• Descriptive time series	• Annually	• N/A
	131: Number of members receiving Medicaid reimbursable THCP services	• MMIS	• N/A	• Descriptive time series	• Annually	• N/A
	132: Number and type of Medicaid reimbursable THCP services provided to eligible members	• MMIS	• N/A	• Descriptive time series	• Annually	• N/A

Research Question	Measure(s)	Data Source(s)	Comparison Group	Analytic Approach	Frequency	Steward
Hypothesis 10: The THCP initiative will provide cost-effective services.						
Research Question 10.1: Did the THCP initiative provide cost-effective care for members?	133: Total and PMPM cost among members accessing services covered under the THCP initiative	• MMIS	• N/A	• Descriptive time series	• Annually	• N/A

Note: AHRQ: Agency for Healthcare Research and Quality; BH: behavioral health; CMS: Centers for Medicare & Medicaid Services; CQMS: Clinical Quality Measures; DOH: Department of Health; ED: emergency department; IP: inpatient; ITS: interrupted time series; MAT: medication-assisted treatment; MHV: Medicaid Home Visiting; MIPS: Merit-Based Incentive Payment System; MM: member months; MMIS: Medicaid Management Information System; MOUD: medication for opioid use disorder; NCQA: National Committee for Quality Assurance; OP: outpatient; PMPM: per-member per-month; THCP: traditional health care practices

Data Sources

Multiple data sources—including administrative claims/encounter data, key informant interviews, national/regional benchmarks, and other data sources—will be utilized to evaluate Turquoise Care.

The independent evaluator will prepare and validate all data provided by the State. These processes will include extracting, loading, and transforming data to a standardized format, examining data completeness, testing validity to confirm dates and known medical codes, and analyzing data distribution over time.

The evaluation will rely on several non-standardized data sources that may be susceptible to inconsistencies, such as New Mexico Department of Health (DOH) Behavioral Health Services Division (BHSD) reports. The independent evaluator will conduct verifications assessing duplication, invalid date ranges, and reasonability to ensure data are valid and reliable. Data assessments may include comparing new data to data from prior years to determine alignment based on the number of observations, the format of the data, or major changes in findings. If the results vary greatly across years or are incomplete, the independent evaluator will collaborate with the State to address any data quality concerns identified during validation. Unresolved limitations will be described in the *Methodological Limitations* chapter of the evaluation reports.

Administrative Data

Administrative data extracted from the Medicaid Management Information System (MMIS) will be utilized to calculate most measures in this Evaluation Design. These data include claims and encounter data, member eligibility, enrollment, and demographic data. Provider data will also be used, as necessary, to identify provider type and member attribution.

Use of managed care encounters will be limited to final, paid status claims and encounters. Interim transaction and voided records will be excluded from the evaluation, as these record types introduce a level of uncertainty (from matching adjustments and third-party liabilities to the index claims) that can impact reported rates and cost calculations.

To support the traditional health care practices (THCP) initiative evaluation, the independent evaluator will work with State and Tribal entities to collect THCP-specific data that may be captured outside of the MMIS. Contingent upon data availability, the independent evaluator will identify THCP-specific claims and encounters among managed care organization (MCO) and fee-for-service (FFS) members.

National/Regional Benchmarks

National or regional benchmarks will be incorporated where possible to provide contextual references for the performance of standardized Healthcare Effectiveness Data and Information Set (HEDIS®)[3-1] measures. The applicability of national benchmarks is limited, as they represent Medicaid populations as a whole. The managed care program is the most representative of the general population, and therefore provides the most appropriate comparison to national benchmarks.

[3-1] HEDIS® is a registered trademark of the National Committee of Quality Assurance (NCQA).

Key Informant Interviews

Semi-structured key informant interviews will be conducted with stakeholders to assess the reentry, nutrition assistance, short-term post-hospitalization recuperative services, and THCP programs. The stakeholders may be asked about the perceived barriers and facilitators to the implementation of these programs, as well as their experiences with the programs themselves. Stakeholders for the THCP initiative will include, but are not limited to, representatives from the Indian Health Service (IHS) and tribal organizations. The transcripts, coding methodologies, and coded data collected and synthesized from the interviews will be utilized to answer the appropriate research questions.

Additional Data Sources

The following details the additional data sources that will be used to evaluate Turquoise Care.

ACS—Data from the American Community Survey (ACS) will be leveraged to identify the annual New Mexico population and provide a statewide comparison group for rates of overdose and deaths attributable to overdoses.

CAHPS—Data from the statewide Consumer Assessment of Healthcare Providers and Systems (CAHPS®)[3-2] will be used to assess respondents' perceptions of healthcare quality and health outcomes.

CDC WONDER—If vital records from DOH are unavailable at the time of the evaluation, the Centers for Disease Control and Prevention (CDC) Wide-Ranging Online Data for Epidemiologic Research (WONDER) may be utilized to calculate the statewide rate of overdoses. CDC WONDER provides county and state-level data on overdose mortality to support the calculation of Measure 51, *Rate of deaths due to overdose*.

DOH and BHSD Reports—BHSD will provide a summary of counts and operational metrics related to the serious mental illness or serious emotional disturbance (SMI/SED) program. These data are anticipated to include metrics such as the number of registered mobile crisis providers serving members in the SMI/SED program. Furthermore, data from DOH may include Medicaid-specific mortality and overdose rates for the substance use disorder (SUD) and reentry programs if the data cannot be extracted from vital statistics.

MCO Reports—Data from MCO reports will support the evaluation of measures relating to detail on payments to providers through value-based purchasing (VBP) arrangements.

Program Participation Data—Program participation data will be provided for Member Rewards (MR), Health Home (HH), high-fidelity wraparound (HFW), and reentry programs. These data will include metrics such as length of participation, program enrollment type, and services provided.

Summary Report of Open-Ended LTC Spans—Summary reports of open-ended long-term care (LTC) spans will be utilized with MCO reports to calculate the number of individuals eligible for nursing facility level of care (NFLOC) who are granted continuous eligibility.

Vital Statistics—Vital statistics, including the number of deliveries, premature deliveries, and low-birth weight deliveries, will be utilized to analyze the percentage of babies born prematurely and those with low birthweight to individuals participating in the nutrition assistance program. These data may be used in tandem with or as a

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

supplement to the HCA-supplied list of deliveries described above. Additionally, vital statistics may be used in tandem with or as a supplement to DOH and BHSD reports to identify the number of all-cause mortalities, deaths due to overdose, and deaths due to suicide. If vital statistics data are unavailable at the time of the evaluation, the independent evaluator may utilize MMIS data. MMIS may not provide comprehensive data on outcomes such as the number of live births with low birth weight or overdose deaths attributable to opioid use. The independent evaluator will narrate these limitations as necessary.

Analytic Methods

Multiple analytic techniques will be utilized depending on the type and availability of data.

DiD

A DiD analysis will be performed on all measures for which a suitable comparison group can be identified. The analysis will compare rates of the weighted average of participating states to rates among Turquoise Care members. Further, rates will be compared to national rates and rates of eligible members who are not enrolled in Turquoise Care, where possible. This approach will compare 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. The DiD analysis will be conducted with member-level rates using a logistic regression model for measures with binary outcomes.

The logistic regression form of the DiD model is:

$$\ln\left(\frac{Y_{it}}{1-Y_{it}}\right) = \beta_0 + \beta_1 T_i + \beta_2\, post_t + \beta_3(post_t \times T_i) + \gamma \mathbf{D'}_{\boldsymbol{it}} + \varepsilon_{it}$$

where Y is the probability of an 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, the vector D' represents any observed confounding variables that may account for differences between the intervention and comparison groups (described in additional detail below), γ is a coefficient vector, and ε is an error term. The intercept β_0 represents the log-odds of an outcome for the comparison group during the baseline. The coefficient β_1 identifies the average difference in the log-odds of an outcome between the groups during the baseline period prior to the implementation of Turquoise Care. The time period dummy coefficient β_2 captures the change in the log-odds of an 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 how the log-odds of an outcome for the intervention group is changed in the implementation period compared to the pre-implementation period.

The DiD approach will be 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, DiD is still susceptible to external factors that may have differentially impacted one group and not the other. If sufficient pre-intervention data are available, it is possible to test if external factors are applied equally to the intervention and comparison groups by visually verifying and testing the assumption that both groups exhibit parallel trends in the baseline period. In the absence of treatment, the intervention and comparison groups used in DiD should experience similar changes, manifested as parallel lines during the baseline period. Specifically, statistical testing may be used to determine if the pre-treatment periods meet the parallel trends assumption. If the parallel trend assumption does not hold, the two-period DiD may still be useful as data during

the baseline and evaluation periods will be aggregated into a single pre-intervention and post-intervention average, respectively. Furthermore, the DiD model proposed estimates a single average treatment effect, under the assumption that any heterogeneity in the treatment effect is due to random variation. This assumption is explicit in the model, as the DiD treatment effect is represented by a single coefficient (β_3), and therefore any heterogeneity in treatment effects between individuals cannot be modeled. The independent evaluator recognizes the limitations of this approach and will, therefore, consider estimating additional models, such as panel data models, fixed and random effects models, or hierarchical models. Results from adjusted models will be presented and interpreted, keeping in mind the limitations of each approach.

Suitable out-of-state comparison groups are not anticipated to be available for Turquoise Care as a whole; however, multiple programs with smaller member subgroups (HH, SUD peer support, HFW MHV, and the nutrition assistance programs) will allow for an in-state comparison group. The independent evaluator will utilize matching methods to construct a counterfactual group comprised of members eligible for, but not receiving, program services. To ensure that the comparison is appropriate, controls for overserved characteristics, such as demographics and Chronic Illness and Disability Payment System (CDPS) risk score, will be utilized.

If a valid comparison group cannot be constructed, the most rigorous method supported by the data will be utilized.

ITS

When a suitable comparison group cannot be found and data can be collected at multiple points in time before and after the implementation of the program, an ITS methodology can be used. This analysis is quasi-experimental in design and will compare a trend in outcomes between the baseline period and the evaluation period for those who were subject to the program.

In ITS, the measurements taken before a demonstration was initiated are used to predict the outcome if Turquoise Care did not occur. The measurements collected after the demonstration are then compared to the predicted outcome to evaluate the impact Turquoise Care had on the outcome.

The ITS model is:

$$Y_t = \beta_0 + \beta_1\, time + \beta_2\, post + \beta_3\, time \times post + \gamma \mathbf{D'_{it}} + \mu_t$$

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, $time{\times}post$ is the linear time trend variable for the post-implementation time period, the matrix $\boldsymbol{D'}$ represents any observed confounding variables that may account for differences between the intervention and comparison groups, and γ is a coefficient vector. For ITS analyses utilizing aggregate-level data, confounding variables will take the form of average values in the population, such as average age, average risk score, or percent female. For analysis utilizing individual-level data, control variables may include age, sex, race/ethnicity, county of residence, CDPS risk score, dual eligibility status, or duration of Medicaid enrollment. The intercept, 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 when the program began, β_3 is the change in the slope for the measurements after the program, and μ_t is the error term.

Comparative ITS may be used to assess measures where there are sufficient pre-implementation data points, a valid comparison group, and a DiD approach is not viable. This analysis will be estimated using linear regression modeling of the following comparative ITS equation:

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

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.

Assuming that the measurements taken after the implementation of Turquoise Care would have been equal to the expectation predicted from the measurements taken before Turquoise Care in the absence of the intervention, any changes in the observed rates after implementation can be attributed to the program. However, as the ITS approach relies on a pre- and post-period, it is unable to differentiate between mechanisms that may have impacted observed changes; it is possible that external events could have occurred simultaneously with Turquoise Care and influenced the outcomes of interest. Where required, the independent evaluator will rely on best practices to mitigate the potentially confounding effect of simultaneously occurring confounding events, such as the COVID-19 PHE and the post-PHE Medicaid "unwinding," by including the use of dummy variables for each time period. When baseline data include the impact of the COVID-19 PHE, ITS models will incorporate dummy variables to adjust for the confounding effects if sufficient data are available. An indicator variable for quarter 2 (Q2) 2020 will represent the initial wave of the COVID-19 PHE-related shutdowns and stay-at-home orders, and a separate indicator variable for Q3 2020 through the end of Q1 2021 will reflect subsequent New Mexico-specific public health orders. For measures calculated annually, an indicator variable for 2020 will be included in the model to adjust for the COVID-19 PHE. Furthermore, the independent evaluator will consider several sensitivity analyses to test the robustness of the main model results. In cases where baseline years overlap with the COVID-19 PHE and Medicaid "unwinding," the independent evaluator will explore how the results change when excluding the years most impacted by these external events, or when estimating program effects separately by each year, rather than aggregating baseline years and evaluation years. A similar approach will be taken to account for the "unwinding" period in which the Medicaid continuous enrollment condition authorized ended and HCA began eligibility redeterminations. Furthermore, the independent evaluator will consider several sensitivity analyses to test the robustness of the main model results. These tests may include modifying regression specifications and control variables to better estimate program impact and/or assess the degree to which findings materially change given alternative specifications. One example of sensitivity testing is the inclusion and specification of COVID-19 controls, where applicable. The most appropriate controls for each ITS analysis will be identified.

A second assumption of the proposed ITS model is that the expected mean of the error term is zero; however, if current observations are correlated with prior observations, this regression assumption would be violated. The independent evaluator will test this assumption by examining error autocorrelation; if subsequent error terms are highly correlated, then parameter estimates and variance obtained from the model may be biased, resulting in misleading conclusions. During analyses, the independent evaluator will take steps to test for autocorrelation and assess the model fit. If the model is a poor fit for the data, additional procedures will be explored, such as transformation of the model to remove autocorrelation or estimating an autoregressive model.

A limitation of ITS is the need for sufficient data points both before and after program implementation.[3-3, 3-4, 3-5] To facilitate this methodology, the independent evaluator may consider additional baseline data points using prior year calculations, and/or calculating quarterly rates where feasible, if multiple years both pre-and post-implementation are available to control for seasonality.

Health Equity Analysis

A health equity analysis will address research questions focused on exploring the impact that Turquoise Care has on health disparities among members with health-related social needs (HRSN). Outcome measures for relevant demographic subgroups (e.g., race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography) will be compared to a reference group and assessed for statistically significant and clinically meaningful differences in relative percentages and effect sizes. A two-tailed t-test will be conducted to determine the statistical significance between the reference and comparison groups. Clinically meaningful outcomes will be assessed through effect sizes and relative percentage point differences between the groups of interest.

Cohen's *h* will be utilized to determine the effect size between comparison and reference group rates. Effect sizes can fall into small, medium, or large categories.[3-6] This method is applicable to measures where the rate is bound between 0 and 1. The formula for Cohen's *h* is given by:

$$h = \left(2 * arcsin\sqrt{P_1}\right) - \left(2 * arcsin\sqrt{P_2}\right)$$

where P_1 is the annual rate for the comparison group and P_2 is the annual rate for the reference group.

For measures where the rates are not bound between 0 and 1, the relative percent difference between each demographic stratification and reference category will be calculated by subtracting the reference group rate from the comparison group rate, then dividing by the reference group rate.

Rates will be compared across reference and comparison demographic groups where data are available, accurate, and relevant to support a health equity analysis. Subgroup analyses will assess program impacts by each demographic group, allowing the independent evaluator to take an exploratory approach in identifying disparities. The independent evaluator may limit reporting to groups with either statistically significant or clinically meaningful differences, with complete results presented in an appendix. Demographic data are anticipated to be available for race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography. The independent evaluator will work with the State to develop a method for identifying and reporting results by additional stratifications, such as disability status and high-need, high-cost. The proposed measure specifications in Appendix A, Attachments, identify the demographic stratification groups for each measure based on the anticipated available demographic data.

3-3 Baicker K., Svoronos T., Testing the Validity of the Single ITS Design. *NBER Working Paper 26080*. 2019. Available at: https://www.nber.org/papers/w26080.pdf. Accessed on: Oct 3, 2024.

3-4 Bernal JL, Cummins S, Gasparrini A. Interrupted time series regression for the evaluation of public health interventions: a tutorial. *International Journal of Epidemiology*. 2017:46(1): 348–355. Available at: https://doi.org/10.1093/ije/dyw098. Accessed on: Oct 3, 2024.

3-5 Penfold RB, Zhang F. Use of Interrupted Time Series Analysis in Evaluating Health Care Quality Improvements. *Academic Pediatrics*. 2013:13(6): S38 - S44. Available at: https://doi.org/10.1016/j.acap.2013.08.002. Accessed on: Oct 3, 2024.

3-6 Cohen J. *Statistical Power Analysis for the Behavioral Sciences*. 2nd ed. Hillsdale, NJ: L. Erlbaum Associates; 1988:25.

In accordance with the Centers for Medicare & Medicaid Services (CMS) suppression guidance, rates with a numerator or denominator greater than one but less than 10 will be suppressed due to potentially unreliable rate calculation and to ensure anonymity.[3-7] In addition, rates may be suppressed in accordance with HEDIS general guidelines, which requires rates with denominator counts less than 30 to be suppressed to ensure reliability of reporting. The most stringent suppression method will be used for each rate. Sample sizes will reflect the denominator counts for each subgroup by measure. The feasibility of reporting each subgroup will be dependent on numerator and denominator counts meeting suppression criteria.

Propensity Score Matching

For measures in which a comparison group of members is viable and a DiD approach or comparative ITS is planned, propensity score matching may construct the most appropriate comparison group for the treatment populations. A logistic regression model will be used to predict the probability that each member participates in the respective programs (e.g., HH or MHV), conditional on their observed baseline characteristics (i.e., the propensity score). These characteristics will include variables that impact an individual's participation, such as sex, age, race/ethnicity, geography, a CDPS risk score, etc. If the sample size of the propensity-score matched comparison group is too small, the inverse probability of treatment weight using the propensity score may be considered to create weights based on the propensity score and create a sample in which the distribution of baseline covariates is independent of treatment assignment.

Noninferiority Testing

To support testing of hypotheses that suggest program impacts will "be maintained or improve," the independent evaluator may consider employing noninferiority statistical testing. Specifically, this approach can be utilized for measures that employ a pre-test/post-test, ITS, or DiD framework.

For measures that include a pre/post or ITS framework, non-inferiority testing can determine whether measure rates in the evaluation period were meaningfully different from rates in the baseline period (i.e., to statistically test whether rates were "the same or better" than baseline rates). Non-inferiority testing allows for an assessment of meaningful difference in rates by comparing the change in rates between the baseline and evaluation period to a predetermined threshold. This threshold represents the greatest difference between the baseline and evaluation period that can exist while still being considered "equivalent." Specifically, the predetermined threshold (δ) will be calculated using the following variation of the Cohen's *h* equation:

$$\delta = P_2 - \sin\left(\frac{2 * \arcsin(\sqrt{P_2}) \pm h}{2}\right)^2$$

where P_2 is the baseline average rate and *h* is the chosen Cohen's *h* effect size. While an effect size of 0.20 has commonly been deemed to represent a "small" effect, as originally suggested by Cohen, Cohen writes, "the terms 'small,' 'medium,' and 'large' are relative, not only to each other, but to the area of behavioral science or even more particularly to the specific content and research method being employed in any given investigation."[3-8] Because the application of effect size in this context is to identify a minimum acceptable difference between

[3-7] U.S. Department of Health & Human Services. CMS Cell Suppression Policy. Available at: https://www.hhs.gov/guidance/document/cms-cell-suppression-policy. Accessed on: Nov 15, 2024.

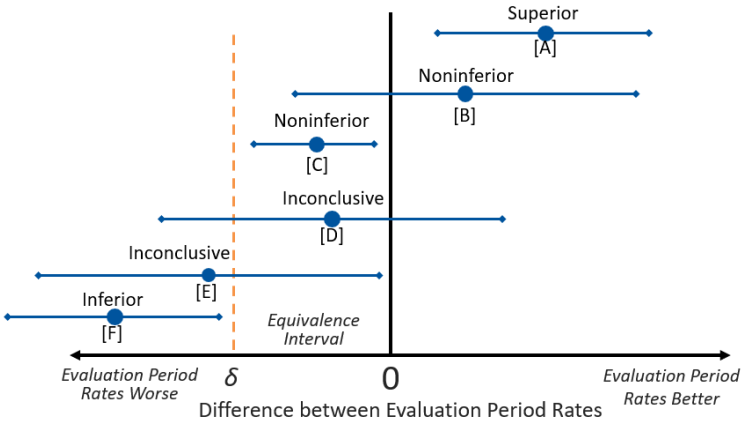
[3-8] Cohen J. *Statistical Power Analysis for the Behavioral Sciences*. 1988.

proportions while still considering them "equal" for practical purposes, a stricter threshold than what may be typically used is appropriate. Therefore, δ for each measure will be calculated based off a predetermined threshold of Cohen's *h* of 0.05 or 0.10.

Statistical testing will be conducted by assessing whether the observed difference between the average baseline and evaluation period rates is different from δ. The calculated change in rate threshold will be compared to the 95 percent confidence interval (CI) from performed pre-test/post-test results to determine whether rates were meaningfully different in the demonstration period.

Non-inferiority testing characterizes results in one of four ways shown in Figure 3-1: superior, non-inferior, inconclusive, or inferior. Superior results [A] indicate the CI from the pre-test/post-test is entirely above both the predefined threshold value and zero (i.e., the pre-test/post-test is found to be statistically significant). Non-inferior findings [B/C] indicate that while results from statistical testing may be inconclusive or significantly worsening, non-inferiority testing shows any worsening in rates are not practically/clinically significant and therefore can be characterized as being not inferior to baseline rates. Inconclusive findings [D/E] occur when the 95 percent CI captures the non-inferiority threshold value. Inferior results [F] indicate the CI from the pre-test/post-test is entirely below the predefined threshold value.

Figure 3-1—Non-Inferiority Testing



For measures that use a DiD framework and are hypothesized to perform at least as well as or better than a comparison group, a prespecified fraction (δ) of the change in the comparison group (coefficient on time, β_2) is used to define an "equivalence range," which would conclude that the treatment group performed as well as the comparison group. The equivalence range is bounded by the change in rates for the comparison group, plus or minus 10 percent of the change in the comparison group. The change in the treatment group will be compared against this equivalence range using a 95 percent confidence interval. Figure 3-2 illustrates how the equivalence window will be calculated and how statistical significance will be determined.

Figure 3-2—Illustration of Non-Equivalence Testing Procedure

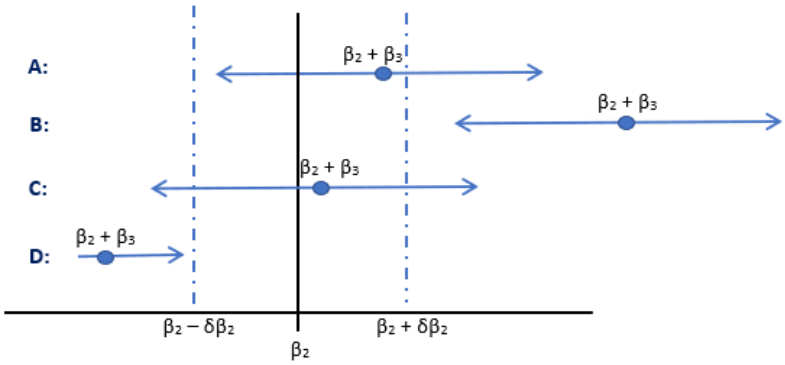


Table 3-8 defines the equivalence intervals used for each scenario in Figure 3-2.

Table 3-8—Noninferiority Equivalence Intervals

Desired Direction	Equivalence Interval	Noninferiority Threshold
Higher is better and $\beta_2 > 0$ OR lower is better and $\beta_2 < 0$	$(\beta_2 - \delta\beta_2)$ to β_2	$(\beta_2 - \delta\beta_2)$
Lower is better and $\beta_2 > 0$ OR higher is better and $\beta_2 < 0$	β_2 to $(\beta_2 + \delta\beta_2)$	$(\beta_2 + \delta\beta_2)$

In Figure 3-2, given a measure in which higher is better, the confidence interval in Scenario A, denoted by the arrows, includes β_2 but not the noninferiority threshold $(\beta_2 - \delta\beta_2)$. Therefore, evidence supports the finding that the treatment group is not inferior to the comparison group. The confidence interval in Scenario B is above β_2, which suggests that the treatment group is superior to the comparison group. The confidence interval in scenario C spans both β_2 and $(\beta_2 - \delta\beta_2)$. Therefore, there is insufficient evidence to establish noninferiority and the results are inconclusive. The confidence interval in Scenario D falls below the noninferiority threshold $(\beta_2 - \delta\beta_2)$ and supports the finding that the treatment group is inferior to the comparison group.

Comparison to National Benchmarks

The independent evaluator may compare Turquoise Care rates against national benchmarks to provide additional context without conducting formal statistical testing. Although statistical testing through a DiD or pre-test/post-test approach would be preferable, comparison to national benchmarks may be necessary if the comparison group data are not granular enough to support statistical testing.

Pre-Test/Post-Test

Rates will be calculated and compared before and after Turquoise Care implementation for measures for which national or regional benchmarks are not available and there are too few observations to support an ITS analysis. Statistical testing will be conducted through a Chi-square analysis. A Chi-square test allows for comparison between two groups with a categorical outcome, such as survey results or numerator compliance, to determine if the observed counts differ from the expectation. Specifically, comparisons will be made using the model:

$$Y = \beta_0 + \beta_1 * post$$

where Y is the rate of the outcome being measured each year, β_0 captures the average rate in the baseline years, and the coefficient β_1 for the dummy variable, *post*, representing the evaluation years, captures the change in average outcome between the baseline and evaluation time periods. For measures that utilized pre/post-testing, a weighted average of the evaluation period is also presented and represents a pooled average of the numerator and denominator counts across all three evaluation years.

Binomial logistic regression may be utilized to evaluate measures with binary outcomes or presented as rates. Due to limited comparison group options, it is difficult to conclude whether the changes in rates are a direct result of the specific program, as simultaneous external factors occurring during the same time period may have also had an unaccounted-for impact. When possible, control variables will be utilized to better isolate program impact, including controls for confounding events, such as the COVID-19 PHE.

Descriptive Time Series

Measures in which there are not sufficient 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. Analysis of the reentry, nutrition assistance, and short-term post-hospitalization recuperative support programs may rely on analysis of the post-implementation trend if sufficient data on provided services are not available or not collected prior to its implementation. Data during the post-implementation period will be analyzed to assess how measures have changed over the course of Turquoise Care. A regression line fit to the post-implementation data points will test for any statistically significant changes in measure rates.

Subgroup Analysis

The reentry program evaluation will include a subgroup analysis of members who received pre-release services between 30 days and 90 days compared to those who received services for less than 30 days, for measures where data are available and surpasses suppression standards. If possible, statistical testing such as a chi-squared test may assess if performance between the two groups is statistically significant.

Qualitative Synthesis

To evaluate qualitative measures relating to the reentry, nutrition assistance, short-term post-hospitalization recuperative services, and THCP programs, two rounds of semi-structured key informant interviews with stakeholders familiar with the programs will be conducted to obtain qualitative data prior to the Interim and Summative Evaluation Reports. A qualitative synthesis will be utilized to assess the results of the interviews.

Key informants will be identified by HCA as having experience and subject matter expertise regarding the programs. Each informant will be requested to participate in a 45-minute interview to provide insights into the implementation of the programs. A limited number of key informant interviews per program should be sufficient because there will be a limited number of stakeholders with a working knowledge of the activities associated with each program, and the challenges and successes that accompanied the implementation.

A flexible, semi-structured interview protocol will be developed. Interview questions will seek information about the implementation of the reentry, nutrition assistance, short-term post-hospitalization recuperative services, and THCP programs, including:

- Barriers to implementation
- Facilitators of success to implementation
- Experiences with cross-system coordination and communication
- Experiences with connections between correctional and community services
- Experiences providing pre-release services with potentially short duration
- Tribal entities' experience with program implementation and program effectiveness
- Description of changes in local investments outside of Turquoise Care

Early interviews will inform the development of topics and the selection of additional informants to complete the list of individuals to be interviewed for this evaluation. Open-ended questions will maximize the diversity and richness of responses and ensure a more holistic understanding of the subject's experience. Probing follow-up questions will be used, as appropriate, to elicit additional detail and understanding of critical points, terminology, and perspectives. The sessions will be recorded and transcribed with participant consent.

The information obtained from these interviews will be synthesized with the results from other quantitative data analyses, providing an in-depth discussion of each of the domains/objectives to be considered. As the key informant interviews are being conducted, the independent evaluator will perform ongoing and iterative review of the interview responses and notes to identify overall themes and common response patterns. Unique responses that are substantively interesting and informative will also be noted and may be used to develop probing questions for future interviews. The results of these preliminary analyses will be used to document the emergent and overarching themes related to each research question. The documentation of emergent themes will be reviewed iteratively to determine if responses to interview questions are continuing to provide new perspectives and answers, or if the responses are converging on a common set of response patterns indicating saturation on a particular interview question. As additional interview data are collected, the categories, themes, and relationships will be adjusted to reflect the broader set of concepts and different types of relationships identified. The documentation of emergent themes will also be used as an initial starting point for organizing the analysis of the interview data once all interviews are completed.

Following the completion of the key informant interviews, the interview notes and transcripts will be reviewed using standard qualitative analysis techniques. The data will first be examined through open coding to identify key concepts and themes that may not have been captured as emergent themes during previous analyses. After identifying key concepts, axial coding techniques will be used to develop a more complete understanding of the relationships among categories identified by respondents. The result of the open and axial coding analysis will be an account of the scope of issues raised by respondents, and a synthesis of how those concepts are related as presented in the participants' own words and experiences. This thematic coding process will ensure a thorough qualitative analysis with direct links to respondents' exact responses. The open and axial coding will be performed with a focus on identifying the dimensionality and breadth of responses to the research questions posed for the overall project. The open and axial coding will identify additional themes and develop a more complete understanding of the themes and relationships among categories identified by respondents. Interviewee responses will be identified through the analysis to illustrate and contextualize the conclusions drawn from the research and will be used to support the development of the final evaluation reports. The responses to key informant interview questions will add context to the quantitative findings. Opinions identifying opportunities for improving the efficacy of the reentry program will inform the *Lessons Learned and Recommendations* chapter of the evaluation reports.

Disentangling Confounding Effects

It is possible that co-interventions or other events coinciding with Turquoise Care may confound measure rates; as such, a comparison of baseline rates to the evaluation period would not be able to disentangle those effects from the effects of Turquoise Care. These effects may include policy changes at the State or federal level. Known confounding effects will be controlled for using appropriate methods during the Turquoise Care evaluation.

4. Methodological Limitations

This Evaluation Design builds on the foundation of the evaluation for the preceding Centennial Care 2.0 program. To maintain a rigorous evaluation of New Mexico's Section 1115 Demonstration Waiver, this design includes a variety of data sources which provide a holistic view of metrics spanning access to services, healthcare outcomes, person-centered care, and health-related social needs (HRSN). Additionally, this Evaluation Design includes standardized performance metrics from recognized measure stewards which allows for comparisons to national rates. However, despite the planned rigor, several limitations may affect the ability to attribute changes in performance metrics directly to Turquoise Care.

Data Sources

The data from the Medicaid Management Information System (MMIS) used to calculate performance metrics is generated through the Medicaid billing process. These data may not be as complete or sensitive for identifying specific healthcare processes and outcomes as may be expected from medical chart review. This limitation may be mitigated if the lack of sensitivity in the MMIS data remains stable over time and if the measures calculated from these data follow trends consistent with the underlying processes and outcomes of interest.

Additional data sources, such as managed care organization (MCO) report data, may contain varying data elements reported from year to year or plan to plan. For example, during the interim evaluation of Centennial Care 2.0, the independent evaluator found that changes in reporting templates made it difficult to determine if the data provided reflected a true change in measure outcomes, or merely an artifact of reporting. These data will be provided to the independent evaluator as reported by each MCO, and the independent evaluator may not be able to confirm or independently validate the data. The independent evaluator will review data sources for consistency with prior evaluation reports where applicable and ensure comparability over time to the extent possible. Any unresolved data quality issues will be reported in the *Methodological Limitations* chapter of the evaluation reports.

The Medicaid Home Visiting (MHV) program evaluation design includes measures for adults (postpartum women) and their children. Data that either identifies children as participants or allows for the independent evaluator to match infants to their participating parents must be available to calculate Measures 89 and 90, *Percentage of members who had a well-child visit in the first 30 months of life (15 months)* and *Percentage of children 2 years of age with appropriate immunization status*. If linking participating adults to children is not possible, these measures may only assess the general Turquoise Care population and will not reflect the true impact of MHV on infant health.

Analytic Methods

The evaluation methodology for the evaluation of Turquoise Care includes difference-in-differences (DiD), interrupted time series (ITS), pre-test/post-test, and descriptive time series. DiD and ITS approaches provide an understanding of whether the applicable measures exhibited statistically significant changes after the implementation of Turquoise Care. However, for certain programs, such as reentry and nutrition assistance, pre-implementation data may be unavailable for assessing changes in post-implementation trends. In these cases, the evaluation will rely on a descriptive time series, comparing outcomes year-over-year during the post-implementation period to assess any improvements. This approach will not allow the independent evaluator to conclude if Turquoise Care caused the changes in rates, as external factors may have contributed to changes.

Furthermore, there are limitations in identifying a suitable comparison group for program participants. The most appropriate comparison group for program participants would be Medicaid members with similar demographic and health characteristics who did not enroll in the respective program. Eligible members who did not enroll in each program is proposed as a close approximation for the ideal comparison group. However, the extent to which individuals are prioritized and selected into each program may indicate a difference in need among program participants and the comparison group that could impact the results. The use of propensity-score matching methods is designed to account for inherent differences in the groups and may limit the impact of this bias. Similarly, some programs may not have a valid comparison group nor pre-implementation data that can be used to establish casual inference. Data from another state with similar population characteristics and Medicaid policies and procedures in place are unlikely to be available due to limitations and challenges in securing cross-state data sharing agreements. While the Centers for Medicare & Medicaid Services (CMS) has suggested to utilize Transformed Medicaid Statistical Information System (T-MSIS) data to create a viable comparison group, use of these data was not feasible at the time of developing this Evaluation Design. T-MSIS data may become available for use in forming a counterfactual comparison group for the Turquoise Care population when the Interim Evaluation Report or the Summative Evaluation Report are developed.

The evaluation of the programs that allow for valid comparison groups presents several limitations. A DiD approach requires that the treatment and comparison groups meet the parallel trends assumption in the baseline period. For programs such as Health Home (HH), the same cohort of members must be followed from the baseline into the evaluation period. However, due to high churn rates among Medicaid members, tracking these cohorts over extended periods of time is difficult. In these cases, the independent evaluator will narrate the limitations of this approach or will use the most appropriate analytic technique supported by the data, such as an ITS analysis.

Additionally, even when a comparison group is identified, there may be differences unaccounted for between the groups even after propensity score matching that can contribute to biased results. Unlike in a randomized controlled trial, participating in the HH program or peer support services is voluntary, which means that participants may differ systematically from eligible non-participants in ways not captured by administrative data. While using a matched comparison population for the comparison group should, in theory, mitigate bias caused by the lack of randomization, no method can completely remove the effect of self-selection bias.

Finally, the independent evaluator recognizes that health equity is a complex subject and that there have been many discussions on the measurement of health equity within the scientific community. There is no single approach to evaluating health equity that is without limitations; this Evaluation Design employs multiple methods to identify varying impacts of Turquoise Care across demographic groups. The proposed health equity analysis is designed to provide an overview of how health disparities have changed during Turquoise Care and acknowledges that any changes in health disparities identified in the evaluation cannot be causally attributed to the Turquoise Care program, as co-occurring external factors may impact the measured outcomes. Finally, the availability of stratifications will vary by year and data source. The independent evaluator will stratify results by key fields where data are available and accurate. For example, sexual orientation and gender identity stratifications may not be available or consistent due to CMS rescinding guidance to add sexual orientation or gender identity to State Medicaid and Children's Health Insurance Program (CHIP) applications.[4-1]

[4-1] Centers for Medicare & Medicaid Services. CMCS Informational Bulletin. Available at: https://www.medicaid.gov/federal-policy-guidance/downloads/cib06052025.pdf. Accessed on: Jun 5, 2025.

Appendix A. Attachments

Independent Evaluator

The New Mexico Health Care Authority (HCA) selected an independent evaluator with experience and expertise to conduct a scientifically and rigorous Medicaid Section 1115 waiver evaluation that meets all the requirements specified in the Special Terms and Conditions (STCs).[A-1] The independent evaluator was required to have the following qualifications:

- Knowledge of public health programs and policy
- Experience in healthcare research and evaluation
- Understanding of New Mexico's programs and populations
- Expertise with conducting complex program evaluations
- Relevant work experience
- Skills in data management and analytic capacity
- Medicaid experience and technical knowledge

Based on State protocols, HCA followed established policies and procedures to acquire the independent entity to conduct the waiver evaluation. In addition, HCA will ensure that the selected independent evaluator does not have any conflicts of interest and will require the independent evaluator to sign a "No Conflict of Interest" statement**.**

Evaluation Budget

Table A-1 presents the cost estimate for the evaluation of Turquoise Care.

Table A-1—Evaluation Budget

New Mexico Turquoise Care 1115 Waiver Evaluation									
Deliverables	**SFY 2025**	**SFY 2026**	**SFY 2027**	**SFY 2028**	**SFY 2029**	**SFY 2030**	**SFY 2031**	**SFY 2032**	**Total Cost**
Project Management (Activity Reports, Annual and Quarterly Monitoring Reports)	$ 30,000	$ 53,000	$ 56,000	$ 60,000	$ 64,000	$ 68,000	$ 73,000	$ -	**$ 404,000**
Key Informant Interviews (Instrument, Administration,	$ -	$ -	$ -	$ 24,000	$ -	$ 22,000	$ -	$ -	**$ 46,000**
Data Collection and Validation	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ -	**$ 35,000**
Interim Evaluation Report, Draft	$ -	$ -	$ 41,000	$ 286,000	$ 53,000	$ -	$ -	$ -	**$ 380,000**
Interim Evaluation Report, Final	$ -	$ -	$ -	$ -	$ 75,000	$ -	$ -	$ -	**$ 75,000**
Summative Evaluation Report, Draft	$ -	$ -	$ -	$ -	$ -	$ 125,000	$ 236,000	$ -	**$ 361,000**
Summative Evaluation Report, Final	$ -	$ -	$ -	$ -	$ -	$ -	$ 49,000	$ 54,000	**$ 103,000**
Turquoise Care 1115 Waiver Evaluation Total	**$ 35,000**	**$ 58,000**	**$ 102,000**	**$ 375,000**	**$ 197,000**	**$ 220,000**	**$ 363,000**	**$ 54,000**	**$ 1,404,000**

A-1 Centers for Medicare & Medicaid Services. Demonstration Approval. Available at: https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/nm-centennial-care-dmnstrtn-extn-aprvl-07252024.pdf. Accessed on: Oct 24, 2024.

Timeline and Major Milestones

Table A-2 is the proposed evaluation timeline for Turquoise Care. This timeline is preliminary and is subject to changed based on the approval of the Evaluation Design.

Table A-2—Evaluation Timeline

Task	SFY2025		SFY2026				SFY2027				SFY2028				SFY2029				SFY2030				SFY2031					
	CY2024		CY2025				CY2026				CY2027				CY2028				CY2029				CY2030				CY2031	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Prepare and Implement Evaluation Design																												
Conduct kick-off meeting																												
Prepare workplan																												
Data Collection																												
Obtain claims and encounter data																												
Perform gap analysis and data quality checks																												
Obtain non-claims/encounters data																												
Perform gap analysis and data quality checks																												
Conduct Analysis																												
Qualitative Analysis																												
Develop protocols and conduct interviews																												
Conduct qualitative analyses																												
Quantitive Analysis																												
Prepare and calculate metrics																												
Conduct statistical testing and comparison																												
Reporting																												
Draft Interim Evaluation Report																												
Final Interim Evaluation Report																												
Draft Summative Evaluation Report																												
Final Summative Evaluation Report																												

Note: CY: calendar year; SFY: state fiscal year; Q: quarter

Proposed Measure Specifications

The tables in this section provide the detailed measure specifications for the Turquoise Care evaluation.

Aim One

Hypothesis 1: Continuing to expand access to long-term services and supports (LTSS) and maintaining the progress achieved through rebalancing efforts to serve more members in their homes and communities will maintain or increase the number of members accessing community benefit (CB) services.

Research Question 1.1: Has the percentage of members accessing CB services increased or maintained year-over-year?

Number and percentage of Turquoise Care members enrolled and receiving CB services (Measure 1)	
Numerator/Denominator	Numerator: Number of LTSS-eligible Turquoise Care members enrolled and receiving CB services in the measurement year Denominator: Number of LTSS-eligible Turquoise Care members enrolled and receiving CB services in the prior year
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography[A-2]

A-2 The measure stratifications presented are based on the anticipated best available data. The independent evaluator will collaborate with HCA to review the data available at the time of the evaluation report development to identify appropriate and feasible stratifications.

Number and percentage of Turquoise Care members enrolled and receiving CB services (Measure 1)	
Measure Steward	N/A
Measure Name	N/A
Data Source	Medicaid Management Information System (MMIS)
Desired Direction	No change or higher is better
Analytic Approach	• Interrupted time series (ITS) • Pre-test/post test
Frequency	Annually/monthly

Number and percentage of CB members receiving home-delivered meals (Measure 2)	
Numerator/Denominator	Numerator: Number of CB members receiving home-delivered meals Denominator: Number of CB members
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data
Desired Direction	No change or higher is better
Analytic Approach	Descriptive time series
Frequency	Annually/monthly

Hypothesis 2: The ability for legally responsible individuals (LRI) to provide personal care services (PCS) to individuals receiving CB or Early and Period Screening, Diagnostic, and Treatment (EPSDT) PCS will ensure member access to CB or EPSDT PCS and improve continuity of care through nursing facility level of care (NFLOC) approvals.

Research Question 2.1: Is the proportion of members receiving CB or EPSDT PCS the same or higher after the implementation of this benefit?

Percentage of members receiving EPSDT PCS (Measure 3)	
Numerator/Denominator	Numerator: Number of Turquoise Care members receiving EPSDT PCS Denominator: Number of Turquoise Care members
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No change or higher is better

Percentage of members receiving EPSDT PCS (Measure 3)	
Analytic Approach	• ITS • Pre-test/post test • Descriptive time series
Frequency	Annually/monthly

Percentage of LTSS-eligible members receiving CB PCS (Measure 4)	
Numerator/Denominator	Numerator: Number of LTSS-eligible Turquoise Care members receiving CB PCS Denominator: Number of LTSS-eligible Turquoise Care members
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post test • Descriptive time series
Frequency	Annually/monthly

Average number of EPSDT PCS per utilizing member (Measure 5)	
Numerator/Denominator	Numerator: Number of EPSDT PCS services Denominator: Number of EPSDT PCS utilizing members
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post test • Descriptive time series
Frequency	Annually/monthly

Average number of CB PCS per utilizing member (Measure 6)	
Numerator/Denominator	Numerator: Number of CB PCS services Denominator: Number of CB PCS utilizing members
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post test • Descriptive time series
Frequency	Annually/monthly

Research Question 2.2: Has the number of continuous NFLOC approvals maintained or increased?

Number of continuous NFLOC approvals (Measure 7)	
Numerator/Denominator	Numerator: The number of nursing facility members enrolled in Turquoise Care with a continuous NFLOC approval Denominator: The number of nursing facility members enrolled in Turquoise Care
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• Summary report of open-ended long-term care (LTC) spans • MCO reports
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/monthly

Hypothesis 3: Providing continuous eligibility will improve continuity of care among children ages 0 to 5 years.

Research Question 3.1: Has the percentage of members ages 0–5 years with continuous enrollment increased?

Length of enrollment among members ages 0–5 years (Measure 8)	
Numerator/Denominator	Numerator 1: Number of Turquoise Care members ages 0–5 years enrolled less than six months Numerator 2: Number of Turquoise Care members ages 0–5 years enrolled for six to 11 months Numerator 3: Number of Turquoise Care members ages 0–5 years enrolled for at least 12 months Denominator: N/A
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Higher is better (Numerator 3); Lower is better (Numerator 1)
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of members ages 0–5 years who had a gap in Medicaid coverage (Measure 9)	
Numerator/Denominator	Numerator: Number of Turquoise Care members ages 0–5 years with one or more gaps in Medicaid enrollment. A gap is defined as one day or more without enrollment (i.e., if a member disenrolls on December 31 and re-enrolls on January 1, there is no gap. However, if a member disenrolls on December 31 and re-enrolls on January 2, there is a one-day gap). If a member was born during the measurement period, gaps prior to the member's date of birth will not be counted. Denominator: Number of Turquoise Care members ages 0–5 years. Members turning age 6 years during the measurement period will be excluded from the denominator.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Average number of gaps in Medicaid coverage for members ages 0–5 years (Measure 10)	
Numerator/Denominator	Numerator: Number of gaps in coverage for Turquoise Care members ages 0–5 years. A gap is defined as one day or more without enrollment (i.e., if a member disenrolls on December 31 and re-enrolls on January 1, there is no gap. However, if a member disenrolls on December 31 and re-enrolls on January 2, there is a one-day gap). If a member was born during the measurement year (MY), gaps prior to the member's date of birth will not be counted. Denominator: Number of Turquoise Care members ages 0–5 years with one or more gaps in Medicaid enrollment. Members turning age 6 years during the MY will be excluded from the denominator.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Average number of days per gap in Medicaid coverage for members ages 0–5 years (Measure 11)	
Numerator/Denominator	Numerator: Number of gap days in coverage for Turquoise Care members ages 0–5 years. A gap is defined as one day or more without enrollment (i.e., if a member disenrolls on December 31 and re-enrolls on January 1, there is no gap. However, if a member disenrolls on December 31 and re-enrolls on January 2, there is a one-day gap). If a member was born during the MY, gaps prior to the member's date of birth will not be counted. Denominator: Number of Turquoise Care members ages 0–5 years with one or more gaps in Medicaid enrollment. Members turning age 6 years during the MY will be excluded from the denominator.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Research Question 3.2: Has the percentage of members ages 0–5 years with access to preventive services increased?

Percentage of members who had a well-child visit in the first 30 months of life (Measure 12)	
Numerator/Denominator	Numerator: Number of members with well-child visits on different dates. Two rates are reported: Rate 1: Six or more well-child visits on different dates of service on or before the 15-month birthday, and Rate 2: Two or more well-child visits on different dates of service between the child's 15-month birthday plus one day and the 30-month birthday Denominator: Two rates are reported: Rate 1: Number of members who turn 15 months old during the MY and are continuously enrolled between 31 days and 15 months old with no more than one gap in enrollment of up to 45 days Rate 2: Number of members who turn 30 months old during the MY and are continuously enrolled between 15 months plus one day and 30 months of age with no more than one gap in enrollment of up to 45 days
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Centers for Medicare & Medicaid Services (CMS) Child Core Set
Measure Name	Well-Child Visits in the First 30 Months of Life (W30)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/monthly

Percentage of children and adolescents who had a well-care visit (Measure 13)	
Numerator/Denominator	Numerator: Members among the denominator with one or more well-care visits during the MY Denominator: Number of members ages 3–5 years who are continuously enrolled during the MY with no more than one gap in enrollment of up to 45 days
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified CMS Child Core Set
Measure Name	Children and Adolescents' Well-Care Visits (WCV)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/monthly

Percentage of children 2 years of age with appropriate immunization status (Measure 14)	
Numerator/Denominator	Numerator: Number of members in the denominator who had: four diphtheria, tetanus and acellular pertussis (DTaP); three polio (IPV); one measles, mumps and rubella (MMR); three haemophiles influenza type B (HiB); three hepatitis B (HepB), one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (HepA); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday. The measure calculates a rate for each vaccine and nine separate combination rates. Denominator: Number of children who turn two years old during the MY who were continuously enrolled 12 months prior to the child's second birthday and have no more than one gap in enrollment of up to 45 days during the 12 months prior to the child's second birthday
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child Core Set
Measure Name	Childhood Immunization Status (CIS)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/monthly

Research Question 3.3: Has the percentage of members ages 0–5 years utilization of hospital services changed?

Number of potentially preventable emergency department (ED) visits, per 1,000 member months (MM) (Measure 15)	
Numerator/Denominator	Numerator: Discharges, for patients in the denominator and meet numerator criteria for any of the following prevention quality indicators (PQIs): • PQI #1 Diabetes Short-Term Complications Admission Rate • PQI #3 Diabetes Long-Term Complications Admission Rate • PQI #5 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate • PQI #7 Hypertension Admission Rate • PQI #8 Heart Failure Admission Rate • PQI #10 Dehydration Admission Rate • PQI #11 Bacterial Pneumonia Admission Rate • PQI #12 Urinary Tract Infection Admission Rate • PQI #13 Angina Without Procedure Admission Rate • PQI #14 Uncontrolled Diabetes Admission Rate • PQI #15 Asthma in Younger Adults Admission Rate • PQI #16 Lower-Extremity Amputation among Patients with Diabetes Rate Discharges The PQIs must meet the inclusion and exclusion rules for the numerator in more than one of the above PQIs are counted only once in the composite numerator. Denominator: MM among members ages 0 to 5 years in a metropolitan area or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred. The number of MM, divided by 1,000.
Comparison Population	N/A

Number of potentially preventable emergency department (ED) visits, per 1,000 member months (MM) (Measure 15)	
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified Agency for Healthcare Quality and Research (AHRQ)
Measure Name	PQI-90
Data Source	MMIS
Desired Direction	Lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/monthly

Number of all-cause ED visits, per 1,000 MM (Measure 16)	
Numerator/Denominator	Numerator: Number of ED visits Denominator: Number of MM among members ages 0 to 5 years, divided by 1,000
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	National Committee for Quality Assurance (NCQA)
Measure Name	Ambulatory Care (AMB)
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/monthly

Hypothesis 4: Managed care or care coordination through the Health Home (HH) program will maintain access to effective and quality care.

Research Question 4.1: Is there an increase in the percentage of members enrolled in a HH?

Number and percentage of Turquoise Care members enrolled in a HH (Measure 17)	
Numerator/Denominator	Numerator: Among members identified in the denominator, the number of unique Medicaid members contained in HH roster files during the measurement period Denominator: The number of unique Medicaid members with Turquoise Care enrollment (i.e., paid capitation) during the measurement period
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better

Number and percentage of Turquoise Care members enrolled in a HH (Measure 17)	
Analytic Approach	• ITS • Pre-test/post test
Frequency	Annually/monthly

Research Question 4.2: Does the HH program increase access to care coordination?

Number and percentage of members receiving care coordination (Measure 18)	
Numerator/Denominator	Numerator: Number of members receiving care coordination Denominator: Number of members enrolled in a HH
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post test
Frequency	Annually/monthly

Research Question 4.3: Does engagement in a HH increase utilization of preventive health services and improve disease management and quality of care?

Percentage of adults who accessed preventive/ambulatory health services (Measure 19)	
Numerator/Denominator	Numerator: Among members identified in the denominator for each group, the number of unique members who had an ambulatory or preventive care visit during the measurement period. Denominator: Treatment Group: Number of Turquoise Care members ages 20 years and older continuously enrolled in Turquoise Care with no more than one gap of up to 45 days during the MY. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period, enrolled for three continuous months concurrently in a HH and Turquoise Care during the MY, and had no exposure to a HH prior to July 25, 2024. Comparison Group: The number of Turquoise Care members ages 20 years and older continuously enrolled in Turquoise Care with no more than one gap of up to 45 days during the MY. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period and had no exposure to a HH during or prior to the MY.
Comparison Population	Propensity score adjusted members who have never participated in the HH program.
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	NCQA
Measure Name	Adults' Access to Preventive/Ambulatory Health Services (AAP)
Data Source	• MMIS • Program participation data

Percentage of adults who accessed preventive/ambulatory health services (Measure 19)	
Desired Direction	Higher is better
Analytic Approach	• Difference-in-Differences (DiD) • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of children and adolescents who had a well-care visit (Measure 20)	
Numerator/Denominator	Numerator: Number of members identified in the denominator for each group, who accessed a well-child visit. Denominator: Treatment Group: The number of Turquoise Care members 3–21 years of age. Children ages 3 years to 6 years must be continuously enrolled in Turquoise Care during the measurement period, and children and adolescents ages 7 to 19 years must be continuously enrolled in Turquoise Care during the measurement period and the year prior to the measurement period. Members must be continuously enrolled in Turquoise Care with no more than one gap of up to 45 days in each year. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period, enrolled for three continuous months concurrently in a HH and Turquoise Care during the MY, and had no exposure to a HH prior to July 25, 2024. Comparison Group: The number of Turquoise Care members 21 years of age. Children ages 3 years to 6 years must be continuously enrolled in Turquoise Care during the measurement period, and children and adolescents ages 7 to 19 years must be continuously enrolled in Turquoise 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 Turquoise Care for 11 months during the baseline period and had no exposure to a HH during or prior to the MY.
Comparison Population	Propensity score adjusted members who have never participated in the HH program.
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child Core Set
Measure Name	Children and Adolescents' Well-Care Visits (WCV)
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of members with schizophrenia or bipolar disorder who are using antipsychotic medications who are screened for diabetes (Measure 21)	
Numerator/Denominator	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 MY. Denominator: Treatment group: The number of Turquoise Care members ages 18–64 years with serious mental illness (SMI) (schizophrenia or bipolar disorder), continuously enrolled in Turquoise Care with no more than one gap of up to 45 days. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period, enrolled for three continuous months concurrently in a HH and Turquoise Care during the MY, and had no exposure to a HH prior to July 25, 2024. Comparison group: The number of Turquoise Care members ages 18–64 years with SMI (schizophrenia or bipolar disorder), continuously enrolled in Turquoise Care with no more than one gap of up to 45 days. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period and had no exposure to a HH during or prior to the MY.
Comparison Population	Propensity score adjusted members who have never participated in the HH program.
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Adult Core Set
Measure Name	Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications (SSD)
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of members who remained on an antidepressant medication treatment (Measure 22)	
Numerator/Denominator	Numerator: Two rates are reported: Numerator 1: 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. Numerator 2: 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 Turquoise 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 Turquoise Care with no more than one gap of up to 45 days during the measurement period. Members ages 18 years and older must be continuously enrolled in Turquoise Care 105 days prior to the index prescription start date (IPSD) through 231 days after the IPSD. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period, enrolled for 3 continuous months concurrently in a HH and Turquoise Care during the MY, and had no exposure to a HH prior to July 25, 2024. Comparison group: The number of Turquoise 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 Turquoise Care with no more than one gap of up to 45 days during the measurement period. Members ages 18 years and older must be continuously enrolled in Turquoise Care 105 days prior to the IPSD through 231 days after the IPSD. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period and had no exposure to a HH during or prior to the MY.
Comparison Population	Propensity score adjusted members who have never participated in the HH program.
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Adult Core Set
Measure Name	Antidepressant Medication Management (AMM)
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of members with a follow-up visit after hospitalization for mental illness (Measure 23)	
Numerator/Denominator	Numerator: Two rates are reported: Numerator 1: 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 seven days after discharge. Numerator 2: 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 Turquoise Care members 6 years of age and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in Turquoise Care during the measurement period. Members 6 years of age and older must be continuously enrolled in Turquoise Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period, enrolled for three continuous months concurrently in a HH and Turquoise Care during the MY, and had no exposure to a HH prior to July 25, 2024. Comparison group: The number of Turquoise Care members 6 years of age and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in Turquoise Care during the measurement period. Members 6 years of age and older must be continuously enrolled in Turquoise Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period, enrolled for three continuous months in Turquoise Care during the MY, and had no exposure to a HH during or prior to the MY.
Comparison Population	Propensity score adjusted members who have never participated in the HH program.
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child and Adult Core Set
Measure Name	Follow-Up After Hospitalization for Mental Illness (FUH)
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Research Question 4.4: Is the rate of preventive health services the same or higher than prior to the renewal period?

Percentage of adults who accessed preventive/ambulatory health services (Measure 24)	
Numerator/Denominator	Numerator: The number of Turquoise Care members in the denominator who had an ambulatory or preventive care visit during the MY. Denominator: The number of Turquoise Care members ages 20 years and older and were continuously enrolled with no more than one gap of up to 45 days during the MY.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	NCQA
Measure Name	Adults' Access to Preventive/Ambulatory Health Services (AAP)
Data Source	• MMIS • National/regional benchmarks
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test • Comparison to national/regional benchmarks
Frequency	Annually/monthly

Percentage of children and adolescents who had a well-care visit in the first 30 months of life (Measure 25)	
Numerator/Denominator	Numerator: Number of members with well-child visits on different dates. Two rates are reported: Rate 1: Six or more well-child visits on different dates of service on or before the 15-month birthday Rate 2: Two or more well-child visits on different dates of service between the child's 15 month birthday plus one day and the 30 month birthday. Denominator: Two rates are reported: Rate 1: Number of members who turn 15 months old during the MY and are continuously enrolled between 31 days and 15 months of age with no more than one gap in enrollment of up to 45 days. Rate 2: Number of members who turn 30 months old during the MY and are continuously enrolled between 15 months plus one day and 30 months of age with no more than one gap in enrollment of up to 45 days.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child Core Set
Measure Name	Well-Child Visits in the First 30 Months of Life (W30)
Data Source	• MMIS • National/regional benchmarks
Desired Direction	No change or higher is better

Percentage of children and adolescents who had a well-care visit in the first 30 months of life (Measure 25)	
Analytic Approach	• ITS • Pre-test/post-test • Comparison to national/regional benchmarks
Frequency	Annually/monthly

Percentage of children and adolescents who had a well-care visit (Measure 26)	
Numerator/Denominator	Numerator: Members among the denominator with one or more well-care visits during the MY. Denominator: Number of members ages 3–21 years who are continuously enrolled during the MY with no more than one gap in enrollment of up to 45 days.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child Core Set
Measure Name	Children and Adolescents' Well-Care Visits (WCV)
Data Source	• MMIS • National/regional benchmarks
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test • Comparison to national/regional benchmarks
Frequency	Annually/monthly

Research Question 4.5: Is the rate of management of behavioral health (BH) conditions the same or better than prior to the renewal period?

Percentage of members who remained on an antidepressant medication treatment (Measure 27)	
Numerator/Denominator	Numerator: Two rates are reported: Numerator 1: Among members identified in the denominator, the number of unique Medicaid members who remained on an antidepressant medication treatment for at least 84 days. Numerator 2: Among members identified in the denominator, the number of unique Medicaid members who remained on an antidepressant medication treatment for at least 180 days. Denominator: The number of Turquoise 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 Turquoise Care with no more than one gap of up to 45 days during the measurement period. Members ages 18 years and older must be continuously enrolled in Turquoise Care 105 days prior to the IPSD through 231 days after the IPSD. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Adult Core Set
Measure Name	Antidepressant Medication Management (AMM)

Percentage of members who remained on an antidepressant medication treatment (Measure 27)	
Data Source	• MMIS • National/regional benchmarks
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test • Comparison to national/regional benchmarks
Frequency	Annually/monthly

Percentage of members with a follow-up visit after hospitalization for mental illness (Measure 28)	
Numerator/Denominator	Numerator: Numerator 1: Of members identified in the denominator, the number of unique Medicaid members who had a follow-up visit with a mental health practitioner within 7 days after discharge. Numerator 2: Among members identified in the denominator, the number of unique Medicaid members who had a follow-up visit with a mental health practitioner within 30 days after discharge. Denominator: The number of Turquoise Care members 6 years of age and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in Turquoise Care during the measurement period. Members 6 years of age and older must be continuously enrolled in Turquoise Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period, enrolled for three continuous months in Turquoise Care during the MY.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child and Adult Core Set
Measure Name	Follow-Up After Hospitalization for Mental Illness (FUH)
Data Source	• MMIS • National/regional benchmarks
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test • Comparison to national/regional benchmarks
Frequency	Annually/monthly

Research Question 4.6: Have members' self-assessed healthcare quality and outcomes maintained or improved?

Percentage of respondents who reported a high rating of overall healthcare (8, 9, or 10) (Measure 29)	
Numerator/Denominator	Numerator: Number of respondents indicating they had a high rating of their overall healthcare (8, 9, or 10 out of 10) Denominator: Number of valid responses to the survey question regarding satisfaction of overall healthcare among all managed care members
Comparison Population	N/A

Percentage of respondents who reported a high rating of overall healthcare (8, 9, or 10) (Measure 29)	
Stratification	N/A
Measure Steward	NCQA
Measure Name	N/A
Data Source	Consumer Assessment of Healthcare Providers and Systems (CAHPS®)[A-3] Statewide survey
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually

Percentage of respondents who reported a high rating of health plan (8, 9, or 10 out of 10) (Measure 30)	
Numerator/Denominator	Numerator: Number of respondents indicating they had a high rating of their health plan (8, 9, or 10 out of 10) Denominator: Number of valid responses to the survey question regarding satisfaction of health plan among all managed care members
Comparison Population	N/A
Stratification	N/A
Measure Steward	NCQA
Measure Name	N/A
Data Source	CAHPS Statewide survey
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually

Percentage of members who reported a rating of overall health as very good or excellent (Measure 31)	
Numerator/Denominator	Numerator: Number of respondents indicating they had a high rating of overall health (very good or excellent) Denominator: Number of valid responses to the survey question regarding overall health among all managed care members
Comparison Population	N/A
Stratification	N/A
Measure Steward	NCQA
Measure Name	N/A
Data Source	CAHPS Statewide survey
Desired Direction	No change or higher is better

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

Percentage of members who reported a rating of overall health as very good or excellent (Measure 31)	
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually

Percentage of respondents who reported a rating of overall mental or emotional health as very good or excellent (Measure 32)	
Numerator/Denominator	Numerator: Number of members indicating they had a high rating of overall mental or emotional health (very good or excellent) Denominator: Number of valid responses to the survey question regarding overall mental or emotional health among all managed care members
Comparison Population	N/A
Stratification	N/A
Measure Steward	NCQA
Measure Name	N/A
Data Source	CAHPS Statewide survey
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually

Research Question 4.7: Has access to telemedicine services maintained or improved?

Number of telemedicine providers (Measure 33)	
Numerator/Denominator	Numerator: The number of unique Turquoise 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—HCA 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
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A

Number of telemedicine providers (Measure 33)	
Data Source	MMIS
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/monthly

Number of members receiving telemedicine services (Measure 34)	
Numerator/Denominator	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 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—HCA 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
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/monthly

Hypothesis 5: Expanding member incentives for preventive care through the Member Rewards (MR) program will encourage members to engage in preventive care services.

Research Question 5.1: Has the percentage of Turquoise Care members participating in MR and accessing preventive health services increased?

Percentage of Turquoise Care members participating in MR (Measure 35)	
Numerator/Denominator	Numerator: Two rates are reported: Rate 1: The number of members who were engaged in MR. Rate 2: 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
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of MR participating members and non-participating members with an annual preventive service (Measure 36)	
Numerator/Denominator	Numerator: Number of members in each denominator group 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. 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. 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	Propensity score adjusted MR participating members not participating in MR during the MY.
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better

Percentage of MR participating members and non-participating members with an annual preventive service (Measure 36)	
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of MR participating and redeeming, and MR participating and non-redeeming members with an annual preventive service (Measure 37)	
Numerator/Denominator	Numerator: Members in each denominator group redeeming rewards with preventative/ambulatory services in the 12-month period following the initial redemption. Denominator: Treatment group: Turquoise Care members redeeming MR during the MY. Comparison group: Turquoise Care members not redeeming MR during the MY.
Comparison Population	Propensity score adjusted MR participating members not redeeming MR during the MY.
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 6: The continuation of the high-fidelity wraparound (HFW) program will serve high-needs members with a serious emotional disturbance (SED) diagnosis.

Research Question 6.1: Is the HFW program enrolling the intended target population?

Number of HFW members enrolled in the program (Measure 38)	
Numerator/Denominator	Numerator: Turquoise Care members enrolled in HFW Denominator: N/A
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better

Number of HFW members enrolled in the program (Measure 38)	
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/monthly

Percentage of HFW members with SED diagnosis in the 11 months prior to enrollment (Measure 39)	
Numerator/Denominator	Numerator: HFW members with SED diagnosis in the 11 months prior to enrollment Denominator: HFW members in the 11 months prior to enrollment
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data
Desired Direction	No desired direction
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Research Question 6.2: Does the HFW program increase utilization of preventive health services?

Percentage of children and adolescents who had a well-care visit (Measure 40)	
Numerator/Denominator	Numerator: HFW members ages 3 to18 years who had one or more well-care visits Denominator: Treatment group: Number of members in the HFW ages 3 to 18 years who are continuously enrolled during the MY with no more than one gap in enrollment of up to 45 days. Comparison group: Number of members in who are eligible, but not participating in the HFW program ages 3 to 18 years who are continuously enrolled during the MY with no more than one gap in enrollment of up to 45 days.
Comparison Population	Propensity score adjusted members who are eligible, but not participating in the HFW program
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child Core Set
Measure Name	Children and Adolescents' Well-Care Visits (WCV)
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually/monthly

Percentage of members with a follow-up visit after hospitalization for mental illness (Measure 41)	
Numerator/Denominator	Numerator: Two rates are reported: Numerator 1: 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 seven days after discharge. Numerator 2: 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 30 days after discharge. Denominator: Treatment group: The number of Turquoise Care members ages 6 years and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in HFW during the measurement period. Members ages 6 years and older must be continuously enrolled in Turquoise Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period of 2017, enrolled for three continuous months concurrently in a HFW program and Turquoise Care during the MY, and had no exposure to a HFW program prior to January 1, 2018. Comparison group: The number of Turquoise Care members 6 years of age and older, who were hospitalized for treatment of selected mental illness diagnoses and continuously enrolled in Turquoise Care during the measurement period. Members 6 years of age and older must be continuously enrolled in Turquoise Care from the date of discharge through 30 days after discharge. Members must also have been enrolled in Turquoise Care for 11 months during the baseline period of 2017, enrolled for three continuous months in Turquoise Care during the MY, and had no exposure to a HFW program during or prior to the MY.
Comparison Population	Propensity score adjusted members who are eligible, but not participating in the HFW program
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child Core Set
Measure Name	Follow-Up After Hospitalization for Mental Illness (FUH)
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually

Percentage of members with a follow-up visit after ED visit for mental illness (Measure 42)	
Numerator/Denominator	Numerator: Two rates are reported: Numerator 1: Number of ED visits in the denominator with a follow-up visit for mental illness within seven days of the ED visit. Numerator 2: Number of ED visits in the denominator with a follow-up visit for mental illness within 30 days of the ED visit. Denominator: Treatment group: Number of ED visits for members participating in the HFW program during the measurement period, 6 years of age and older with a principal diagnosis of mental illness or intentional self-harm with continuous enrollment from the date of the ED visit through 30 days after the ED visit. Comparison group: Number of ED visits for members who had no exposure to the HFW program during or prior to the measure year, 6 years of age and older with a principal diagnosis of mental illness or intentional self-harm with continuous enrollment from the date of the ED visit through 30 days after the ED visit.
Comparison Population	Propensity score adjusted members who are eligible, but not participating in the HFW program
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child Core Set
Measure Name	Follow-Up After ED Visit for Mental Illness (FUM)
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 7: Turquoise Care will provide cost-effective care.

Research Question 7.1: Have the payment amounts for providers in VBP arrangements increased?

Percentage of total payments that are for providers in VBP arrangements (Measure 43)	
Numerator/Denominator	Numerator: The total amount of payments to Turquoise Care providers with VBP contracts Denominator: The total amount of payments to Turquoise Care providers
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	MCO reports
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually

Research Question 7.2: Does Turquoise Care provide cost-effective care?

Total and per-member per-month (PMPM) cost (among managed care members) (Measure 44)	
Numerator/Denominator	Numerator: The sum of total managed care organization (MCO) paid claim/encounter amounts for all inpatient (IP), LTC, outpatient (OP), professional, and pharmacy categories of service. Denominator: The sum of all Turquoise Care MM, including members who had claims/encounters and those who had no claims/encounters.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	ITS
Frequency	Annually

Total and PMPM cost (among managed care users) (Measure 45)	
Numerator/Denominator	Numerator: The sum of total MCO paid claim/encounter amounts for all IP, LTC, OP, professional, and pharmacy categories of service Denominator: The sum of all Turquoise Care MM only including members who had claims/encounters.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	ITS
Frequency	Annually

Aim Two

Hypothesis 1: Turquoise Care will increase or maintain 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 SUD.

Research Question 1.1: Did the number of individuals screened and treated for SUD maintain or increase?

Number and percentage of individuals screened for SUD (Measure 46)	
Numerator/Denominator	Numerator: The number of Turquoise Care members screened for SUD. Identify encounters with any of the following procedure codes: • H0049 – Screening, brief intervention, and referral to treatment (SBIRT) • G0444 – Other BH screening • H2000 – Comprehensive multidisciplinary team evaluation • H0002 – American Society of Addiction Medicine (ASAM) assessment • H0031 – Comprehensive mental health assessment for patients who are not SMI or SED Denominator: Number of de-duplicated Turquoise Care members with encounters from Step 1 in the measurement period
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS SUD Monitoring Metrics
Measure Name	Metric #1: Assessed for SUD Treatment Needs Using a Standardized Screening Tool
Data Source	MMIS
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of individuals with an SUD diagnosis who received any SUD service during the MY (Measure 47)	
Numerator/Denominator	Numerator: The number of Turquoise Care members among the denominator with an SUD diagnosis who received any SUD service during the MY. Denominator: The number of unique Turquoise Care members (de-duplicated total) enrolled in the measurement period who receive medication assisted treatment (MAT) or have qualifying facility, provider, or pharmacy claims with an SUD diagnosis and an SUD-related treatment service during the measurement period and/or in the 12 months before the measurement period.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified CMS SUD Monitoring Metrics
Measure Name	• Metric #4: Medicaid Beneficiaries with SUD Diagnosis (annually) • Metric #6: Any SUD Treatment
Data Source	MMIS

Percentage of individuals with an SUD diagnosis who received any SUD service during the MY (Measure 47)	
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 2: Turquoise Care will increase or maintain peer support services, which will result in more individuals engaging in and retaining in SUD treatment.

Research Question 2.1: Has the percentage of individuals with an SUD diagnosis who received peer support services and treatment maintained or increased?

Percentage of individuals with an SUD diagnosis who received peer support (Measure 48)	
Numerator/Denominator	Numerator: Among members identified in the denominator, the number of Medicaid members who received peer support services. Denominator: The number of unique members (de-duplicated total) enrolled in the measurement period with an SUD diagnosis.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified CMS SUD Monitoring Metrics
Measure Name	Metric #3: Medicaid Beneficiaries with SUD Diagnosis (monthly)
Data Source	MMIS
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Initiation of SUD treatment (Measure 49)	
Numerator/Denominator	Numerator: The number of Turquoise Care individuals with SUD diagnosis who initiate SUD treatment through an IP admission, OP visit, telemedicine, intensive OP encounter or partial hospitalization or MAT within 14 days of the index episode start date (IESD). Denominator: Treatment group: Number of members ages 13 and over during the MY with an alcohol or opioid diagnosis and 194 days continuous enrollment prior to the SUD episode and 47 days after the index episode, who received peer support services. Comparison group: Number of members ages 13 and over during the MY with an alcohol or opioid diagnosis and 194 days continuous enrollment prior to the SUD episode and 47 days after the index episode, who never received peer support services.
Comparison Population	Propensity score adjusted Turquoise Care members meeting the NCQA eligible population criteria and had never utilized peer support services.
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	NCQA

Initiation of SUD treatment (Measure 49)	
Measure Name	Initiation and Engagement of SUD Treatment: Initiation of SUD Treatment (IET)
Data Source	• MMIS • National or regional benchmarks
Desired Direction	No change or higher is better
Analytic Approach	• DiD • ITS • Pre-test/post-test • Comparisons to national or regional benchmarks
Frequency	Annually/Monthly

Engagement of SUD treatment (Measure 50)	
Numerator/Denominator	Numerator: Among members identified in the denominator, the number of unique Medicaid members who initiated treatment and who had two or more additional SUD services or MAT within 34 days of the initiation visit. Denominator: Treatment Group: The number of Turquoise Care adolescent and adult members (ages 13 years and older) with a new episode of SUD abuse or dependence and received peer support services within 48 days following the IESD. Comparison Group: The number of Turquoise Care adolescent and adult members (ages 13 years and older) with a new episode of SUD abuse or dependence and had never utilized peer support services within 48 days following the IESD.
Comparison Population	Propensity score adjusted Turquoise Care members meeting the NCQA eligible population criteria and had never utilized peer support services.
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	NCQA
Measure Name	Initiation and Engagement of SUD Treatment: Engagement of SUD Treatment (IET)
Data Source	• MMIS • National or regional benchmarks
Desired Direction	No change or higher is better
Analytic Approach	• DiD • ITS • Pre-test/post-test • Comparison to national or regional benchmarks
Frequency	Annually/Monthly

Continuity of pharmacotherapy for opioid use disorder (OUD) (Measure 51)	
Numerator/Denominator	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: Treatment group: The number of Turquoise Care members ages 18–64 years who had a diagnosis of OUD and at least one claim for an OUD medication. Members must have received peer support services (Peer Support Services Value Set) within 180 days after an OUD medication. Comparison Group: The number of Turquoise Care members ages 18–64 years 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	Propensity score adjusted Turquoise Care members meeting the NCQA eligible population criteria and had never utilized peer support services.
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	University of Southern California (USC) (National Quality Forum [NQF] #3175)
Measure Name	N/A
Data Source	MMIS
Desired Direction	No change or higher is better
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 3: Turquoise Care will improve or maintain access to a comprehensive continuum of SUD care, which will result in decreased utilization of ED and IP hospitalization and SUD IP readmissions.

Research Question 3.1: Has the utilization of acute care settings by individuals with SUD maintained or decreased?

Percentage of members with an SUD diagnosis who used services in the last month or year, stratified by the following settings: Any setting, early intervention, OP, intensive OP, and residential and IP (Measure 52)	
Numerator/Denominator	Numerator: Number of members in the denominator, stratified by the following settings: Any setting, early intervention, OP, intensive OP, and residential and IP Denominator: Number of members diagnosed with SUD
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS SUD Monitoring Metrics
Measure Name	• Metrics #4: Medicaid Beneficiaries with SUD Diagnosis (annually) • Metric #6: Any SUD Treatment • Metric #7: Early Intervention • Metric #8: OP Services • Metric #9: Intensive OP and Partial Hospitalization Services • Metric #10: Residential and IP Services

Percentage of members with an SUD diagnosis who used services in the last month or year, stratified by the following settings: Any setting, early intervention, OP, intensive OP, and residential and IP (Measure 52)	
Data Source	MMIS
Desired Direction	No change or lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of ED visits among members with SUD diagnoses (Measure 53)	
Numerator/Denominator	Numerator: 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 members 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 IP stay (IP Stay Value Set). Denominator: The number of ED visits among all Turquoise 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 IP stay (IP Stay Value Set).
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No change or lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Average length of stay (LOS) in an ED among members with an SUD diagnosis prior to admission to an Institution for Mental Disease (IMD) (Measure 54)	
Numerator/Denominator	Numerator: Number of days members stayed in an ED setting prior to boarding in an IMD. Denominator: Number of ED visits among all Turquoise Care members with an SUD diagnosis during the MY that led to a stay in an IMD. Same day and next day transfers from an ED setting to an IMD will be included in the denominator. For example, an ED visit on January 1 with an IMD admission also on January 1 will have an LOS of one day in the ED. An ED visit spanning from January 1 to January 2 with an IMD admission on January 3 will have a length of stay of two days (January 1 and January 2). Note: It may not be possible to fully identify the ED boarding portion of an IMD stay using exclusively claims/encounter data, particularly within the same facility.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No change or lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of IP admissions for SUD-related treatment (Measure 55)	
Numerator/Denominator	Numerator: The number of IP services for SUD-related treatment for Turquoise Care members. Step 1: Identify all IP stays (acute and nonacute) during the measurement period (IP Stay Value Set). Step 2: Identify and exclude claims for residential treatment using the Uniform Billing (UB) Revenue codes: • 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. Step 4: 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 • Other Drug Abuse and Dependence Value Set Step 5: Calculate the number of IP discharges meeting the criteria in Step 1. Denominator: The number of IP admissions for Turquoise Care members. Step 1: Identify all IP stays (acute and nonacute) during the measurement period (IP 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
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Monitoring Metrics
Measure Name	Metric #24: IP Stays for SUD per 1,000 Medicaid Beneficiaries
Data Source	MMIS
Desired Direction	No change or lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

7- and 30-day IP and residential SUD readmission rates (Measure 56)	
Numerator/Denominator	Numerator: Two rates are reported. Rate 1: The number of 7-day IP and residential readmission rates for Turquoise Care users discharged with SUD diagnosis and readmitted to either IP or residential treatment with SUD diagnosis. Rate 2: 30-day IP and residential readmission rates for Turquoise Care members discharged with SUD diagnosis and readmitted to either IP or residential treatment with SUD diagnosis. Denominator: The number of IP discharges with a principal diagnosis of SUD. Step 1: Calculate the Denominator: Count of Index Hospital Stays. Step 1a: Identify all acute IP discharges with any diagnosis in the first 11 months of the MY. To identify acute IP discharges: • Identify all acute and nonacute IP stays (IP Stay Value Set). • Exclude nonacute IP stays (Nonacute IP Stay Value Set). • Determine whether the discharge date for the stay falls in the first 11 months of the MY. IP 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 IP stays. This measure includes acute discharges from any type of acute facility (including BH 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 MY. 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 member died during the stay. • Female members 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. 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
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No change or lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 4: Turquoise Care will maintain or increase use of MAT and reduce the number of high dose opioid prescriptions, which will result in fewer overdose deaths due to opioid use.

Research Question 4.1: Has the number of members with OUD or SUD receiving MAT increased or maintained?

Percentage of members who have a claim for MAT for SUD (Measure 57)	
Numerator/Denominator	Numerator: Number of members in the denominator with a claim for MAT for SUD Denominator: Number of Turquoise Care members with SUD
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS SUD Monitoring Metrics
Measure Name	Metric #12: Medication-Assisted Treatment
Data Source	MMIS
Desired Direction	No change or higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Research Question 4.2: Is there a decrease in the number of deaths attributable to overdose?

Use of opioids at high dosage in persons without cancer (Measure 58)	
Numerator/Denominator	Numerator: Number of members in the denominator who received prescriptions for opioids with an average daily dosage greater than or equal to 90 morphine milligram equivalents (MME) over a period of 90 days or more. Denominator: Number of members diagnosed with an SUD ages 18 years and older with two or more prescriptions for opioids on different days with a cumulative days' supply of 15 or more. Members with a cancer diagnosis, sickle cell disease diagnosis, or in hospice are excluded.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Adult Core Set
Measure Name	Use of Opioids at High Dosage in Persons Without Cancer (OHD-AD)
Data Source	MMIS
Desired Direction	Lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Rate of deaths due to overdose (Measure 59)	
Numerator/Denominator	Numerator: Rate 1: Proportionate Mortality Rate: The total number of overdose deaths among the denominator. Proportionate mortality and cause-specific death rates are 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. Rate 2: Cause-Specific Death Rate: The total number of overdose deaths among the denominator. Cause-specific death rates are defined as the total overdose deaths divided by the size of the population of interest. Denominator: Rate 1: Proportionate Mortality Rate: The total number of deaths among New Mexico Residents. Rate 2: Cause-Specific Death Rate: The total New Mexico population.
Comparison Population	Overall New Mexico population
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Vital statistics • American Community Survey (ACS) • DOH overdose and mortality reports • Centers for Disease Control and Prevention (CDC) Wide-Ranging Online Data for Epidemiologic Research (WONDER)
Desired Direction	Lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 5: Turquoise Care will provide cost-effective care among members with an SUD.

Research Question 5.1: Did Turquoise Care provide cost-effective care among members with an SUD diagnosis?

Total and PMPM cost (Measure 60)	
Numerator/Denominator	Numerator: Total costs of healthcare. Stratified by the following: • Total costs • IP • OP (ED OP and non-ED OP) • LTC • Professional • Dental • Pharmacy Denominator: Total number of MM among those with an SUD diagnosis
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography

Total and PMPM cost (Measure 60)	
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	ITS
Frequency	Annually/Monthly

Total and PMPM cost of SUD, SUD- IMD, SUD-other, and non-SUD, by setting (including claims data IP, OP, pharmacy, LTC, and capitated payments to MCOs) (Measure 61)	
Numerator/Denominator	Numerator: Total cost of SUD services. Stratified by: • SUD-IMD • SUD-Other • Non-SUD Denominator: Total number of MM among those with an SUD diagnosis
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	ITS
Frequency	Annually/Monthly

Aim Three

Hypothesis 1: Turquoise Care will increase the identification of individuals engaged with SMI/SED and increase treatment integration, including specialized services.

Research Question 1.1: Has the number of individuals identified and/or engaged in SMI/SED treatment increased?

Percentage of individuals identified with an SMI/SED who have used services related to mental health (Measure 62)	
Numerator/Denominator	Numerator: Number of individuals engaged any SMI/SED treatment Denominator: Number of individuals identified with an SMI/SED
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS SMI/SED Monitoring Metrics
Measure Name	Metric #18: Mental Health Services Utilization
Data Source	MMIS

Percentage of individuals identified with an SMI/SED who have used services related to mental health (Measure 62)	
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Number of members diagnosed with an SMI/SED condition by non-BH providers (Measure 63)	
Numerator/Denominator	Numerator: Number of members diagnosed with SMI/SED conditions by non-BH providers. Denominator: N/A
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Number of registered mobile crisis providers (Measure 64)	
Numerator/Denominator	Numerator: Number of registered mobile crisis providers Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • DOH, BHSD reports
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Number of members with antipsychotic medications that received psychosocial care (Measure 65)	
Numerator/Denominator	Numerator: Documentation of psychosocial care (Psychosocial Care Value Set) in the 121-day period from 90 days prior to the IPSD through 30 days after the IPSD. Denominator: Children and adolescents ages 1 to 17 years who had a new prescription for an antipsychotic medication
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child Core Set
Measure Name	Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics (APP)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Number of members newly prescribed an antipsychotic medication, who received follow-up care (Measure 66)	
Numerator/Denominator	Numerator: Number of members in the denominator who have completed a follow-up visit with a provider with prescribing authority within four weeks (28 days) of prescription of an antipsychotic medication Denominator: Number of new antipsychotic prescriptions for Medicaid members ages 18 and older
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS SMI/SED Monitoring Metrics
Measure Name	NQF #3313: Follow-up Care for Adult Medicaid Beneficiaries Who are Newly Prescribed an Antipsychotic Medication
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 2: Turquoise Care will maintain an average LOS for IMDs of 30 days.

Research Question 2.1: Has the average LOS for IMDs been maintained at 30 days?

Average LOS in an IMD (Measure 67)	
Numerator/Denominator	Numerator: Average LOS for Turquoise Care individuals with SMI/SED in IMDs Denominator: N/A
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS SMI/SED Monitoring Metrics

Average LOS in an IMD (Measure 67)	
Measure Name	Metric #19a: Average LOS in IMDs
Data Source	MMIS
Desired Direction	Maintained at 30 days
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 3: Turquoise Care will result in increased rates of care coordination for members with SMI/SED.

Research Question 3.1: Has the percentage of members with SMI/SED receiving care coordination increased?

Percentage of members with SMI/SED receiving care coordination (Measure 68)	
Numerator/Denominator	Numerator: Among members identified in the denominator, the number of Turquoise Care members in fully delegated care coordination during the measurement period. Denominator: The number of unique Turquoise Care members (de-duplicated total) enrolled in the measurement period who receive MAT or have qualifying facility, provider, or pharmacy claims with an SMI/SED diagnosis and an SMI/SED-related treatment service during the measurement period and/or in the 11 months before the measurement period.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of members a follow-up visit after an ED visit for mental illness (Measure 69)	
Numerator/Denominator	Numerator: Number of ED visits in the denominator with a follow-up visit for mental illness within seven days of the ED visit. Denominator: Number of ED visits for members diagnosed with an SMI/SED, ages 6 years and older with a principal diagnosis of mental illness or intentional self-harm with continuous enrollment from the date of the ED visit through 30 days after the ED visit.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Adult and Child Core Set
Measure Name	Follow-Up After ED Visit for Mental Illness (FUM)
Data Source	MMIS
Desired Direction	Higher is better

Percentage of members a follow-up visit after an ED visit for mental illness (Measure 69)	
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of members with a follow-up visit after hospitalization for mental illness (Measure 70)	
Numerator/Denominator	Numerator: Number of members with a discharge for mental illness and a follow-up visit with a mental health practitioner within seven days after discharge Denominator: Number of members diagnosed with an SMI/SED, ages 6 years or older who were hospitalized for treatment of selected mental illness or intentional self-harm with continuous enrollment 30 days after discharge
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child and Adult Core Set
Measure Name	Follow-Up After Hospitalization for Mental Illness (FUH)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 4: Turquoise Care will decrease utilization and LOS in EDs among Medicaid members who met eligibility criteria of members with SMI/SED.

Research Question 4.1: Has the utilization of hospital services by individuals with SMI/SED decreased?

Number of all-cause ED visits per 1,000 MM among members who met the eligibility criteria of members with an SMI/SED (Measure 71)	
Numerator/Denominator	Numerator: Number of ED visits of Turquoise Care members with SMI/SED Denominator: Number of MM among Turquoise Care members with SMI/SED, divided by 1,000
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Number of members with an SMI/SED who used ED services for mental health during the measurement period (Measure 72)	
Numerator/Denominator	Numerator: Number of Turquoise Care members in the denominator who used ED services for mental health during the measurement period Denominator: Number of Turquoise Care members with SMI/SED
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS SMI/SED Monitoring Metric
Measure Name	Metric #16: Mental Health Services Utilization – ED
Data Source	MMIS
Desired Direction	Lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Average LOS in an ED among members with an SMI/SED diagnosis prior to admission to an IMD (Measure 73)	
Numerator/Denominator	Numerator: The LOS (in days) for each ED visit. Denominator: The number of ED visits among all Turquoise Care members with an SMI/SED diagnosis during the MY that led to a stay in an IMD. Same day and next day transfers from an ED setting to an IMD will be included in the denominator. For example, an ED visit on January 1 with an IMD admission also on January 1 will have an LOS of one day in the ED. An ED visit spanning from January 1 to January 2 with an IMD admission on January 3 will have a length of stay of two days (January 1 and January 2). Note: It may not be possible to fully identify the ED boarding portion of an IMD stay using exclusively claims/encounter data, particularly within the same facility.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No change or lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Number of members with an SMI/SED all-cause unplanned readmission within 30 days of psychiatric hospitalization (Measure 74)	
Numerator/Denominator	Numerator: Number of Turquoise Care members in the denominator with an unplanned readmission within 30 days of psychiatric hospitalization Denominator: Number of Turquoise Care members with SMI/SED
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS SMI/SED Monitoring Metrics
Measure Name	Metric #4: 30-Day All-Cause Unplanned Readmission Following Psychiatric Hospitalization in an IP Psychiatric Facility
Data Source	MMIS
Desired Direction	Lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 5: Turquoise Care will provide cost-effective care for members with an SMI/SED diagnosis.

Research Question 5.1: Did Turquoise Care provide cost-effective care among members with SMI/SED diagnosis?

Total and PMPM cost (Measure 75)	
Numerator/Denominator	Numerator: Total costs of healthcare. Stratified by the following: • Total costs • IP • OP (ED OP and non-ED OP) • LTC • Professional • Dental • Pharmacy Denominator: Total number of MM among those with an SMI/SED diagnosis
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	ITS
Frequency	Annually/Monthly

Total and PMPM costs of SMI/SED diagnosis by IMD and Other care, by setting (including claims data IP, OP, pharmacy, LTC, and capitated payments to MCOs) (Measure 76)	
Numerator/Denominator	Numerator: Total cost of BH services. Stratified by: • BH-IMD • BH- Other • Non-BH Denominator: Total number of MM among those with an SMI/SED diagnosis
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	ITS
Frequency	Annually/Monthly

Aim Four

Hypothesis 1: Providing post-hospitalization recuperative support and rehabilitation services will improve health outcomes and housing stability to prevent rehospitalization.

Research Question 1.1: Did members eligible for short-term post-hospitalization recuperative services have increased access to recuperative services?

Number of members receiving short-term post-hospitalization recuperative services (Measure 77)	
Numerator/Denominator	Numerator: Number of members receiving short-term post-hospitalization recuperative services, stratified by eligibility type Denominator: N/A
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	Descriptive time series
Frequency	Annually/monthly

Research Question 1.2: Did members eligible for short-term post-hospitalization recuperative services increase utilization of preventive care?

Percentage of adults who accessed preventive/ambulatory health services (Measure 78)	
Numerator/Denominator	Numerator: Number of members with an ambulatory or preventive care visit Denominator: Number of members receiving post-hospitalization recuperative services who are ages 20 years and older, continuously enrolled for the MY, with no more than one gap in enrollment of up to 45 days
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	NCQA
Measure Name	Adults' Access to Preventive/Ambulatory Health Services (AAP)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Research Question 1.3: Did members utilizing short-term post-hospitalization recuperative services change their utilization of hospital services?

Number of potentially preventable ED visits, per 1,000 MM (Measure 79)	
Numerator/Denominator	Numerator: Discharges, for patients in the denominator and meet numerator criteria for any of the following PQIs: • PQI #1 Diabetes Short-Term Complications Admission Rate • PQI #3 Diabetes Long-Term Complications Admission Rate • PQI #5 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate • PQI #7 Hypertension Admission Rate • PQI #8 Heart Failure Admission Rate • PQI #10 Dehydration Admission Rate • PQI #11 Bacterial Pneumonia Admission Rate • PQI #12 Urinary Tract Infection Admission Rate • PQI #13 Angina Without Procedure Admission Rate • PQI #14 Uncontrolled Diabetes Admission Rate • PQI #15 Asthma in Younger Adults Admission Rate • PQI #16 Lower-Extremity Amputation among Patients with Diabetes Rate Discharges These PQIs must meet the inclusion and exclusion rules for the numerator in more than one of the above PQIs are counted only once in the composite numerator. Denominator: MM among members utilizing short-term hospitalization recuperative services, 18 years old and older in metropolitan area or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred. The number of MM, divided by 1,000.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified AHRQ

Number of potentially preventable ED visits, per 1,000 MM (Measure 79)	
Measure Name	PQI-90
Data Source	MMIS
Desired Direction	Lower is better
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Number of all-cause ED visits, per 1,000 MM (Measure 80)	
Numerator/Denominator	Numerator: Number of all-cause ED visits, among members in the denominator Denominator: Number of MM among members utilizing short-term post-hospitalization recuperative services, divided by 1,000
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	NCQA
Measure Name	Ambulatory Care (AMB)
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Number of IP visits, per 1,000 MM (Measure 81)	
Numerator/Denominator	Numerator: Number of IP visits, among members in the denominator Denominator: Number of MM among members utilizing short-term post-hospitalization recuperative services, divided by 1,000
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	NCQA
Measure Name	IP Utilization—General Hospital/Acute Care (IPU)
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Number of unplanned readmissions for any diagnosis within 30 days (Measure 82)	
Numerator/Denominator	Numerator: Number of acute IP stays in the denominator followed by an unplanned acute readmission within 30 days. Denominator: Number of acute IP stays for members receiving post-hospitalization housing recuperative services aged 18 to 64 who were continuously enrolled for 365 days prior to the index discharge date through 30 days after the index discharge date with no more than one gap in enrollment of up to 45 days.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Adult Core Set
Measure Name	Plan All-Cause Readmissions (PCR)
Data Source	MMIS
Desired Direction	Lower is better
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Hypothesis 2: Short-term post-hospitalization recuperative services will provide cost-effective services.

Research Question 2.1: Did the short-term post-hospitalization recuperative services provide cost-effective care for members?

Total and PMPM cost among members receiving short-term post-hospitalization recuperative services (Measure 83)	
Numerator/Denominator	Numerator: Total costs of care among members receiving short-term post-hospitalization recuperative services Denominator: N/A
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	N/A
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Research Question 2.2: How did local investments in short-term post-hospitalization recuperative services change over the course of the evaluation?

Key informants' description of changes in short-term post-hospitalization recuperative services outside of Turquoise Care (Measure 84)	
Numerator/Denominator	Numerator: N/A Denominator: N/A
Comparison Population	N/A
Stratification	N/A

Key informants' description of changes in short-term post-hospitalization recuperative services outside of Turquoise Care (Measure 84)	
Measure Steward	N/A
Measure Name	N/A
Data Source	Key Informant Interviews
Desired Direction	N/A
Analytic Approach	Qualitative Synthesis
Frequency	Two rounds (Interim Evaluation Report and Summative Evaluation Report)

Hypothesis 3: Expanding providers implementing pre-tenancy and tenancy services will improve housing stability and utilization of health services.

Research Question 3.1: Did the expansion of pre-tenancy and tenancy services increase the number of members receiving hosing supports?

Number of members eligible for and receiving pre-tenancy and tenancy services (Measure 85)	
Numerator/Denominator	Numerator: Two rates are reported: Rate 1: Number of members eligible for pre-tenancy and tenancy services, by service type Rate 2: Number of members receiving pre-tenancy and tenancy services, by service type Denominator: N/A
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Research Question 3.2: Did the expansion of pre-tenancy and tenancy services improve follow-up care among eligible members?

Percentage of members with a follow-up visit after an ED visit for mental illness (Measure 86)	
Numerator/Denominator	Numerator: Two rates are reported: Numerator 1: Number of ED visits in the denominator with a follow-up visit for mental illness within seven days of an ED visit for mental illness. Numerator 2: Number of ED visits in the denominator with a follow-up visit for mental illness within 30 days of an ED visit for mental illness Denominator: Number of ED visits for members 18 years of age and older receiving pre-tenancy or tenancy services with a principal diagnosis of mental illness or intentional self-harm with continuous enrollment from the date of the ED visit through 30 days after the ED visit
Comparison Population	N/A

Percentage of members with a follow-up visit after an ED visit for mental illness (Measure 86)	
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child and Adult Core Set
Measure Name	Follow-Up After ED Visit for Mental Illness (FUM)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of members with a follow-up visit after hospitalization for mental illness (Measure 87)	
Numerator/Denominator	Numerator: Two rates are reported: Numerator 1: Number of members in the denominator and a follow-up visit with a mental health practitioner within seven days after discharge Numerator 2: Number of members in the denominator and a follow-up visit with a mental health practitioner within 30 days after discharge Denominator: Number of members ages 6 years or older receiving pre-tenancy or tenancy services who were hospitalized for treatment of selected mental illness or intentional self-harm with continuous enrollment 30 days after discharge
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child and Adult Core Set
Measure Name	Follow-Up After Hospitalization for Mental Illness (FUH)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Research Question 3.3: Did the expansion of pre-tenancy and tenancy services improve members' health outcomes?

Percentage of members with persistent asthma who had a ratio of controller medications to total asthma medications of at least 50 percent (Measure 88)	
Numerator/Denominator	Numerator: Number of members participating in the pre-tenancy and tenancy program who had a ratio of controller medications to total asthma medications of 0.50 or greater during the MY Denominator: The number of members participating in the pre-tenancy and tenancy program ages 5–64 years who were identified as having persistent asthma
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography

Percentage of members with persistent asthma who had a ratio of controller medications to total asthma medications of at least 50 percent (Measure 88)	
Measure Steward	NCQA
Measure Name	Asthma Medication Ratio (AMR)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of members with clinical atherosclerotic cardiovascular disease who received and adhered to statin therapy (Measure 89)	
Numerator/Denominator	Numerator: The percentage of members participating in the pre-tenancy and tenancy program who received statin therapy. Two rates are reported: Numerator 1: Members who were dispensed at least one high-intensity or moderate-intensity statin medication Numerator 2: Members who remained on a high-intensity or moderate-intensity statin medication for at least 80 percent of the treatment period Denominator: All adult members participating in pre-tenancy and tenancy program (males ages 21–75 years and females ages 40–75 years) who were identified as having clinical atherosclerotic cardiovascular disease
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	NCQA
Measure Name	Statin Therapy for Patients with Cardiovascular Disease (SPC)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

All-cause mortality rate (Measure 90)	
Numerator/Denominator	Numerator: Number of deaths from any cause among members participating in the pre-tenancy and tenancy program during the MY Denominator: The total number of members participating in the pre-tenancy and tenancy program during the MY
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A

All-cause mortality rate (Measure 90)	
Data Source	• MMIS • Vital Records
Desired Direction	Lower is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually

Hypothesis 4: Providing nutrition assistance will decrease food insecurity and improve healthcare among vulnerable populations.

Research Question 4.1: Did nutrition assistance increase access to medically tailored meals?

Number of medically tailored meals provided to eligible members (Measure 91)	
Numerator/Denominator	Numerator: Number of medically tailored meals provided to eligible members, stratified by eligibility type Denominator: N/A
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Research Question 4.2: Did nutrition assistance increase utilization of preventive care?

Percentage of adults who accessed preventive/ambulatory health services (Measure 92)	
Numerator/Denominator	Numerator: Number of members in each denominator group with an ambulatory or preventive care visit Denominator: Treatment Group: Number of members receiving nutrition assistance who are ages 20 years and older, continuously enrolled for the MY, with no more than one gap in enrollment of up to 45 days Comparison Group 1: Number of members eligible for, but not receiving nutrition assistance who are ages 20 years and older, continuously enrolled for the MY, with no more than one gap in enrollment of up to 45 days Comparison Group 2: Number of members participating in MHV eligible for, but not receiving nutrition assistance who are ages 20 years and older, continuously enrolled for the MY, with no more than one gap in enrollment of up to 45 days
Comparison Population	• Propensity score adjusted members who are eligible, but not receiving nutrition assistance • Propensity score adjusted members who are participating in MHV, but not receiving nutrition assistance
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography

Percentage of adults who accessed preventive/ambulatory health services (Measure 92)	
Measure Steward	NCQA
Measure Name	Adults' Access to Preventive/Ambulatory Health Services (AAP)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	Descriptive time series
Frequency	Annually

Percentage of members who accessed timely prenatal care (Measure 93)	
Numerator/Denominator	Numerator: Number of deliveries in the denominator that received a prenatal care visit in the first trimester, on or before the enrollment start date or within 42 days of enrollment in the organization Denominator: Treatment Group: Number of members receiving nutrition assistance who are continuously enrolled from at least 219 days prior to delivery through 60 days after delivery Comparison Group 1: Number of members eligible for, but not receiving nutrition assistance who are continuously enrolled from at least 219 days prior to delivery through 60 days after delivery Comparison Group 2: Number of members participating in MHV eligible for, but not receiving nutrition assistance who are continuously enrolled from at least 219 days prior to delivery through 60 days after delivery
Comparison Population	• Propensity score adjusted members who are eligible, but not receiving nutrition assistance • Propensity score adjusted members who are participating in MHV, but not receiving nutrition assistance
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Adult and Child Core Set
Measure Name	Prenatal and Postpartum Care (PPC2-CH PPC2-AD)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	Descriptive time series
Frequency	Annually/monthly

Research Question 4.3: Did nutrition assistance impact hospital utilization?

Number of potentially preventable ED visits, per 1,000 MM (Measure 94)	
Numerator/Denominator	Numerator: Discharges, for members in each denominator group and meet numerator criteria for any of the following PQIs: • PQI #1 Diabetes Short-Term Complications Admission Rate • PQI #3 Diabetes Long-Term Complications Admission Rate • PQI #5 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate • PQI #7 Hypertension Admission Rate • PQI #8 Heart Failure Admission Rate • PQI #10 Dehydration Admission Rate • PQI #11 Bacterial Pneumonia Admission Rate • PQI #12 Urinary Tract Infection Admission Rate • PQI #13 Angina Without Procedure Admission Rate • PQI #14 Uncontrolled Diabetes Admission Rate • PQI #15 Asthma in Younger Adults Admission Rate • PQI #16 Lower-Extremity Amputation among Patients with Diabetes Rate Discharges These PQIs must meet the inclusion and exclusion rules for the numerator in more than one of the above PQIs are counted only once in the composite numerator. Denominator: Treatment group: MM among members receiving nutrition assistance services, 18 years old and older in metropolitan area or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred. The number of MM, divided by 1,000. Comparison group 1: MM among members eligible for but not receiving nutrition assistance services, 18 years old and older in metropolitan area or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred. The number of MM, divided by 1,000. Comparison group 2: MM among members in the MHV program, eligible for but not receiving nutrition assistance services, 18 years old and older in metropolitan area or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred. The number of MM, divided by 1,000.
Comparison Population	• Propensity score adjusted members who are eligible, but not receiving nutrition assistance • Propensity score adjusted members who are participating in MHV, but not receiving nutrition assistance
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified AHRQ
Measure Name	PQI-90
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Research Question 4.4: Did nutrition assistance improve health outcomes for mothers and newborns?

Percentage of births with low birth weight (Measure 95)	
Numerator/Denominator	Numerator: The number of resident live births in each denominator group weighing less than 2,500 grams (low birth weight). Denominator: Treatment group: The number of live births among members receiving nutrition assistance in the reporting period and had a delivery on or after their first program enrollment date. Comparison group 1: The number of live births among members eligible, but not receiving nutrition assistance in the reporting period and had a delivery on or after their first program enrollment date. Comparison group 2: The number of live births among members participating in MHV that are eligible, but not receiving nutrition assistance in the reporting period and had a delivery on or after their first program enrollment date.
Comparison Population	• Propensity score adjusted members who are eligible, but not receiving nutrition assistance • Propensity score adjusted members who are participating in MHV, but not receiving nutrition assistance
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child Core Set
Measure Name	Low-Birth Weight (LBW)
Data Source	• MMIS • Vital statistics
Desired Direction	Lower is better
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Percentage of births with high birth weight (Measure 96)	
Numerator/Denominator	Numerator: The number of resident live births in each denominator group weighing more than 4,000 grams (high birth weight). Denominator: Treatment group: The number of live births among members receiving nutrition assistance in the reporting period and had a delivery on or after their first program enrollment date. Comparison group 1: The number of live births among members eligible, but not receiving nutrition assistance in the reporting period and had a delivery on or after their first program enrollment date. Comparison group 2: The number of live births among members participating in MHV that are eligible, but not receiving nutrition assistance in the reporting period and had a delivery on or after their first program enrollment date.
Comparison Population	• Propensity score adjusted members who are eligible, but not receiving nutrition assistance • Propensity score adjusted members who are participating in MHV, but not receiving nutrition assistance
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A

Percentage of births with high birth weight (Measure 96)	
Data Source	• MMIS • Vital statistics
Desired Direction	Lower is better
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Percentage of births with cesarean delivery (Measure 97)	
Numerator/Denominator	Numerator: Denominator: Treatment group: The number of single fetus first births completed in the 37th or greater week of pregnancy in a headfirst position among members receiving nutrition assistance in the reporting period. Comparison group 1: The number of single fetus first births completed in the 37th or greater week of pregnancy in a headfirst position among members eligible, but not receiving nutrition assistance in the reporting period. Comparison group 2: The number of single fetus first births completed in the 37th or greater week of pregnancy in a headfirst position among members participating in MHV that are eligible, but not receiving nutrition assistance in the reporting period.
Comparison Population	• Propensity score adjusted members who are eligible, but not receiving nutrition assistance • Propensity score adjusted members who are participating in MHV, but not receiving nutrition assistance
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child Core Set
Measure Name	Low-Risk Cesarean Delivery (LRCD-CH)
Data Source	• MMIS • Vital statistics
Desired Direction	Lower is better
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Percentage of preterm births (Measure 98)	
Numerator/Denominator	Numerator: The number of resident live births in the among members in each denominator group, born prematurely Denominator: Treatment group: The number of live births among members in the reporting period who are receiving nutrition assistance and had a delivery on or after their first program enrollment date. Comparison group 1: The number of live births among members in the reporting period who are eligible, but not receiving nutrition assistance and had a delivery on or after their first program enrollment date. Comparison group 2: The number of live births among members in the reporting period who are participating in MHV but are not receiving nutrition assistance and had a delivery on or after their first program enrollment date.
Comparison Population	• Propensity score adjusted members who are eligible, but not receiving nutrition assistance • Propensity score adjusted members who are participating in MHV, but not receiving nutrition assistance
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Vital statistics
Desired Direction	Lower is better
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Percentage of women with gestational diabetes developing type 2 diabetes (Measure 99)	
Numerator/Denominator	Numerator: Number of deliveries among members in each denominator group ages 18–75 during the measurement period with a diagnosis of type 2 diabetes between 12 weeks and one year following delivery. Denominator: Treatment group: Number of deliveries during the measurement period among members receiving nutrition assistance with a diagnosis of gestational diabetes within 40 weeks of delivery. Comparison group 1: Number of deliveries during the measurement period among members eligible for, but not receiving nutrition assistance with a diagnosis of gestational diabetes within 40 weeks of delivery. Comparison group 2: Number of deliveries during the measurement period among members who are participating in MHV, but not receiving nutrition assistance with a diagnosis of gestational diabetes within 40 weeks of delivery
Comparison Population	• Propensity score adjusted members who are eligible, but not receiving nutrition assistance • Propensity score adjusted members who are participating in MHV, but not receiving nutrition assistance
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography

Percentage of women with gestational diabetes developing type 2 diabetes (Measure 99)	
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Lower is better
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Hypothesis 5: Nutrition assistance will provide cost-effective services.

Research Question 5.1: Did the nutrition assistance program provide cost-effective care for members?

Total and PMPM cost among members receiving nutrition assistance (Measure 100)	
Numerator/Denominator	Numerator: Total costs of care among members receiving nutrition assistance Denominator: N/A
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	N/A
Analytic Approach	Descriptive time series
Frequency	Annually/Monthly

Research Question 5.2: How did local investments in nutrition assistance change over the course of the evaluation?

Key informants' description of changes in nutrition assistance outside of Turquoise Care (Measure 101)	
Numerator/Denominator	Numerator: N/A Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	Key Informant Interviews
Desired Direction	N/A
Analytic Approach	Qualitative Synthesis
Frequency	Two rounds (Interim Evaluation Report and Summative Evaluation Report)

Hypothesis 6: Expanding member access to Medicaid Home Visitation (MHV) will improve perinatal and infant health.

Research Question 6.1: Do home visiting services improve health outcomes among perinatal individuals and infants?

Number of members receiving home visiting services (Measure 102)	
Numerator/Denominator	Numerator: Number of members participating in the MHV program, by service type Denominator: N/A
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of pregnant or postpartum members diagnosed with a mental health disorder (Measure 103)	
Numerator/Denominator	Numerator: Number of members in the denominator for each group diagnosed with a mental health disorder. Denominator: Treatment group: Number of pregnant or postpartum members participating in the MHV program 18 years old and older who are continuously enrolled with a gap in enrollment no greater than 45 days. Comparison group: Number of pregnant or postpartum members who have never participated in the MHV program services 18 years old and older who are continuously enrolled with a gap in enrollment no greater than 45 days.
Comparison Population	Propensity score adjusted members eligible for, but not participating in MHV
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	NCQA
Measure Name	Diagnosed Mental Health (DMH)
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of members with a postpartum visit between 7 and 84 days after delivery (Measure 104)	
Numerator/Denominator	Numerator: The number of deliveries in the denominator that had a postpartum visit on or between seven and 84 days after delivery. Denominator: Treatment group: The number of live births among Turquoise Care members between October 8 of the year prior to the reporting year and October 7 of the reporting year who are MHV program participants and had a delivery on or after their first program enrollment date. Comparison group: The number of live births among Turquoise Care members between October 8 of the year prior to the reporting year and October 7 of the reporting year who have never participated in the MHV program.
Comparison Population	Propensity score adjusted members eligible for, but not participating in MHV
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Adult Core Set
Measure Name	Prenatal and Postpartum Care (PPC)
Data Source	MMIS
Desired Direction	Lower is better
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of members who had a well-child visit in the first 30 months of life (15 months) (Measure 105)	
Numerator/Denominator	Numerator: Number of members with six or more well-child visits on different dates of service on or before the 15-month birthday Denominator: Treatment group: Number of members who turn 15 months old during the MY and are continuously enrolled between 31 days and 15 months old with no more than one gap in enrollment of up to 45 days associated with the MHV program. Comparison group: Number of members who turn 15 months old during the MY and are continuously enrolled between 31 days and 15 months old with no more than one gap in enrollment of up to 45 days who are not associated with the MHV program.
Comparison Population	Propensity score adjusted members eligible for, but not participating in MHV
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	CMS Child Core Set
Measure Name	Well-Child Visits in the First 30 Months of Life (W30)
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/monthly

Percentage of children 2 years of age with appropriate immunization status (Measure 106)	
Numerator/Denominator	Numerator: Number of members in the denominator who had: four DTaP; three IPV; one MMR; three HiB; three HepB, one VZV; four PCV; one HepA; two or three RV; and two flu vaccines by their second birthday. The measure calculates a rate for each vaccine and nine separate combination rates. Denominator: Treatment group: Number of children who turn two years old during the MY who were continuously enrolled 12 months prior to the child's second birthday and have no more than one gap in enrollment of up to 45 days during the 12 months prior to the child's second birthday, among members associated with the MHV program. Comparison group: Number of children who turn two years old during the MY who were continuously enrolled 12 months prior to the child's second birthday and have no more than one gap in enrollment of up to 45 days during the 12 months prior to the child's second birthday, among members who are not associated with the MHV program.
Comparison Population	Propensity score adjusted members eligible for, but not participating in MHV
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified CMS Child Core Set
Measure Name	Childhood Immunization Status (CIS)
Data Source	MMIS
Desired Direction	Lower is better
Analytic Approach	• DiD • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 7: The reentry initiative will improve access to preventive services.

Research Question 7.1: What are barriers or facilitators to implementing the reentry program?

Stakeholders' reported barriers and facilitators of success to implementing the reentry program (Measure 107)	
Numerator/Denominator	Numerator: N/A Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	Key informant interviews
Desired Direction	N/A
Analytic Approach	Qualitative synthesis
Frequency	Two rounds (Interim Evaluation Report and Summative Evaluation Report)

Stakeholders' experience with cross-system communication and coordination (Measure 108)	
Numerator/Denominator	Numerator: N/A Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	Key informant interviews
Desired Direction	N/A
Analytic Approach	Qualitative synthesis
Frequency	Two rounds (Interim Evaluation Report and Summative Evaluation Report)

Stakeholders' experience with connections between correctional and community services (Measure 109)	
Numerator/Denominator	Numerator: N/A Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	Key informant interviews
Desired Direction	N/A
Analytic Approach	Qualitative synthesis
Frequency	Two rounds (Interim Evaluation Report and Summative Evaluation Report)

Stakeholders' experiences providing pre-release services with potentially short duration (e.g., among individuals incarcerated for less than 30 days) (Measure 110)	
Numerator/Denominator	Numerator: N/A Denominator: N/A Questions to stakeholders center around the coverage timeline of pre-release services (90 days). Stakeholders will be asked to describe any differences in reentry planning, care coordination, and health outcomes among members who were incarcerated for shorter durations compared to those incarcerated for longer durations, and/or among members who received more than 30 days of pre-release services compared to members who received fewer than 30 days of pre-release services.
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	Key informant interviews
Desired Direction	N/A
Analytic Approach	Qualitative synthesis
Frequency	Two rounds (Interim Evaluation Report and Summative Evaluation Report)

Research Question 7.2: Does engagement in the reentry program increase members' access to preventive health services?

Number of members receiving pre-release services (Measure 111)	
Numerator/Denominator	Numerator: Number of members receiving pre-release services Denominator: N/A
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	Program participation data
Desired Direction	Higher is better
Analytic Approach	• Descriptive time series • Subgroup analysis
Frequency	Annually/Monthly

Number and types of pre-release services provided to members (Measure 112)	
Numerator/Denominator	Numerator: Number of pre-release services provided to members Denominator: N/A
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• Descriptive time series • Subgroup analysis
Frequency	Annually/Monthly

Number of eligible members accessing care coordination services prior to release from jail or prison (Measure 113)	
Numerator/Denominator	Numerator: Number of members who accessed care coordination services while incarcerated Denominator: Number of members enrolled in the reentry program
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A

Number of eligible members accessing care coordination services prior to release from jail or prison (Measure 113)	
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• Descriptive time series • Subgroup analysis
Frequency	Annually/Monthly

Percentage of adults who accessed preventive/ambulatory health services in the 12 months following release (Measure 114)	
Numerator/Denominator	Numerator: Number of members enrolled in the reentry program with an ambulatory or preventive care visit Denominator: The number of Turquoise Care members enrolled in the reentry program, ages 20 years and older and were continuously enrolled with no more than one gap of up to 45 days during the MY
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified NCQA
Measure Name	Adults' Access to Preventive/Ambulatory Health Services (AAP)
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of children and adolescents who had a well-care visit in the 12 months following release (Measure 115)	
Numerator/Denominator	Numerator: Members among the denominator with one or more well-care visits during the MY Denominator: Number of members enrolled in the reentry program, ages 3–21 years who are continuously enrolled during the MY with no more than one gap in enrollment of up to 45 days
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified CMS Child Core Set
Measure Name	Children and Adolescents' Well-Care Visits (WCV)
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better

Percentage of children and adolescents who had a well-care visit in the 12 months following release (Measure 115)	
Analytic Approach	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Research Question 7.3: Does engagement in the reentry program increase members' access to BH treatment?

Percent of individuals identified with an SMI/SED who have used services related to mental health 12 months following release (Measure 116)	
Numerator/Denominator	Numerator: Number of members engaged any SMI/SED treatment Denominator: Number of members identified with an SMI/SED who are enrolled in the reentry program
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified CMS SMI/SED Monitoring Metrics
Measure Name	Metric #18: Mental Health Utilization
Data Source	• MMIS • Program participation data
Desired Direction	No desired direction
Analytic Approach	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Percentage of members who remained on antidepressant medication treatment in the 12 months following release (Measure 117)	
Numerator/Denominator	Numerator: Number of members in the denominator who remained on an antidepressant medication treatment. Two rates are reported: Members who remained on antidepressant medication treatment for at least 84 days Members who remained on antidepressant medication treatment for at least 180 days Denominator: Number of members ages 18 years and older who were treated with antidepressant medication and had a diagnosis of major depression who were continuously enrolled from 105 days prior to the IPSD through 231 days after the IPSD with no more than one gap in enrollment of up to 45 days during the continuous enrollment period
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified CMS Adult Core Set
Measure Name	Antidepressant Medication Management (AMM)

Percentage of members who remained on antidepressant medication treatment in the 12 months following release (Measure 117)	
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Research Question 7.4: Does engagement in the reentry program increase members' access to SUD providers and treatment?

Percentage of members who have a claim for MAT or medication for opioid use disorder (MOUD) for SUD in the 12 months following release (Measure 118)	
Numerator/Denominator	Numerator: Number of members in each denominator group who have a claim for MAT or MOUD for SUD during the measurement period Denominator: Treatment group: Number of members enrolled in the reentry program, with a diagnosis of SUD who received a 30-day MOUD upon release Comparison group: Number of members enrolled in the reentry program, with a diagnosis of SUD who did not receive a 30-day MOUD upon release
Comparison Population	Members in the reentry program diagnosed with an SUD without a 30-day MOUD prior to release
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified CMS Monitoring Metric #12
Measure Name	Medication Assisted Treatment (MAT)
Data Source	• MMIS • Program participation data
Desired Direction	Higher is better
Analytic Approach	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Number of MOUD providers (Measure 119)	
Numerator/Denominator	Numerator: Number of MOUD providers Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Number of OP pharmacy providers (Measure 120)	
Numerator/Denominator	Numerator: Number of OP pharmacy providers Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	• ITS • Pre-test/post-test
Frequency	Annually/Monthly

Research Question 7.5: Does engagement in the reentry program impact hospital utilization?

Number of potentially preventable ED visits in the 12 months following release, per 1,000 MM (Measure 121)	
Numerator/Denominator	Numerator: Discharges, for patients in the denominator and meet numerator criteria for any of the following PQIs: • PQI #1 Diabetes Short-Term Complications Admission Rate • PQI #3 Diabetes Long-Term Complications Admission Rate • PQI #5 COPD or Asthma in Older Adults Admission Rate • PQI #7 Hypertension Admission Rate • PQI #8 Heart Failure Admission Rate • PQI #10 Dehydration Admission Rate • PQI #11 Bacterial Pneumonia Admission Rate • PQI #12 Urinary Tract Infection Admission Rate • PQI #13 Angina Without Procedure Admission Rate • PQI #14 Uncontrolled Diabetes Admission Rate • PQI #15 Asthma in Younger Adults Admission Rate • PQI #16 Lower-Extremity Amputation among Patients with Diabetes Rate Discharges These PQIs must meet the inclusion and exclusion rules for the numerator in more than one of the above PQIs are counted only once in the composite numerator. Denominator: MM among members in the reentry program, ages 18 years and older in metropolitan area or county. Discharges in the numerator are assigned to the denominator based on the metropolitan area or county of the patient residence, not the metropolitan area or county of the hospital where the discharge occurred. The number of MM, divided by 1,000.
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified AHRQ
Measure Name	PQI-90
Data Source	• MMIS • Program participation data
Desired Direction	Lower is better
Analytic Approach	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Number of all-cause ED visits in the 12 months following release, per 1,000 MM (Measure 122)	
Numerator/Denominator	Numerator: Number of all-cause ED visits among members enrolled in the reentry program Denominator: Number of MM among those enrolled in the reentry program, divided by 1,000
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified NCQA
Measure Name	Ambulatory Care (AMB)
Data Source	• MMIS • Program participation data
Desired Direction	No desired direction
Analytic Approach	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Number of IP visits in the 12 months following release, per 1,000 MM (Measure 123)	
Numerator/Denominator	Numerator: Number of IP visits among members enrolled in the reentry program Denominator: Number of MM among those enrolled in the reentry program, divided by 1,000
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	Modified NCQA
Measure Name	IP Utilization—General Hospital/Acute Care (IPU)
Data Source	• MMIS • Program participation data
Desired Direction	No desired direction
Analytic Approach	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Research Question 7.6: Do members participating in the reentry program have reduced rates of mortality, overdose, and suicide?

All-cause mortality in the 12 months following release (Measure 124)	
Numerator/Denominator	Numerator: Number of all-cause deaths among denominator population Denominator: Number of members enrolled in the reentry program
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data • Vital statistics • DOH, overdose and mortality reports
Desired Direction	Lower is better
Analytic Approach	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Rate of deaths due to overdose in the 12 months following release (Measure 125)	
Numerator/Denominator	Numerator: Number of all-cause deaths among the denominator population Denominator: Number of members enrolled in the reentry program
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data • Vital statistics • DOH, overdose and mortality reports
Desired Direction	Lower is better
Analytic Approach	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Rate of suicide in the 12 months following release (Measure 126)	
Numerator/Denominator	Numerator: Number of suicide deaths among the denominator population Denominator: Number of members enrolled in the reentry program
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• MMIS • Program participation data • Vital statistics • DOH, overdose and mortality reports
Desired Direction	Lower is better
Analytic Approach	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 8: The reentry program will provide cost-effective care for members.

Research Question 8.1: Did the reentry program provide cost-effective care for members?

Total and PMPM cost (among members in the reentry program) (Measure 127)	
Numerator/Denominator	Numerator: Total cost of care among denominator members Denominator: Number of MM among members enrolled in the reentry program
Comparison Population	N/A
Stratification	Race/ethnicity, primary language, disability status, sexual orientation and gender identity, and geography
Measure Steward	N/A
Measure Name	N/A
Data Source	• Program participation data • MMIS
Desired Direction	No desired direction
Analytic Approach	• Descriptive time series • Subgroup analysis • ITS • Pre-test/post-test
Frequency	Annually/Monthly

Hypothesis 9: Eligible members will access services covered under the traditional health care practices (THCP) initiative.

Research Question 9.1: What are barriers or facilitators of the THCP initiative?

Stakeholders' reported barriers and successes of the THCP initiative (Measure 128)	
Numerator/Denominator	Numerator: N/A Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	Key Informant Interviews
Desired Direction	N/A
Analytic Approach	Qualitative Synthesis
Frequency	Two rounds (Interim Evaluation Report and Summative Evaluation Report)

Stakeholders' reported accessibility and quality of care provided through the THCP initiative (Measure 129)	
Numerator/Denominator	Numerator: N/A Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	Key Informant Interviews
Desired Direction	N/A
Analytic Approach	Qualitative Synthesis
Frequency	Two rounds (Interim Evaluation Report and Summative Evaluation Report)

Research Question 9.2: Did members access services covered under the THCP initiative?

Number of providers enrolled in or offering Medicaid reimbursable THCP services (Measure 130)	
Numerator/Denominator	Numerator: Number of providers enrolled in or offering THCP Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	Descriptive time series
Frequency	Annually

Number of members receiving Medicaid reimbursable THCP services (Measure 131)	
Numerator/Denominator	Numerator: Number of members receiving services from a provider enrolled in or offering THCP Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	Descriptive time series
Frequency	Annually

Number and type of Medicaid reimbursable THCP services provided to eligible members (Measure 132)	
Numerator/Denominator	Numerator: Number and types of Medicaid reimbursable THCP services provided to eligible members Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	Higher is better
Analytic Approach	Descriptive time series
Frequency	Annually

Hypothesis 10: The THCP initiative will provide cost-effective services.

Research Question 10.1: Did the THCP initiative provide cost-effective care for members?

Total and PMPM cost among members accessing services covered under the THCP initiative (Measure 133)	
Numerator/Denominator	Numerator: Total cost of care among members eligible for and receiving Medicaid reimbursable services from the THCP initiative Denominator: N/A
Comparison Population	N/A
Stratification	N/A
Measure Steward	N/A
Measure Name	N/A
Data Source	MMIS
Desired Direction	No desired direction
Analytic Approach	Descriptive time series
Frequency	Annually