**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**

April 6, 2026

Lisa Lee
Commissioner, Department for Medicaid Services
Cabinet for Health and Family Services
275 East Main Street, 6 West A
Frankfort, KY 40601

Dear Commissioner Lee:

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 #104 "Evaluation Design Approval and Updates" of Kentucky's section 1115 demonstration, "TEAMKY" (Project Nos: 11-W-00306/4 and 21-W-00067/4), effective through December 31, 2029. CMS has determined that the Evaluation Design, which was submitted on June 10, 2025 and January 22, 2026, 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 F. 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 Kentucky TEAMKY section 1115 demonstration. If you have any questions, please contact your CMS demonstration team.

Sincerely,

DANIELLE DALY -S

Digitally signed by DANIELLE DALY -S
Date: 2026.06.24 11:07:40 -04'00'

Danielle Daly
Director
Division of Demonstration Monitoring and Evaluation

cc: Christine Davidson, State Monitoring Lead, CMS Medicaid and CHIP Operations Group

Mercer

Government Human Services Consulting

# TEAMKY Section 1115 Health-Related Social Needs, Serious Mental Illness, and Recovery Residence Support Services Demonstration Evaluation Design

## Commonwealth of Kentucky

June 10, 2025

Revised January 23, 2026

# Contents

1. General Background Information....2
   - Demonstration History....2
   - Demonstration Overview....6
2. Evaluation Questions and Hypotheses....10
   - Logic Models....11
   - Hypotheses and Research Questions....14
3. Methodology....16
   - Evaluation Design....16
   - Target and Comparison Populations....17
   - Evaluation Period....18
   - Evaluation Measures and Data Sources....19
   - Analytical Methods....39
4. Methodological Limitations....45
5. Attachments....47

Appendix A: Conflict of Interest....48

Appendix B: Evaluation Budget....49

Appendix C: Potential Timeline and Major Deliverables....51

# Section 1
# General Background Information

The TEAMKY Demonstration (Project Numbers 11-W-00306/4 and 21-W-00067/4) was approved by the Centers for Medicare & Medicaid Services (CMS) for a five-year extension on December 12, 2024, effective January 1, 2025 through December 31, 2029. Through the extension, the Commonwealth of Kentucky (Commonwealth) has authority to continue providing a limited set of pre-release service for individuals incarcerated in participating facilities 60 days prior to release (hereinafter also referred to as "reentry"); coverage for short-term stays in institutions for mental diseases (IMDs) for individuals with substance use disorders (SUDs); and coverage for former foster care youth (FFCY) who are under 26 years old, were in foster care under the responsibility of another state or tribe on the day they turn 18 years old (or a higher age as elected by the state), and who were enrolled in Medicaid on that day. The extension approval also included new authority for the Commonwealth to provide coverage for short-term stays in IMDs for individuals with a serious mental illness (SMI), short-term pre-procedure or post-transition episodic housing for eligible individuals to address health-related social needs (HRSNs) through a recuperative care program, and short-term recovery residence support services (RRSS) for eligible individuals.

To meet CMS' Special Terms and Conditions (STCs), the Commonwealth's Division of Medicaid Services (DMS) must contract with an independent third party to evaluate the Demonstration. DMS contracted with Mercer Government Human Services Consulting (Mercer), part of Mercer Health & Benefits LLC, to develop the Evaluation Design for the Demonstration. The Mercer team includes Mercer and its subcontractors, TriWest Group and HealthTech Solutions.

This document provides an overview of the planned Evaluation Design for assessing the effects of the new Demonstration component (SMI, HRSN/recuperative care pilot, and RRSS) and follows CMS' recommended structure and guidance for evaluation designs.

## Demonstration History

The Commonwealth has leveraged section 1115 demonstrations in the past to address serious healthcare needs for its beneficiaries. The TEAMKY (formerly KYHealth) Demonstration was initially approved on January 12, 2018. The original comprehensive Demonstration included expenditure authority allowing the Commonwealth to provide services to otherwise eligible members with a SUD who are short-term residents in an IMD and includes coverage of FFCY who were in foster care in another state. On June 16, 2020, the Commonwealth received approval to remove a community engagement component of the waiver that was never implemented. In November 2020, the Commonwealth submitted an application to provide substance use treatment for eligible incarcerated members; this amendment was withdrawn, and the approved reentry Demonstration amendment was submitted in its stead to be consistent with State Medicaid Directors Letter #23-003.[1] On December 12, 2024,[2] CMS approved the TEAMKY Demonstration for a further five-year

[1] CMS. "Opportunities to Test Transition-Related Strategies to Support Community Reentry and Improve Care Transitions for Individuals who are Incarcerated." April 17, 2023. https://www.medicaid.gov/federal-policy-guidance/downloads/smd23003.pdf

[2] CMS. STC. December 12, 2024. https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/ky-teamky-dmnstn-appvl-12122024.pdf

extension. The approval included approval of additional components, including expenditure authority to provide (1) services to members with an SMI who are short-term residents in an IMD, (2) recuperative care services to adult beneficiaries who are homeless or at risk of homelessness, and (3) RRSS for individuals with an SUD for up to 90 days post-release from incarceration or engaged in the Behavioral Health Conditional Dismissal Program (BHCDP).

## SMI

The Commonwealth has made strides in addressing the needs of individuals with SMI, but gaps remain. In 2021, the House Concurrent Resolution 7[3] proposed and formed a Severe Mental Illness Task Force, which ultimately provided recommendations and directions to the Cabinet for Health and Family Services (CHFS) and DMS around providing services to individuals with SMI. In 2022, Senate Joint Resolution 72 (SJR72)[4] directed CHFS to apply for a Medicaid waiver for individuals with SMI to provide for:

1. Supported housing, which may include staffed residences, group homes, family care homes, specialized personal care homes, or personal care homes.
2. Medical respite care.
3. Supported employment.

Data from 2021 shows that approximately 746,000 individuals had a mental health condition and 113,000 adults had an SMI in the Commonwealth.[5,6] Data from the National Survey on Drug Use and Health (NSDUH) for the years 2021–2022 indicate that the Commonwealth was ranked fourth among all 50 states and the District of Columbia in terms of the percentage of individuals experiencing an SMI in the previous year.[7] More recent data from the 2023 Household Pulse Survey found that the share of adults reporting symptoms of anxiety and/or depressive disorder was greater in the Commonwealth (37.4%) compared to the general US population (32.3%).[8] Individuals with SMI are disproportionately represented among those experiencing homelessness and the incarcerated population.[9,10,11] Mental health treatment is often interrupted during incarceration.[12] The severity of SMI is also correlated with reduced employment rates and income levels.[13] Mental health conditions are undertreated in the US; in the Commonwealth, the majority of the population lives in a

[3] House Concurrent Resolution. 2021. https://apps.legislature.ky.gov/record/21rs/hcr7.html. Accessed May 5, 2025

[4] SJR72. 2022. https://apps.legislature.ky.gov/record/22rs/sjr72.html. Accessed May 5, 2025

[5] Ibid

[6] National Alliance on Mental Illness. "Mental Health in Kentucky." https://www.nami.org/wp-content/uploads/2023/07/KentuckyStateFactSheet.pdf. Accessed March 8, 2025

[7] Substance Abuse and Mental Health Services Administration. "2021–2022 NSDUH: Model-Based Estimated Prevalence for States." https://www.samhsa.gov/data/report/2021-2022-nsduh-state-prevalence-estimates. Accessed March 8, 2025.

[8] Kaiser Family Foundation. "Mental Health in Kentucky." https://www.kff.org/statedata/mental-health-and-substance-use-state-fact-sheets/kentucky/. Accessed March 8, 2025.

[9] Parker H, Silver S. "Public Education and Research, Research Summary: Homelessness and Serious Mental Illness." *Treatment Advocacy Center.* November 2024. https://www.tac.org/wp-content/uploads/2016/09/TAC_ORPA_ResearchSummary_Homelessness.pdf

[10] Public Citizen. "Individuals With Serious Mental Illnesses in County Jails: A Survey of Jail Staff's Perspectives." 2016. https://www.citizen.org/wp-content/uploads/citizens-united-20110113.pdf

[11] Ibid

[12] National Alliance on Mental Illness. "Mental Health Treatment While Incarcerated: Where We Stand." https://www.nami.org/advocacy/policy-priorities/improving-health/mental-health-treatment-while-incarcerated/. Accessed May 6, 2025.

[13] Luciano A, Meara E. "Employment status of people with mental illness: national survey data from 2009 and 2010." *Psychiatric Services.* Volume 65 Issue 10 (2014), pp. 1,201–1,209. https://pmc.ncbi.nlm.nih.gov/articles/PMC4182106/#:~:text=Employment%20rates%20decreased%20with%20increasing,mental%20illness%20p%3C0.001).

community that has inadequate access to mental health services,[14] and only about one-quarter of the need for mental healthcare professionals are met.[15]

The Commonwealth has a number of state programs that address SMI. In 2020, the Commonwealth was selected to participate in the Certified Community Behavioral Health Clinic (CCBHC) Demonstration; CCBHCs provide comprehensive behavioral health (BH) care to individuals. The Department for Behavioral Health and Developmental Intellectual Disabilities distributes Substance Abuse and Mental Health Services Administration (SAMHSA) grant funds to support Community Mental Health Centers, which provide services such as early intervention for psychosis, institutionalization diversion programs, and case management and outreach programs for individuals with SMI who are also homeless. The Commonwealth operates mobile crisis intervention services that began through a grant in 2022. The Commonwealth applied for a section 1915(i) waiver to provide services to individuals with an SMI; the waiver is expected to be implemented on July 1, 2025.

## HRSNs — Recuperative Care Pilot

In 2024, over 770,000 individuals were estimated to experience homelessness on any given night based on Point-in-Time (PIT) counts (about 23 of every 10,000 people in the US).[16] Similar estimates in the Commonwealth, from the "K-Count," in 2024 reveal that over 5,000 Kentuckians experienced homelessness, which is about 12 out of every 10,000 people in the Commonwealth.[17] Although the Commonwealth fares better than the national rate of individuals experiencing homelessness, there are still gaps that need to be addressed.

Homelessness and housing instability are linked to healthcare outcomes, and interventions that support housing were associated with improved adult health outcomes.[18] Unsheltered homelessness (i.e., living on the streets) is associated higher rates of SMI and SUD, as well as unmet healthcare needs.[19] Furthermore, unsheltered homelessness increases the risk of chronic homelessness, which can exacerbate SMI and SUD.[19] Individuals experiencing homelessness are at an increased risk for communicable diseases such as hepatitis, tuberculosis, and HIV.[20] Homelessness can also exacerbate chronic health conditions such as high blood pressure, diabetes, and asthma.[21] In the Commonwealth, 2024 PIT estimates reveal that among 5,231 individuals who were homeless, 18.3% had an SMI, 16.8% had a chronic SUD, and 1.2% had HIV/AIDs.[22] A collaborative study between DMS and the Kentucky Housing Corporation found that among 65,843 homeless individuals who were matched to data from the Medicaid Management Information System (MMIS), only 13% utilized services to treat SMI and 11% utilized services to treat an SMI/SUD co-occurring

[14] National Alliance on Mental Illness. "Mental Health in Kentucky." https://www.nami.org/wp-content/uploads/2023/07/KentuckyStateFactSheet.pdf. Accessed May 8, 2025.

[15] Kaiser Family Foundation. "Mental Health in Kentucky." https://www.kff.org/statedata/mental-health-and-substance-use-state-fact-sheets/kentucky/. Accessed May 8, 2025.

[16] U.S. Department of Housing and Urban Development, Office of Community Planning and Development. "The 2024 Annual Homelessness Assessment Report (AHAR) to Congress," December 2024. https://www.huduser.gov/portal/sites/default/files/pdf/2024-AHAR-Part-1.pdf

[17] Kentucky Housing Corporation. "2024 K-Count Results." https://www.kyhousing.org/Data-Library/Pages/K-Count-Results.aspx. Accessed May 8, 2025

[18] Chen KL, Miake-Lye IM, Begashaw MM, et al. "Association of Promoting Housing Affordability and Stability With Improved Health Outcomes: A Systematic Review." *JAMA Netw Open.* Volume 5 Issue 11 (2022). https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2798095.

[19] Richards J, Kuhn R. "Unsheltered Homelessness and Health: A Literature Review." *AJPM Focus.* Volume 2 Issue 1 (2022). https://pubmed.ncbi.nlm.nih.gov/37789936/.

[20] Centers for Disease Control. "About Homelessness and Health." https://www.cdc.gov/homelessness-and-health/about/index.html. Accessed May 8, 2025.

[21] National Health Care for the Homeless Council. "Homelessness & Health: What's the Connection?" February 2019. https://nhchc.org/wp-content/uploads/2019/08/homelessness-and-health.pdf.

[22] U.S. Department of Housing and Urban Development. "HUD 2024 Continuum of Care Homeless Assistance Programs Homeless Populations and Subpopulations: Kentucky." December 9, 2024. https://files.hudexchange.info/reports/published/CoC_PopSub_State_KY_2024.pdf.

disorder. Meanwhile, 45% had at least one emergency department (ED) visit, with an average of six visits per year per beneficiary, over five years.[23]

The Commonwealth has attempted to address the healthcare needs of homeless individuals. For example, the Projects for Assistance in Transitioning from Homelessness Program provides services to those who are experiencing or at risk of homeless and have an SMI or a co-occurring SUD.[24] The Homeless Prevention Project offers discharge planning for those leaving state-operated or state-supervised institutions to help re-integrate individuals into their communities and offers linkages to community resources.[25] Additionally, the Commonwealth currently has five recuperative care service providers that provide acute care support for homeless individuals. It is a medical respite program that can prevent future ED use and hospital readmissions.[26]

## RRSS

Since 1970, there has been steady growth in the prison and jail population in the Commonwealth.[27] The Commonwealth chose to pursue a pre-release services Demonstration to address the physical health and BH needs of its population. In 2022, 19,744 and 22,292 individuals were incarcerated in prisons and jails, respectively, in the Commonwealth, resulting in an incarceration rate of 437 per 100,000 people.[28]

Incarcerated individuals have high rates of BH conditions (SUD and SMI). Estimates put the prevalence of mental health conditions as high as 16% or 17% of incarcerated individuals in state prisons and jails, compared to 5.5% of adults in the general population.[29] 53% of incarcerated individuals in state prisons and 68% of individuals in jails have an SUD, compared to 16.5% of individuals aged 12 years and older in the general population. In 2023, 48.5 million (16.7%) Americans, aged 12 years and older, had an SUD within the past year.[30, 31] Estimates suggest that one-third to two-thirds of incarcerated individuals have co-occurring mental health disorders and SUDs. Individuals with a history of incarceration have higher rates of asthma, high blood pressure, cancer, arthritis, tuberculosis, HIV, and hepatitis than the general public.[32]

The Commonwealth has a long history of addressing incarceration and its associated health needs through legislative and policy actions. Bills passed in 2011 (House Bill 463) and 2015 (Senate Bill 192) emphasized treatment over incarceration through the creation of a drug treatment court program and the Alternative Sentencing Worker Program and expanding

[23] CHFS, DMS. “SMI and Recuperative Care Application.” May 31, 2023. https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/ky-health-smi-recuperative-amndmnt-05312023.pdf

[24] U.S. Department of Health and Human Services, Office of Inspector General. “Projects for Assistance in Transition from Homelessness Program.” https://oig.hhs.gov/reports-and-publications/workplan/summary/wp-summary-0000371.asp#:~:text=The%20PATH%20program%20supports%20the,imminent%20risk%20of%20becoming%20homeless. Accessed May 8, 2025.

[25] CHFS. “Housing and Homeless Program.” https://dbhdidtest.ky.gov/mh/housing-resources. Accessed May 8, 2025.

[26] Spencer, Andrew. “Medical Respite Care: Evidence Roundup.” September 24, 2024. Center for Health Care Strategies. https://bettercareplaybook.org/_blog/2024/23/medical-respite-care-evidence-roundup

[27] Vera. “Incarceration Trends: Kentucky.” October 16, 2024. https://trends.vera.org/state/KY.

[28] National Institute of Corrections. “Kentucky 2022.” https://nicic.gov/resources/nic-library/state-statistics/2022/kentucky-2022. September 20, 2024.

[29] SAMHSA. “Guidelines for Successful Transition of People with Mental or Substance Use Disorders from Jail and Prison: Implementation Guide.” 2023. https://library.samhsa.gov/sites/default/files/sma16-4998.pdf.

[30] SAMHSA. “Highlights for the 2023 National Survey on Drug Use and Health.” May 2, 2024. https://www.samhsa.gov/data/sites/default/files/NSDUH%202023%20Annual%20Release/2023-nsduh-main-highlights.pdf.

[31] American Addiction Centers. “Alcohol and Drug Abuse Statistics (Facts About Addiction).” March 26, 2025. https://americanaddictioncenters.org/rehab-guide/addiction-statistics-demographics.

[32] Office of Disease Prevention and Health Promotion. “Incarceration.” https://odphp.health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/incarceration. Accessed December 13, 2024.

access to treatment. Senate Bill 90, passed in 2022, created the BHCDP. The BHCDP is a pilot program designed to provide eligible individuals with a BH disorder and qualifying low-level charges a treatment alternative to receive BH treatment and recovery support in lieu of incarceration.[33] Participants can receive various services, including outpatient and inpatient treatment, medications, case management, educational and job training, and recovery supports. If they complete the treatment plan set by a BH provider, their criminal charges will be dismissed.[34] The BHCDP program operates in 17 counties as of 2024, serving 535 participants in 2024.[35] Among the successful 112 successful participants referred to BHCDP between 2023 to 2024, only six individuals were arrested and only one individual was sentenced to incarceration within six months after successful completion. The Commonwealth initially piloted the RRSS program, overseen by the Administrative Services Organization (ASO), through the BHCDP supported by a $1 million in philanthropy funds.[36, 37] ASO worked with programs to provide information about the opportunity and program requirements, and to provide technical assistance on the application and onboarding process. As of September 2024, no programs have fully completed the RRSS onboarding process.[38] On December 12, 2024, the Commonwealth received approval from CMS to reimburse RRSS through the TEAMKY Demonstration, with the goal of expanding these services.

# Demonstration Overview

On December 12, 2024, the TEAMKY Demonstration was approved for January 1, 2025 through December 31, 2029. The evaluation described in this design document will include both an implementation assessment and outcome evaluation of the SMI, HRSN, and RRSS components over the entire period: January 1, 2025 through December 31, 2029. Details for each evaluation period are included in the Methodology section of this design.

## Demonstration Goals

The Demonstration's overarching goal is to improve health and well-being for Medicaid members in the Commonwealth, achieved by increasing access to services, improving continuity of care, and connecting members to community resources. Below, the goals for each component are outlined.

### SMI

- **Goal 1:** Reduce utilization and lengths of stay in EDs among Medicaid beneficiaries.
- **Goal 2:** Reduce preventable readmissions to acute care hospitals and residential settings.

[33] Patrick M. "Pilot program expanded to divert some low-level offenders away from jail and into treatment." Kentucky Health News. November 10, 2024. https://kyhealthnews.net/2024/11/10/pilot-program-to-divert-some-offenders-away-from-jail-and-to-treatment-expanded/

[34] Eastern Kentucky Concentrated Employment Program, Inc. "Barrier Relief Supportive Service Guide Behavioral Health Conditional Dismissal Program." https://www.kentuckyproviders.org/wp-content/uploads/2024/04/BHCDP-Barrier-Relief-Supportive-Service-Guide.pdf. Accessed May 4, 2025.

[35] Commonwealth of Kentucky Court of Justice, Administrative Office of the Courts, Pretrial Services. "2024 Annual Report: Senate Bill 90: Behavioral Health Conditional Dismissal Program." November 10, 2024. https://www.chfs.ky.gov/agencies/dbhdid/Documents/BHCDP%202024%20Annual%20Report.pdf.

[36] Commonwealth of Kentucky. "Medicaid Section 1115 Substance Use Disorder Demonstration Monitoring Report Template." April 2024 to June 2024. https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/ky-sud-part-b-narrative-apr-jun-2024.pdf. Accessed May 8, 2025

[37] Commonwealth of Kentucky. "Medicaid Section 1115 Substance Use Disorder Demonstration Monitoring Report Template." July 2024 to September 2024. https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/ky-sud-part-b-narrative-jul-sept-2024.pdf. Accessed May 8, 2025.

[38] Ibid

- **Goal 3:** Improve availability of crisis stabilization services, including services made available through call centers and mobile crisis teams and intensive outpatient services, as well as services provided during acute short-term stays in residential crisis stabilization programs, psychiatric hospitals, and residential treatment settings.
- **Goal 4:** Improve access to community-based services to address the chronic mental healthcare needs of beneficiaries with SMI, including through increased integration of primary and BH care.
- **Goal 5:** Improve care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.
- **Goal 6:** Maintain or decrease cost of care.

## HRSNs/Recuperative Care Pilot

- **Goal 1**: Reduce utilization of avoidable high-acuity healthcare services through improved access to other continuum of care services.
- **Goal 2**: Reduce health disparities by improving beneficiary physical and BH outcomes.
- **Goal 3**: Reduce health disparities by improving access to community-based services to address HRSNs.
- **Goal 4**: Ensure long-term fiscal sustainability of recuperative care services.
- **Goal 5:** Maintain or decrease cost of care.

## RRSS

- **Goal 1**: Improve access to and utilization of services by increasing coverage, continuity of coverage, and appropriate service uptake for eligible adults.
- **Goal 2:** Improve coordination, communication, and connections between correctional systems, Medicaid systems and processes, managed care plans, and community-based service providers delivering RRSS and other services to maximize successful community integration.
- **Goal 3**: Reduce the number of avoidable ED visits and inpatient hospitalizations and reduce all cause deaths.
- **Goal 4**: Improve quality of care for Medicaid beneficiaries in post-release reentry community services.
- **Goal 5:** Maintain or decrease cost of care.

## Demonstration Activities

The Demonstration allows the Commonwealth to provide a series of new services for eligible individuals. The Commonwealth is authorized to provide:

- Short-term stays in IMDs for beneficiaries ages 21 years to 64 years with an SMI (SMI).
- Short-term pre-procedure housing (HRSN).

- Short-term post-transition housing (HRSN).
- Up to 90 days of RRSS for individuals with an SUD who have left incarceration or are participating in lieu of incarceration (RRSS).

The Commonwealth will achieve the above goals and provide the services noted above by following the initiatives and actions outlined in the Commonwealth's implementation plans, STCs, and other documents.

## SMI

- Maintain and establish requirements related to standards of care, licensure, accreditation, oversight, and coordination of care.
- Standardize policies and procedures, including follow-up post-discharge.
- Conduct social assessments to determine housing needs.
- Continue to address co-morbid conditions, including through integrating behavioral and physical health.
- Enhance services for all beneficiaries, including early identification and engagement for youth.

## HRSNs/Recuperative Care Pilot

- Increase the number of service providers.
- Develop policies and processes to refer individuals to the program and ensure eligibility.
- Follow national standards in service delivery.
- Connect beneficiaries to additional services to address HRSN.

## RRSS

- Require that providers align with national requirements and standards and require minimum training requirements for staff.
- Facilitate managed care organizations' (MCO) contracts with community-based providers for services.
- Utilize person-centered recovery tools.
- Provide services that support community integration and address health conditions and HRSNs.

## Impacted Population Groups

The Demonstration is open to eligible Medicaid beneficiaries, though each component has specific eligibility criteria.

For the SMI program, eligible individuals are those aged 21 years to 64 years with an SMI, with incomes up to 213% of the federal poverty level (FPL) who receive a full Medicaid state plan benefit package. The income limits do not apply to FFCY and those deemed aged,

blind, or disabled. Individuals receiving limited benefit packages or long-term services and supports are not eligible for the SMI program. The Commonwealth will use both a fee-for-service and managed care delivery system for the SMI program.

For the recuperative care pilot, eligible members are those in the mandatory, optional, or expansion populations aged 18 years or older with incomes up to 213% of the FPL. Beneficiaries must also meet clinical and social risk factors. Eligible individuals must be experiencing homelessness or be at risk of homelessness, as defined by 24 CFR 91.5 (except for the annual income requirement described in 24 CFR 91.5(1)(i)), face a heighted risk of hospitalization and readmission, and have specific aftercare needs. Additionally, individuals must have a primary medical diagnosis that requires post-acute care and preparation for planned medical procedures or episodic treatment, be independently mobile, and be capable of performing activities of daily living. Five recuperative care providers operate across the Commonwealth. Recuperative care providers will be encouraged to contract with MCOs under the Demonstration, and beneficiaries will receive services via either the managed care or fee-for-service delivery system.

For RRSS, individuals are eligible to participate if they are Medicaid beneficiaries aged 18 years and over with an SUD who (1) have been released from incarceration (and have received pre-release services), or (2) participated in BHCDP. RRSS services will be provided through the Commonwealth's managed care delivery system, as community-based RRSS providers will contract with MCOs under the Demonstration, and via the fee-for-service delivery system.

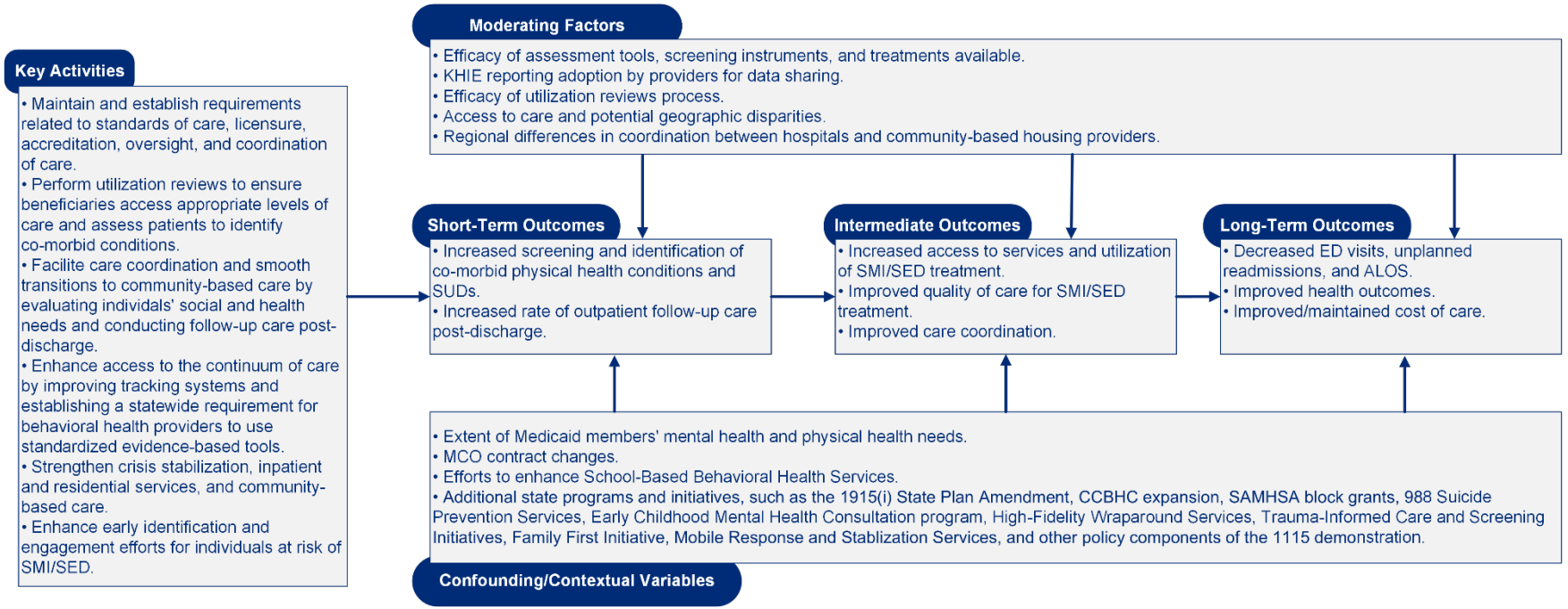
## Section 2

# Evaluation Questions and Hypotheses

The previous section outlined the Demonstration's goals and activities. The logic models below show how the activities from the Implementation Plan will advance the key aims of the Demonstration components, improve health outcomes, increase access to and utilization of services, reduce all-cause deaths, and reduce unnecessary care.

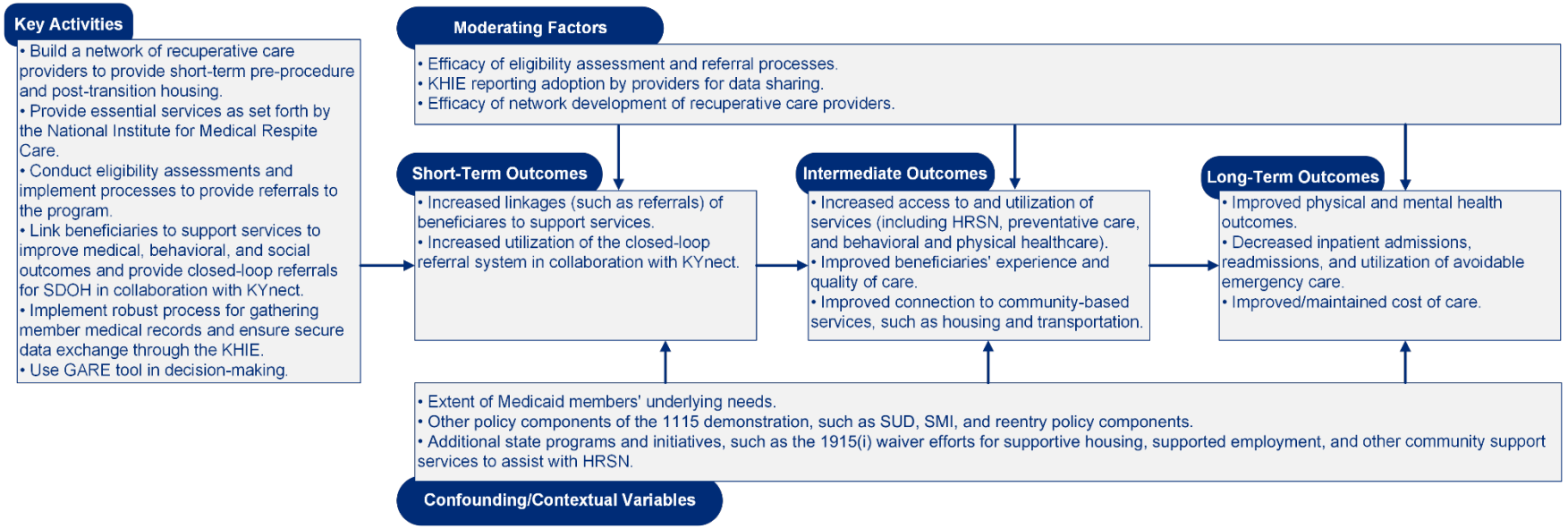
# Logic Models

## Figure 1: SMI Logic Model



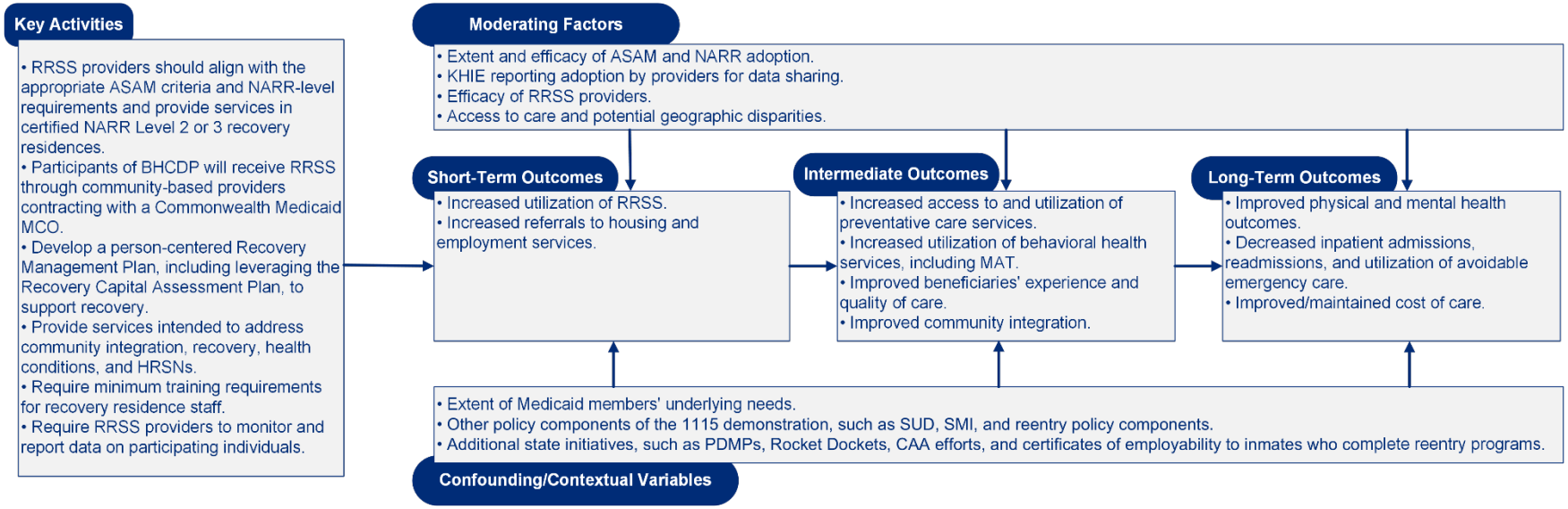

Notes: ALOS = average length of stay; CCBHC = Certified Community Behavioral Health Clinic; ED = emergency department; KHIE = Kentucky Health Information Exchange; MCO = managed care organization; SAMHSA = Substance Abuse and Mental Health Services Administration; SED = serious emotional disturbance; SMI = serious mental illness; SUD = substance use disorder

## Figure 2: HRSN Logic Model




Notes: GARE = Government Alliance on Racial Equity; HRSN = health related social needs; KHIE = Kentucky Health Information Exchange; SDOH = social determinants of health; SMI = serious mental illness; SUD = substance use disorder

## Figure 3: RRSS Logic Model




Notes: ASAM = American Society of Addiction Medication; BHCDP = Behavioral Health Conditional Dismissal Program; CAA = Consolidated Appropriations Act of 2023; HRSN = health related social needs; KHIE = Kentucky Health Information Exchange; MAT = medication assisted treatment; MCO = managed care organization; NARR = National Alliance for Recovery Residences; PDMP = Prescription Drug Monitoring Program; RRSS = Recovery Residence Support Services; SMI = serious mental illness; SUD = substance use disorder

# Hypotheses and Research Questions

The research questions (RQs) below align with the aims and goals of each Demonstration component. RQs will be used to test each hypothesis (H), and quantitative and/or qualitative measures will be used to answer each RQ. Refer to Section 3 for more detail and a complete list of RQs, Hs, and measures. Table 1 outlines key RQs and Hs for each component.

**Table 1: Research Questions and Hypotheses**

| Research Question | Hypothesis |
|---|---|
| **SMI** | |
| **RQ1:** Will the Demonstration increase access to services among Medicaid beneficiaries with SMI? | **H1.1:** The Demonstration will improve access to and increase utilization of community-based and appropriate SMI treatment services to address the needs of beneficiaries with SMI.<br>**H1.2:** The Demonstration will improve utilization of crisis stabilization services.<br>**H1.3:** The Demonstration will improve care coordination for beneficiaries with SMI. |
| **RQ2:** Will the Demonstration reduce ED visits, preventable readmission, and average length of stay (ALOS)? | **H2.1:** The Demonstration will reduce the ALOS in IMDs and the proportion of beneficiaries with SMI treated in an IMD.<br>**H2.2:** The Demonstration will reduce ED visits among beneficiaries with SMI.<br>**H2.3:** The Demonstration will reduce unplanned readmissions among beneficiaries with SMI. |
| **RQ3:** Will the Demonstration improve health outcomes? | **H3.1:** The Demonstration will improve utilization of preventative healthcare services.<br>**H3.2:** The Demonstration will improve integration of behavioral and physical healthcare.<br>**H3.3:** The Demonstration will improve physical and mental health outcomes. |
| **RQ4:** Will the Demonstration maintain or decrease the cost of care? | **H4.1:** The Demonstration will maintain or decrease the cost of care. |
| **HRSNs/Recuperative Care Pilot** | |
| **RQ1:** Will the Demonstration address unmet HRSN needs in the eligible Medicaid beneficiary population? | **H1.1:** The Commonwealth will take actions to address unmet HRSN needs.<br>**H1.2:** The Demonstration will increase the utilization of HRSN services and reduce unmet HRSNs. |
| **RQ2:** Will the Demonstration improve utilization of appropriate, community-based healthcare services | **H2.1:** The Demonstration will improve the utilization of appropriate, community-based healthcare services (BH, physical health outpatient, medication assisted treatment [MAT]). |

| Research Question | Hypothesis |
|---|---|
| (i.e., preventative, BH, outpatient physical healthcare)? | **H2.2:** The Demonstration will decrease ED utilization, inpatient admissions, and readmissions.<br>**H2.3:** The Demonstration will improve health outcomes.<br>**H2.4:** The Demonstration will improve beneficiary experience with care and quality of service. |
| **RQ3:** Will the Demonstration improve beneficiaries' connection to community-based services for HRSN? | **H3.1:** The Commonwealth will take actions to improve beneficiaries' connections to community-based services.<br>**H3.2:** Beneficiaries will experience improved connections to community-based services. |
| **RQ4:** Will the Demonstration maintain or decrease the cost of care? | **H4.1:** The Demonstration will maintain or decrease the cost of care. |
| **RRSS** | |
| **RQ1:** Will the Demonstration support beneficiaries' recovery journey? | **H1.1:** The Commonwealth will take actions to increase the utilization of RRSS.<br>**H1.2:** The Demonstration will increase the uptake of RRSS services. |
| **RQ2:** Will the Demonstration improve healthcare outcomes? | **H2.1:** The Demonstration will improve the utilization of appropriate, community-based healthcare services.<br>**H2.2:** The Demonstration will decrease ED utilization, inpatient admissions, and readmissions for SUD.<br>**H2.3:** The Demonstration will improve healthcare outcomes. |
| **RQ3:** Will the Demonstration improve beneficiaries' integration into the community? | **H3.1:** The Demonstration will increase the number of beneficiaries with stable housing and employment.<br>**H3.2:** The Demonstration will improve beneficiaries' readiness for recovery.<br>**H3.3:** The Demonstration will support community integration. |
| **RQ4:** Will the Demonstration improve beneficiary experience and quality of care? | **H4.1:** The Demonstration will improve beneficiary experience and quality of care. |
| **RQ5:** Will the Demonstration maintain or decrease the cost of care? | **H5.1:** The Demonstration will maintain or decrease the cost of care. |

Additionally, related to the HRSN program (recuperative care) costs, Mercer will qualitatively assess: (1) the effectiveness of infrastructure investments that were authorized through the HRSN authority, (2) whether and how local investments in housing services change over time in concert with the HRSN program, and (3) potential improvements in the quality and effectiveness of downstream services that can be provided under the state plan and associated cost implications.

# Section 3
# Methodology

## Evaluation Design

The evaluation of the SMI, HRSN, and RRSS components will utilize a mixed-methods approach with three main goals:

1. Describe the progress made on specific Demonstration activities (process/implementation evaluation).
2. Demonstrate change/accomplishments in each of the policy component's milestones or goals.
3. Demonstrate progress in meeting the overall goals of each policy component.

Mercer will utilize a combination of qualitative and quantitative methods to evaluate the Demonstration. Quantitative methods will include a mix of descriptive statistics, pre-/post-tests, and the use of comparison groups when methodologically feasible. Where data is available, interrupted time series (ITS) or difference-in-differences (DID) analyses will support an assessment of the Demonstration's impacts. Specifically, ITS analyses will be leveraged when adequate pre-treatment data and post-treatment data are available, and no appropriate comparison group can be constructed to represent the likely counterfactual absent the treatment. For example, an ITS analyses of the SMI component would examine outcome trends pre-implementation and post-implementation of the SMI program, requiring sufficient pre-implementation and post-implementation data. DID analyses will be leveraged when pre-treatment and post-treatment data are available, and an appropriate comparison group can be constructed to represent the counterfactual, absent the treatment. Additionally, when data is available, Mercer will use statistical tests, such as t-tests, chi-square tests, ANOVA, and Wilcoxon-Mann-Whitney tests, as appropriate to compare differences between subpopulations. Subpopulations of interest include age, sex, race/ethnicity, pregnancy status, veteran status, rural/urban, and criminal justice involvement. The ability to conduct subpopulation analyses is contingent on data availability, and, in some instances, Mercer may leverage qualitative methods to assess subpopulations.

Qualitative methods will include a series of interviews and/or focus groups with key informants at different timepoints in the Demonstration: mid- to late 2027 and early to mid-2030. The timing of the qualitative data collection will support Mercer in understanding the barriers and facilitators to implementation and the role of the Commonwealth's actions in implementing the Demonstration. Key informants will potentially include:

- State officials/agency staff (i.e., DMS, Department of Corrections, and representatives from BHCDP).
- MCO representatives.
- Beneficiaries or beneficiary representatives (such as advocacy groups or the Beneficiary Advisory Council [BAC]).

- Providers for RRSS, recuperative care, and SMI.

Thematic analysis (TA) and content analysis will be used to draw conclusions from data collected for qualitative review. TA is a method for identifying, analyzing, and interpreting patterns of meaning within qualitative data. Since key informant interview and focus group data includes individual opinions and subjective perspectives, TA allows for comparisons across different stakeholders and stakeholder groups and uses systematic procedures for generating text coding and themes..[39]

Medicaid beneficiaries will include members of important subpopulation groups, such as pregnant or parenting beneficiaries, veterans, rural/urban, and those with criminal justice involvement. This stratification supports Mercer in understanding whether groups experienced Demonstration activities differently based on differing levels of need.

# Target and Comparison Populations

The target populations for this evaluation vary depending on the policy component assessed (e.g., SMI, HRSN, and RRSS). In general, for each component, the target population is Medicaid and/or Children's Health Insurance Program members who were eligible for that component. See Table 2 for additional details on the target population and potential comparison groups for each policy component. For analyses requiring both pre- and post-treatment data, Mercer will leverage the implementation date for each policy (see Table 3 below). Should the implementation date for any specific policy differ from the originally planned date, Mercer will revise analyses to reflect the actual implementation date.

**Table 2: Target and Comparison Group by Policy Component**

| Policy Component | Target Population | Potential Comparison Population |
|---|---|---|
| SMI | Individuals with SMI who are eligible for SMI services under the Demonstration; data from post-demonstration implementation period. | Individuals with SMI who are eligible for SMI services under the Demonstration; data from pre-demonstration implementation period. |
| HRSN — Recuperative Care | Individuals who are eligible for HRSN services under the demonstration and receive HRSN services. | Individuals who are eligible for HRSN services under the Demonstration and did not receive HRSN services. |
| RRSS | Individuals who are eligible for RRSS and receive RRSS services. | Individuals who are eligible for RRSS but do not receive RRSS services due to lack of availability in geographic region. |

**Table 3: Planned Implementation Dates by Policy Component**

| Policy Component | Planned Implementation Date |
|---|---|
| SMI | January 15, 2026 |

[39] Clarke V, Braun V. "Thematic analysis." *The Journal of Positive Psychology*, Volume 12 Issue 3 (2017), pp. 297–298

| Policy Component | Planned Implementation Date |
|---|---|
| HRSN — Recuperative Care Pilot | April 1, 2026 |
| RRSS | April 1, 2026 |

# Evaluation Period

As part of the five-year extension of the TEAMKY Demonstration, on December 12, 2024, CMS also approved the SMI, HRSN, and RRSS programs. The Demonstration is approved from January 1, 2025 through December 31, 2029. The Evaluation Design described in this document includes both an implementation evaluation and an outcome evaluation that will together encompass the entire Demonstration period. Evaluation periods are defined below, but are subject to change if the implementation dates are adjusted, and any modifications to the evaluation period dates will be documented in the corresponding reports.

## Midpoint Assessment

The SMI Midpoint Assessment, due 60 days after the third year of the program's approval (due February 10, 2028), will discuss early findings from the implementation evaluation period for the SMI component. The primary goal will be to assess the Commonwealth's progress in achieving the milestones of the project and conducting activities with fidelity to the original implementation plan. The outcome evaluation data presented in the midpoint assessment will include a descriptive analysis of available measures.

- Midpoint Implementation Evaluation Period: January 1, 2025 to June 30, 2027
- Midpoint Outcome Evaluation Period (descriptive only):
  - Pre-Demonstration Period: January 1, 2023 to December 31, 2024
  - Post-Demonstration Period: January 1, 2025 to June 30, 2027

## Interim Evaluation Report

The Interim Evaluation Report will discuss implementation successes and challenges of the Demonstration, particularly in the context of the Commonwealth's ability to provide services with fidelity to the original implementation plan (implementation evaluation) and early indications of the effects of Demonstration activities (outcome evaluation). The Interim Evaluation Report will be submitted with a renewal application or by December 31, 2028.

- Interim Implementation Evaluation Period: January 1, 2025 to December 31, 2027
- Interim Outcome Evaluation Period:
  - Pre-Demonstration Period: January 1, 2023 to December 31, 2024
  - Post-Demonstration Period: January 1, 2025 to December 31, 2027

## Summative Evaluation Report

The Summative Evaluation Report, due 18 months after the approval period ends (due June 30, 2031), will focus primarily on the outcomes for people participating in the

Demonstration and costs to the Commonwealth. It will include the degree to which implementation challenges and successes may have impacted results and summarize key Commonwealth learnings.

- Summative Implementation Evaluation Period: January 1, 2025 to December 31, 2029
  - Interim Outcome Evaluation Period:
    - Pre-Demonstration Period: January 1, 2023 to December 31, 2024
    - Post-Demonstration Period: January 1, 2025 to December 31, 2029

# Evaluation Measures and Data Sources

Mercer chose evaluation measures that provide the most reliable data on which to determine the impact of the Demonstration on the outcomes of interest. Measures are described in detail in Table 4 and are grouped by demonstration component, RQ, and Hs. The table includes the measure steward, if applicable, potential data source(s), and proposed analytical method(s). Mercer is working with the Commonwealth and its state partners to assess data availability to inform the final measures, analytical methods, and other specifications. Mercer intends to utilize several data sources, as detailed below. Mercer and the Commonwealth believe these data sources contain all necessary data elements to construct measures, but acknowledge potential challenges with data quality, completeness, and the ability to link with Medicaid claims and encounter data. Mercer will work closely with the Commonwealth and its state partners to gather the data sources detailed below and perform the evaluation as proposed in this Evaluation Design. If any data-related challenges arise during the evaluation process, Mercer will explore alternative approaches to address them. Any such deviations from the original plan will be thoroughly documented in the Interim and Summative Evaluation Reports, as appropriate.

Mercer will also conduct TA on qualitative data collected through key informant interviews and/or focus groups. Qualitative analysis will be used to understand the barriers and facilitators to implementation of the Demonstration, as well as to provide context to the quantitative findings. Mercer will interview a diverse set of key informants to capture the broadest range of experiences possible.

## Medicaid Claims and Encounter Data

Mercer will work with the Commonwealth to access data from its claims databases containing managed care claims and encounters between January 1, 2023 (the start of the pre-demonstration period) through December 31, 2029. The majority of the Commonwealth's Medicaid beneficiaries receive their benefits through an MCO, which reports encounters and claims to the Commonwealth's MMIS. Medicaid claims data provides data related to service utilization, along with associated cost. Encounter data provides detailed records of services provided to Medicaid beneficiaries regardless of whether the service is reimbursed.

## Annual Availability Assessments

As part of the Commonwealth's SMI Implementation Plan, the Commonwealth is required to describe processes for annually assessing the availability of mental health services throughout the Commonwealth. Mercer will utilize the Commonwealth's Annual Monitoring

Reports related to availability of mental health providers. This data will be assessed between January 1, 2025 to December 31, 2029.

## Annual and Quarterly Monitoring Reports

The Commonwealth is required to submit Annual and Quarterly Monitoring Reports to CMS related to the Demonstration. These reports contain performance measures reporting, along with narrative updates related to the Demonstration's implementation, successes, and challenges. Mercer will review Annual and Quarterly Reports covering the period from January 1, 2025 to December 31, 2029 and leverage quantitative data reported in these reports to assess the outcomes of this demonstration.

## Homeless Management Information System

The Commonwealth maintains a Homeless Management Information System (HMIS) that collects data on homelessness. Individuals tracked in the HMIS database fit the US Department of Health and Human Services' definition of homelessness: "an individual who lacks housing … [or] a stable housing situation to which they can return." HMIS data can potentially be matched with data from the MMIS to track individuals eligible for recuperative care services (HRSN services). Mercer is working with the Commonwealth to identify the extent to which this data source is appropriate for the evaluation.

## Vital Statistics

Commonwealth-level vital statistics data captures deaths along with an attributable cause.

## Kentucky Department for Behavioral Health, Development and Intellectual Disabilities

The Department for Behavioral Health, Developmental and Intellectual Disabilities (DBHDID) collects data from Community Mental Health Clinics which includes information on community-based mobile crisis intervention services and other crisis intervention services. DBHDID also was the payer for IMD stays of greater than 15 days prior to the implementation of the SMI Demonstration.

## Key Informant Interviews/Focus Groups

Mercer will collect data through interviews and focus groups with beneficiaries, providers, and other key stakeholders. Focus groups and/or interviews will also assist with beneficiary survey development.

## Beneficiary Surveys

Mercer will develop beneficiary surveys to cover topics related to self-reported outcomes for physical health, mental health, housing status, and employment. Questions will be tailored based on the Demonstration's components in which the individual participated. Furthermore, Mercer will structure the survey in a manner that, when suitable, incorporates existing survey items that accurately represent beneficiary experiences and health outcomes.

**Table 4: Evaluation Measures**

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| **SMI/Serious Emotional Disturbance (SED)** | | | | | | |
| **RQ1: Will the Demonstration increase access to services among Medicaid beneficiaries with SMI? (Goals 3, 4, 5)** | | | | | | |
| **H1.1:** The Demonstration will improve access to and increase utilization of community-based and appropriate SMI treatment services to address the needs of beneficiaries with SMI. | Number of Medicaid-enrolled SMI treatment providers | N/A | Medicaid-enrolled SMI treatment providers | N/A | Availability Assessment | Descriptive trends over time<br>ITS |
| | Mental Health Services Utilization — Any Service | SMI Metric #18 | Beneficiaries who utilize any mental health service | Beneficiaries with SMI | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| | Mental Health Services Utilization — Outpatient | SMI Metric #15 | Beneficiaries who utilize an outpatient mental health service | Beneficiaries with SMI | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| | Mental Health Services Utilization — Telehealth | SMI Metric #17 | Beneficiaries who utilize any mental health service provided via telehealth | Beneficiaries with SMI | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| | Mental Health Services Utilization — Inpatient | SMI Metric #13 | Beneficiaries who utilize inpatient mental health services | Beneficiaries with SMI | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| | The Commonwealth will take actions to improve the utilization of appropriate | N/A | N/A | N/A | Group interview with Commonwealth staff | TA |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | healthcare services. | | | | | |
| **H1.2:** The Demonstration will improve utilization of crisis stabilization services. | Mental Health Services — Intensive Outpatient Program/Partial Hospitalization | SMI Metric #14 | Beneficiaries who utilize intensive outpatient and/or partial hospitalization services | Beneficiaries with SMI | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| | Awareness of available crisis stabilization services | N/A | N/A | N/A | Interviews and/or focus groups with beneficiaries and providers | TA |
| | Adults with SMI receiving crisis response services | N/A | Number of adults served by call centers, 24/7 mobile crisis team, and/or crisis stabilization programs | N/A | Claims/ encounter data<br>DBHDID/ Community Mental Health Center Data[40]<br>SAMSHA data | Descriptive trends over time<br>ITS |
| **H1.3:** The Demonstration will improve care coordination for beneficiaries with SMI. | Follow-Up After ED Visit for Mental Illness | National Committee for Quality Assurance (NCQA) National Quality Forum | Beneficiaries who received follow-up within 7 days or 30 days of an ED visits for mental illness | Beneficiaries with SMI | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |

[40] CHFS. "Basic Statistical Reports." https://dbhdid.ky.gov/cmhc/datareports.

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | | (NQF) #3489 | | | | |
| | Follow-Up Care for Adult Medicaid Beneficiaries Who Are Newly Prescribed an Antipsychotic Medication | CMS NQF #3313 | Beneficiaries with an outpatient encounter within 4 weeks of the fill date of the antipsychotic medication | Beneficiaries aged 18 years and older who were newly prescribed an antipsychotic medication | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| | Screening for Depression and Follow-Up Plan: Ages 18 Years and Older | CMS NQF #0418/ 0418e<br>SMI Metric #24 | Beneficiaries aged 18 years and older who were screened for depression and had follow-up if the screening was positive | Beneficiaries aged 18 years and older with an outpatient visit | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| | Screening for Depression and Follow-up Plan: Ages 12 Years to 17 Years | CMS NQF #0418/ 0418e<br>SMI Metric #25 | Beneficiaries aged 12 years to 17 years who were screened for depression and had follow-up if the screening was positive | Beneficiaries aged 12 years to 17 years and older with an outpatient visit | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| | Beneficiary experience with care coordination | N/A | N/A | N/A | Interviews and/or focus groups with beneficiaries and providers<br>Beneficiary | TA<br>Descriptive statistics<br>Multivariable regression*<br>Chi-square test/ |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | | | | | survey | ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| **RQ2: Will the Demonstration reduce ED visits, preventable readmissions, and ALOS? (Goals 1, 2)** | | | | | | |
| **H2.1:** The Demonstration will reduce the ALOS in IMDs and the proportion of beneficiaries with SMI treated in an IMD. | Beneficiaries with SMI/SED treated in an IMD for mental health | SMI Metric #20 | Beneficiaries who received inpatient/ residential treatment in an IMD | Beneficiaries with SMI | Claims/ encounter data<br>Eligibility system | Descriptive trends over time |
| | ALOS in IMDs | SMI Metric #19a | Count of total days in IMDs | Number of stays by beneficiaries with SMI in an IMD | Claims/ encounter data<br>Eligibility system | Descriptive trends over time |
| **H2.2:** The Demonstration will reduce ED visits among beneficiaries with SMI. | Mental Health Services Utilization — ED | SMI Metric #16 | Beneficiaries who utilized emergency services for mental health | Beneficiaries with SMI | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| **H2.3:** The Demonstration will reduce unplanned readmissions among beneficiaries with SMI. | 30-Day All-Cause Unplanned Readmission Following Psychiatric Hospitalization in an Inpatient Psychiatric Facility | SMI Metric #4 | 30-day readmissions | Admissions to inpatient psychiatric facilities | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| **RQ3: Will the Demonstration improve health outcomes? (Goal 4)** | | | | | | |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| **H3.1:** The Demonstration will improve utilization of preventative healthcare services. | Access to Preventative/ Ambulatory Health Services for Medicaid Beneficiaries With SMI | NCQA | Beneficiaries who utilized preventative/ ambulatory health services | Beneficiaries with SMI | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| **H3.2:** The Demonstration will improve integration of behavioral and physical healthcare. | Diabetes Care for People with SMI: Hemoglobin A1c (HbA1c) Poor Control (>9.0%) | NCQA<br>NQF #2607 | Beneficiaries with HbA1c in poor control | Beneficiaries aged 18 years to 75 years with SMI | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| | Metabolic Monitoring for Children and Adolescents on Antipsychotics | NCQA<br>NQF #2800 | Number of children who received metabolic monitoring (blood glucose, cholesterol testing) | Beneficiaries aged 1 year to 17 years with two or more antipsychotic prescriptions | Claims/ encounter data<br>Eligibility system | Descriptive trends over time<br>ITS |
| **H3.3:** The Demonstration will improve physical and mental health outcomes. | Suicide or Overdose Death Within 7 Days and 30 Days of Discharge from an Inpatient Facility or Residential Treatment for Mental Health among Beneficiaries with SMI or SED | SMI Metric #12 | Number of suicide or overdose deaths (within 7 days and 30 days) | Beneficiaries with SMI or SED discharged from an inpatient facility or residential stay | Claims/ encounter data<br>Eligibility system<br>Vital statistics | Descriptive trends over time<br>ITS |
| | Count and rate suicide attempts among members with SMI | N/A | Number of suicide attempts | Beneficiaries with SMI | Claims/ encounter data<br>Eligibility | Descriptive trends over time<br>ITS |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | diagnoses | | | | system | |
| | Beneficiary self-report on improved health (physical and mental health) | N/A | N/A | N/A | Interviews and/or focus groups with beneficiaries | TA |
| **RQ4: Will the Demonstration maintain or decrease the cost of care?** | | | | | | |
| **H4.1:** The Demonstration will maintain or decrease the cost of care. | Per member per month cost for members who received SMI services | N/A | Total cost of SMI services | Months of Medicaid eligibility for members with SMI | Claims/ encounter data<br>Eligibility system | Descriptive trends over time |
| | Total Costs Associated with Treatment for Mental Health in an IMD Among Beneficiaries with SMI | SMI Metric #39 | Total Medicaid costs for inpatient or residential treatment for mental health within IMDs | N/A | Claims/ encounter data<br>Eligibility system | Descriptive trends over time |
| | Per Capita Costs Associated with Treatment for Mental Health in an IMD Among Beneficiaries with SMI | SMI Metric #40 | Total Medicaid costs for inpatient or residential treatment for mental health within IMDs | Unduplicated count of Medicaid beneficiaries with SMI who have an IMD stay | Claims/ encounter data<br>Eligibility system | Descriptive trends over time |
| | Total Costs Associated with Mental Health Services Among Beneficiaries with SMI/SED — Not Inpatient or | SMI Metric #32 | Total Medicaid costs for non-inpatient or residential mental health services among beneficiaries with | N/A | Claims/ encounter data<br>Eligibility system | Descriptive trends over time |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | Residential | | an SMI | | | |
| | Per Capita Costs Associated with Mental Health Services Among Beneficiaries with SMI — Not Inpatient or Residential | SMI Metric #34 | Total Medicaid costs for non-inpatient or residential mental health services among beneficiaries with an SMI | Unduplicated count of Medicaid beneficiaries with SMI who utilized non-inpatient or residential mental health services | Claims/ encounter data<br>Eligibility system | Descriptive trends over time |
| | Total Costs Associated with Mental Health Services Among Beneficiaries with SMI — Inpatient or Residential | SMI Metric #33 | Total Medicaid costs for mental health services in inpatient or residential settings during the measurement period | N/A | Claims/ encounter data<br>Eligibility system | Descriptive trends over time |
| | Per Capita Costs Associated with Mental Health Services Among Beneficiaries with SMI — Inpatient or Residential | SMI Metric #35 | Total Medicaid costs for mental health services in inpatient or residential settings during the measurement period | Unduplicated count of Medicaid beneficiaries with SMI who utilized inpatient or residential mental health services | Claims/ encounter data<br>Eligibility system | Descriptive trends over time |
| **HRSNs/Recuperative Care Pilot** | | | | | | |
| **RQ1: Will the Demonstration address unmet HRSN needs in the eligible Medicaid beneficiary population?** | | | | | | |
| **H1.1:** The Commonwealth | What actions did the Commonwealth take | N/A | N/A | N/A | Group interviews | TA |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| will take actions to address unmet HRSN needs. | to support HRSN implementation?<br>How did infrastructure funding support HRSN implementation? | | | | and/or focus groups with Commonwealth staff, workgroups, and providers | |
| | What actions did the Commonwealth take to increase the utilization of the HRSN program?<br>What were the barriers and facilitators to implementing and operating the HRSN program?<br>In what ways did local funding for housing initiatives change as a result of Medicaid funding? | N/A | N/A | N/A | Group interviews and/or focus groups with Commonwealth staff, workgroups, and providers | TA |
| **H1.2:** The Demonstration will increase the utilization of HRSN services and reduce unmet HRSNs. | Count of referrals for HRSN short-term housing | N/A | Beneficiaries referred to HRSN short-term housing services | N/A | Kentucky Health Information Exchange (KHIE)<br>Provider data<br>MCO prior authorization data | Descriptive trends over time |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | Count and rate of beneficiaries referred for HRSN short-term housing who meet medical necessity | N/A | Beneficiaries who meet medical necessity criteria | Beneficiaries who have at least one referral to short-term housing services | KHIE<br>Provider data<br>MCO prior authorization data | Descriptive trends over time |
| | Count and rate of beneficiaries who receive HRSN short-term housing services | N/A | Beneficiaries who received HRSN short-term housing criteria | Beneficiaries who meet medical necessity criteria | KHIE<br>Claims/ encounter data | Descriptive trends over time |
| **RQ2: Will the Demonstration improve utilization of appropriate, community-based healthcare services (i.e., preventative, BH, outpatient physical healthcare)?** | | | | | | |
| **H2.1:** The Demonstration will improve the utilization of appropriate, community-based healthcare services (BH, physical health, outpatient, MAT). | Access to preventative/ ambulatory health services | Adjusted SMI Metric #26 | Number of unique beneficiaries (de-duplicated total) who had an ambulatory or preventative care visit after receipt of HRSN services | Number of unique beneficiaries who were eligible for HRSN services | Claims/ encounter data<br>Eligibility data<br>HMIS | Descriptive trends over time<br>DID*<br>ITS*<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Outpatient BH visits | N/A | Beneficiaries who utilize outpatient BH services after receipt of HRSN services | Beneficiaries eligible for HRSN services | Claims/ encounter data<br>Eligibility data<br>HMIS | Descriptive trends over time<br>DID*<br>ITS*<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | Outpatient physical therapy, speech therapy, or occupational therapy services | N/A | Beneficiaries with a claim for outpatient physical therapy, speech therapy, or occupational therapy after receipt of HRSN services | Beneficiaries eligible for HRSN services | Claims/ encounter data<br>Eligibility data<br>HMIS | Descriptive trends over time<br>DID*<br>ITS*<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Beneficiaries who received medication self-management education and training | N/A | Beneficiaries with a claim for medication self-management education and training after receipt of HRSN services | Beneficiaries eligible for HRSN services | Claims/ encounter data<br>Eligibility data<br>HMIS | Descriptive trends over time<br>DID*<br>ITS*<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| **H2.2:** The Demonstration will decrease ED utilization, inpatient admissions, and readmissions. | ED utilization | Adjusted SUD Metric #23 | Beneficiaries who utilized the ED after receipt of HRSN services | Beneficiaries eligible for HRSN services | Claims/ encounter data<br>Eligibility data<br>HMIS | Descriptive trends over time<br>DID*<br>ITS*<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Inpatient admissions | Adjusted SUD Metric #24 | Beneficiaries who were admitted to an inpatient stay after receipt of HRSN services | Beneficiaries eligible for HRSN services | Claims/ encounter data<br>Eligibility data<br>HMIS | Descriptive trends over time<br>DID*<br>ITS*<br>ANOVA/t-test/ |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | | | | | | Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Readmissions | Adjusted SUD Metric #25 | Beneficiaries who were readmitted to an inpatient stay after receipt of HRSN services | Beneficiaries eligible for HRSN services | Claims/ encounter data<br>Eligibility data<br>HMIS | Descriptive trends over time<br>DID*<br>ITS*<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| **H2.3:** The Demonstration will improve health outcomes. | Beneficiary self-report on improved health (physical and mental health) | N/A | N/A | N/A | Interviews and/or focus groups with beneficiaries<br>Beneficiary survey | TA<br>Descriptive statistics<br>Multivariable regression*<br>Chi-square test/ ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| **H2.4:** The Demonstration will improve beneficiary experience with care and quality of service. | Beneficiary self-report on experience with HRSN short-term housing | N/A | N/A | N/A | Interviews and/or focus groups with beneficiaries<br>Beneficiary survey | TA<br>Descriptive statistics<br>Multivariable regression*<br>Chi-square test/ ANOVA/t-test/ Wilcoxon-Mann- |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | | | | | | Whitney test/ Kruskal Wallis test* |
| | Number of grievances filed by beneficiaries related to HRSN short-term housing | N/A | Grievances filed by beneficiaries related to HRSN short-term housing | Beneficiaries who received HRSN short-term housing services | MCO data<br>Commonwealth grievance data | Descriptive statistics |
| **RQ3: Will the Demonstration improve beneficiaries' connection to community-based services for HRSN?** | | | | | | |
| **H3.1:** The Commonwealth will take actions to improve beneficiaries' connections to community-based services. | Beneficiaries enrolled in Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), and/or federal, Commonwealth, and local housing and/or other nutrition assistance programs | N/A | Beneficiaries enrolled in SNAP, TANF, and/or federal, Commonwealth, and local housing and/or nutrition assistance programs | Beneficiaries eligible for HRSN services | KHIE<br>Claims/ encounter data<br>Eligibility data<br>HMIS | Descriptive trends over time<br>DID*<br>ITS*<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Referrals for future housing supports while receiving HRSN short-term housing | N/A | Beneficiaries referred to future housing supports | Beneficiaries who received HRSN services | Kynect Resources<br>Claims/ encounter data<br>Eligibility data | Descriptive trends over time<br>DID*<br>ITS*<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ t-test/Kruskal Wallis test* |
| **H3.2:** | Beneficiary self-report | N/A | N/A | N/A | Interviews | TA |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| Beneficiaries will experience improved connections to community-based services. | on housing | | | | and/or focus groups with beneficiaries<br>Beneficiary survey | Descriptive statistics<br>Multivariable regression*<br>Chi-square test/ ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Provider report on housing experience of beneficiaries | N/A | N/A | N/A | Focus group with providers | TA |
| **RQ4: Will the Demonstration maintain or decrease the cost of care?** | | | | | | |
| **H4.1:** The Demonstration will maintain or decrease the cost of care. | Per member per month cost for members who received HRSN services | N/A | Total cost for members who received HRSN services | Total months of eligibility for members who received HRSN services | Claims/ encounter data<br>Eligibility data | Descriptive trends over time |
| **RRSS** | | | | | | |
| **RQ1: Will the Demonstration support beneficiaries' recovery journey?** | | | | | | |
| **H1.1:** The Commonwealth will take actions to increase the utilization of RRSS. | What actions did the Commonwealth take to increase the utilization of RRSS? | N/A | N/A | N/A | Group interviews and/or focus groups with Commonwealth staff, workgroups, and providers | TA |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | What were the barriers and facilitators to implementing and operating the RRSS program? | N/A | N/A | N/A | Group interviews and/or focus groups with Commonwealth staff, workgroups, and providers | TA |
| **H1.2:** The Demonstration will increase the uptake of RRSS services. | Count and rate of RRSS utilization | N/A | Beneficiaries who utilized RRSS | Beneficiaries eligible for RRSS services | Claims/ encounter data<br>Eligibility data | Descriptive trends over time<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| **RQ2: Will the Demonstration improve healthcare outcomes?** | | | | | | |
| **H2.1:** The Demonstration will improve the utilization of appropriate, community-based healthcare services. | Count and rate of outpatient BH services | N/A | Beneficiaries who utilized outpatient services for BH | Beneficiaries who utilized RRSS | Claims/ encounter data<br>Eligibility data | Descriptive trends over time<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Access to preventative/ ambulatory health services | Adjusted SMI Metric #26 | Number of unique beneficiaries (de-duplicated total) who had an ambulatory or preventative care visit | Number of unique beneficiaries who utilized RRSS | Claims/ encounter data<br>Eligibility data | Descriptive trends over time<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Count and rate of MAT | N/A | Beneficiaries with | Number of unique | Claims/ | Descriptive trends |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | | | at least one claim for MAT | beneficiaries who utilized RRSS | encounter data<br>Eligibility data | over time<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| **H2.2:** The Demonstration will decrease ED utilization, inpatient admissions, and readmissions for SUD. | ED utilization for SUD per 1,000 Medicaid Beneficiaries | Adjusted SUD Metric #23 | Number of ED visits for SUD | Number of unique beneficiaries who utilized RRSS | Claims/ encounter data<br>Eligibility data | Descriptive trends over time<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Inpatient admissions for SUD per 1,000 Medicaid Beneficiaries | Adjusted SUD Metric #24 | Number of inpatient stays for SUD | Number of unique beneficiaries who utilized RRSS | Claims/ encounter data<br>Eligibility data | Descriptive trends over time<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Readmissions for SUD | Adjusted SUD Metric #25 | Number of 30-day readmissions | Number of index hospital stays among beneficiaries who utilized RRSS | Claims/ encounter data<br>Eligibility data | Descriptive trends over time<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| **H2.3:** The Demonstration will improve healthcare outcomes. | Beneficiary self-report on improved health (physical and mental health) | N/A | N/A | N/A | Interviews and/or focus groups with beneficiaries<br>Beneficiary survey | TA<br>Descriptive statistics<br>Multivariable regression*<br>Chi-square test/ |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | | | | | RRSS provider collected data | ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Opioid overdose rate and count | N/A | Number of opioid overdoses | Number of unique beneficiaries who utilized RRSS | Claims/ encounter data<br>Eligibility data<br>Vital statistics | Descriptive trends over time<br>ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| **RQ3: Will the Demonstration improve beneficiaries' integration into the community?** | | | | | | |
| **H3.1:** The Demonstration will increase the number of beneficiaries with stable housing and employment. | Beneficiary self-report on their experiences with finding housing and/or employment post-RRSS participation | N/A | N/A | N/A | Interviews and/or focus groups with beneficiaries<br>Beneficiary survey<br>RRSS provider-collected data | TA<br>Descriptive statistics<br>Multivariable regression*<br>Chi-square test/ ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Provider actions to address HRSN and connect beneficiaries to HRSN services | N/A | N/A | N/A | Focus groups with providers | TA |
| | Count of referrals to housing and employment community-based | N/A | Individuals referred to CBOs addressing housing and employment | Number of unique beneficiaries who utilized RRSS | KHIE<br>Kynect Resources<br>Claims/ | Descriptive trends over time |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | organizations (CBOs) | | | | encounter data<br>Eligibility data | |
| **H3.2:** The Demonstration will improve beneficiaries' readiness for recovery. | Beneficiary self-report on ability/readiness to engage in recovery programming | N/A | N/A | N/A | Interviews and/or focus groups with beneficiaries<br>Beneficiary survey<br>RRSS provider-collected data | TA<br>Descriptive statistics<br>Multivariable regression*<br>Chi-square test/ ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| **H3.3:** The Demonstration will support community integration. | Beneficiary self-report on feeling prepared to integrate into the community/feeling integrated into the community | N/A | N/A | N/A | Interviews and/or focus groups with beneficiaries<br>Beneficiary survey<br>RRSS provider-collected data | TA<br>Descriptive statistics<br>Multivariable regression*<br>Chi-square test/ ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| **RQ4: Will the Demonstration improve beneficiary experience and quality of care?** | | | | | | |
| **H4.1:** The Demonstration will improve beneficiary experience and quality of care. | What actions did the Commonwealth take to improve beneficiary experience and quality of care? | N/A | N/A | N/A | Group interviews and/or focus groups with beneficiaries, Commonwealth | TA<br>Descriptive statistics<br>Multivariable regression*<br>Chi-square test/ |

| Hypothesis | Measure | Measure Steward | Numerator | Denominator | Potential Data Sources | Potential Analytical Method |
|---|---|---|---|---|---|---|
| | | | | | staff, and providers<br>Beneficiary survey | ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| | Beneficiary self-report on experience with RRSS program | N/A | N/A | N/A | Interviews and/or focus groups with beneficiaries<br>Beneficiary survey<br>RRSS provider-collected data | TA<br>Descriptive statistics<br>Multivariable regression*<br>Chi-square test/ ANOVA/t-test/ Wilcoxon-Mann-Whitney test/ Kruskal Wallis test* |
| **RQ5: Will the Demonstration maintain or decrease the cost of care?** | | | | | | |
| **H5.1:** The Demonstration will maintain or decrease the cost of care. | Per member per month cost | N/A | Total cost | Total months of eligibility for members who utilized RRSS | Claims/encounter data<br>Eligibility data | Descriptive trends over time |

Note(s): An asterisk (*) in the “Potential Analytical Methods” column indicates that the analyses are only possible if adequate data are available. For the HRSN/Recuperative Care Pilot program, analyses such as DID, ITS, and ANOVA/t-test/Wilcoxon-Mann-Whitney test/Kruskal Wallis test are feasible only if adequate pre-Demonstration data are available of individuals who are eligible for HRSN services based on the program requirements and/or adequate data is available on individuals who are eligible for recuperative care services but did not receive them due to the lack of availability in their area. For RRSS program, analyses such as multivariable regression and chi-square test/ANOVA/t-test/Wilcoxon-Mann-Whitney test/Kruskal Wallis test are only feasible if adequate data is available on individuals who are eligible for RRSS but did not receive RRSS services. For RQs leveraging beneficiary surveys, analyses are contingent on the ability to field beneficiary surveys successfully such that response rates are sufficient to support analyses.

# Analytical Methods

As noted above in Table 4, Mercer will use a combination of quantitative and qualitative analytical methods to evaluate the Demonstration. Absent the ability to randomize treatment, this evaluation will leverage quasi-experimental methods such as ITS and DID, with the caveat that feasibility of the aforementioned methods relies on data availability. Mercer will stratify analyses to assess whether the relationship between the policy and outcome of interest differs by different subpopulations of interest. Qualitative methods will include TA of key informant interviews and focus groups and document review.

The sections below describe quasi-experimental methods Mercer will leverage to estimate the impact of the Demonstration policies. Methodological limitations and considerations related to these methods are discussed in detail in Section 4, "Methodological Limitations."

## DID

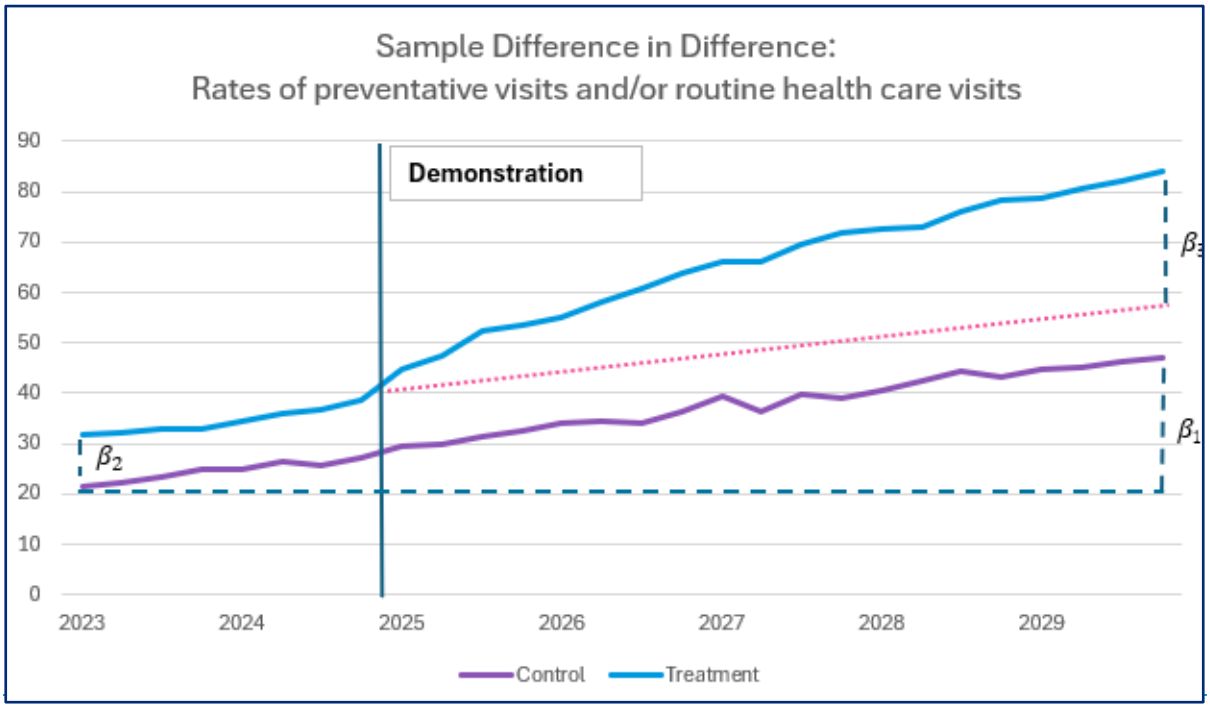
DID analyses can be utilized when a comparison group and pre-intervention data are available. For instance, the RRSS program is not widely available in all areas of the Commonwealth. In the ideal DID situation, the treatment group would be individuals in counties with recuperative care providers and the control group would be individuals in counties without a recuperative care provider, and in this case it is reasonable to assert that those who do not have access to recuperative care serve as a valid **counterfactual** for the treatment group. Mercer will attempt to link HMIS and claims/encounter/eligibility data to identify individuals experiencing homelessness that did (treatment group) versus did not have access to recuperative care services (control group) before or after their procedure. DID analyses rely on a key assumption, the parallel trends assumption, which assumes that absent the treatment (or policy intervention), the average outcomes for the treatment and control groups would follow the same trajectory over time. This assumption allows us to interpret the DID estimate as the causal impact of the treatment.

$$Y_{i,t} = \beta_0 + \beta_1 Post_t + \beta_2 Trt_i + \beta_3 (Post_t \times Trt_i) + \gamma X_{i,t} + \varepsilon_{i,t} \quad (1)$$

Equation 1 above represents a DID model for assessing the impact of a treatment, like the Commonwealth's 1115 Demonstration programs, with $Y_{i,t}$ representing the outcome measure of interest for a given beneficiary *i* at time *t*. $Trt_i$ represents a binary indicator for whether the individual received the treatment (or program benefit). $Post_t$ is a binary indicator equal to 1 after the program was implemented, and equal to 0 pre-implementation. $Post_t \times Trt_i$ is an interaction term that captures the DID effect (difference in the outcome change over time between the treatment and control groups). $X_{i,t}$ is a vector of control variables and $\varepsilon_{i,t}$ represents unobservable factors that may affect the outcome.

To assess differences between subpopulations, analyses will either be stratified, or DID regressions will be modified to accommodate testing differences in outcomes between different subpopulation groups.

**Figure 4: Example of DID Graphical Representation**




## ITS

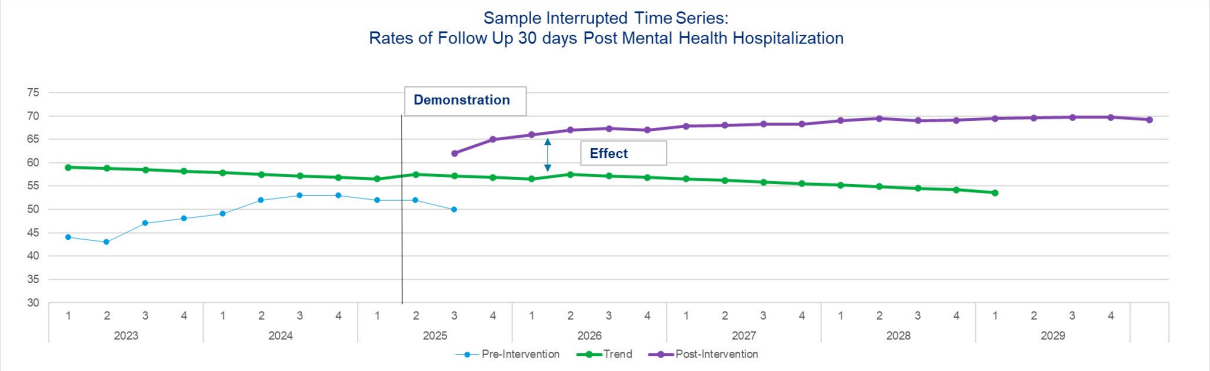
Where an appropriate comparison group cannot be identified to accommodate a DID, ITS analyses will be used if sufficient pre-treatment and post-treatment data are available. Specific outcome measure(s) will be collected for multiple time periods both before and after the start of the intervention. Segmented regression analysis will be used to statistically measure the changes in level and slope in the post-intervention period (after the Demonstration was initiated) compared to the pre-intervention period (before the Demonstration). The ITS design uses historical data to forecast the **counterfactual** of the evaluation (i.e., what would happen if the Demonstration did not occur). Mercer proposes using basic time series linear modeling to forecast these **counterfactual** rates for three years following the Demonstration implementation. The more historical data available, the better these predictions will be, but in general, Mercer should have access to quarterly data for three pre-implementation years and three post-implementation period years.[41] Mercer will use the implementation date as the start of the post-implementation period for any ITS analysis. Planned implementation dates are noted above in Table 3, but may change as the state continues to implement its programs. If dates change, Mercer will adjust the ITS analyses to accommodate such a change.

Figure 5 below illustrates an ITS design that uses basic regression forecasting to establish the counterfactual; this is represented by the grey line in the graphic. The counterfactual is based on historical data (the blue line). It uses time series averaging (trend smoothing) and linear regression to create a predicted trend line (shown below as the green line). The purple

[41] Hategeka C, Ruton H, Karamouzian M, Lynd LD, Law MR. "Use of interrupted time series methods in the evaluation of health system quality improvement interventions: a methodological systematic review." *BMJ global health*, Volume 5 Issue 10 (2020).

line in the graph is the (sample) actual observed data. Segmented regression analysis will be used to statistically measure the changes in level and slope in the post-intervention period compared to the predicted trend (see "effect" in the graph below).

**Figure 5: Example of ITS Graphical Representation**




$$Y_{i,t} = \beta_0 + \beta_1 Post_t + \beta_2 Time_t + \beta_3 (Post_t \times Time_t) + \gamma X_{i,t} + \varepsilon_{i,t} \quad (2)$$

Equation 2 depicts an ITS regression where $Y_{i,t}$ representing the outcome measure of interest for a given beneficiary *i* at time *t*. $Post_t$ is a binary indicator that is equal to 1 for observations after the policy implementation, and equal to 0 for observations pre-policy implementation. $Time_t$ is a continuous variable for time and captures underlying trends in the outcome over time. $Post_t \times Time_t$ is an interaction term that allows for differential time trends between the pre- and post-policy implementation periods. Finally, $X_{i,t}$ is a vector of control variables and $\varepsilon_{i,t}$ represents unobservable factors that may affect the outcome.

To assess differences between subpopulations, analyses will either be stratified, or ITS regressions will be modified to accommodate testing differences in outcomes between different subpopulation groups.

## Additional Multivariable Regression Analyses

Additionally, when appropriate, Mercer will conduct multivariable regression analyses to assess the associational relationship between the Demonstration and outcomes of interest as well as stratified analyses by subpopulation to understand how differences in beneficiary characteristics[42] such as age, sex, pregnancy status, contribute to the relationship between the Demonstration and outcomes of interest.

The multivariable regression equation is depicted below:

$$Y_{i,t} = \beta_0 + \beta_1 Treatment_{i,t} + \gamma X_{i,t} + \varepsilon_{i,t} \quad (3)$$

$\beta_0$ represents the baseline observation and $\beta_1$ represents the relationship between receipt of reentry services and the outcome $Y_{i,t}$. $X_{i,t}$ is a vector of control variables and $\varepsilon_{i,t}$ represents unobservable factors that may affect the outcome. The above regression can be adjusted and stratified by subpopulations of interest, as noted above, to assess whether the

[42] Grant SW, Hickey GL, Head SJ. "Statistical primer: multivariable regression considerations and pitfalls." *European Journal of Cardio-Thoracic Surgery,* Volume 55 Issue 2 (2019), pp. 179–185. https://academic.oup.com/ejcts/article/55/2/179/5265263.

relationship between receiving reentry services through the Demonstration (i.e., the treatment) varies by subpopulation categories.

## Additional Details on Statistical Tests

Mercer will leverage statistical tests such as t-tests, ANOVA, chi-square test, and so on, to assess whether differences between groups are statistically significant at the 95% level. The choice of statistical test will depend on the nature of the outcome measure and the dependent variable. The table below details how Mercer will select the appropriate statistical test, using the HRSN/recuperative care policy as an example. The appropriate statistical tests will also be utilized to assess differences in outcome measures by subpopulations of interest via stratified analyses. To assess differences between subpopulations, analyses will be stratified by the relevant subpopulation categories.

**Table 5: Strategy for Selecting Statistical Test**

| Nature of Outcome Measure | Nature of Independent Variable (IV) | Statistical Test | Example |
|---|---|---|---|
| Categorical | Categorical | Chi-square test | Relationship between “beneficiary self-report on housing” and “receipt of HRSN services among those who were eligible for HRSN.” |
| Interval (assumes normal distribution) | Categorical | T-test (when IV has 2 levels)<br>ANOVA (when IV has 2+ levels) | Relationship between “rate of ED utilization” and “receipt of HRSN services” (IV has 2 levels: “Yes” or “No,” and assumes rate of ED utilization is normally distributed).<br>Relationship between “rate of ED utilization” and “receipt of HRSN services” (IV has 3 levels: “Yes,” “No,” or “Missing,” and assumes rate of ED utilization is normally distributed). |
| Interval (does not assume normal distribution) | Categorical | Wilcoxon-Mann-Whitney test (when IV has 2 levels)<br>Kruskal Wallis test (when IV has 2+ levels) | Relationship between “rate of ED utilization” and “receipt of HRSN services” (IV has 2 levels: “Yes” or “No,” and does not assume rate of ED utilization is normally distributed).<br>Relationship between “rate of ED utilization” and “receipt of HRSN services” (IV has 3 levels: “Yes,” “No,” or “Missing,” and does not assume rate of ED utilization is normally distributed). |

## Qualitative Analysis

Mercer will conduct qualitative data collection at two time points: mid- to late 2027 and early to mid-2030. The first round of data collection will capture the early implementation activities and actions that occurred early in the Demonstration’s implementation (i.e., “ramp up” period) and the first year and one-half of service provision. The second round of qualitative data collection will occur once the Demonstration has matured and will help illuminate how processes have changed over time, as well as individuals’ perceptions on the barriers and

facilitators to Demonstration success. Table 6 below provides additional detail on the qualitative data collection efforts.

**Table 6. Qualitative Data Collection**

| Respondent Type | Data Collection Technique (number) |
|---|---|
| Providers | Focus groups (3, one per demonstration component) |
| MCOs | Group interviews (5, one per MCO) |
| State Representatives | Group interview (1–3) |
| Beneficiaries | Interviews (15 beneficiaries), or,<br>Focus groups (3–5), or,<br>Survey |
| BAC | Group interview (1) |

Mercer will schedule its qualitative data collection efforts so that beneficiary interviews, focus groups, or surveys take place after other qualitative data collection activities are completed. This approach enables Mercer to leverage insights from other demonstration participants, such as providers, as to the best way to recruit beneficiaries and gain their insights. Mercer's preferred approach is to conduct focus groups or interviews with beneficiaries, as these provide more in-depth information about their experiences. However, given the nature of the demonstration and the services provided, some beneficiaries may be experiencing homelessness, disconnection from social services, and/or other life circumstances that make participation in a one-hour-long interview difficult. As a result, Mercer may need to leverage beneficiary surveys as a lower-barrier method to capture beneficiaries' experiences. Additionally, Mercer plans to engage with the BAC to further inform the understanding of beneficiary experiences.

Standardized interview guides will be developed based on the logic models and leverage aspects of the "Consolidated Framework for Implementation Research."[43] If Mercer proceeds to field a beneficiary survey, the survey questions will be based on the research questions and logic models. Mercer will collaborate with the Commonwealth, MCOs, and providers to identify any existing surveys that are fielded or used that could provide relevant questions or data. Mercer will work closely with these stakeholders to identify the best way to field the survey. For example, it may be preferable for case managers to share the survey link with beneficiaries they work with during meetings to promote higher response rates, rather than Mercer sending out a survey via email that may be seen as impersonal by the beneficiary. Given the expected small number of beneficiaries for recuperative care and RRSS, the survey will be shared with all beneficiaries as opposed to a random sample. Mercer will develop the survey through an online web tool (i.e., Microsoft forms) that can be accessed by beneficiaries via a mobile phone or computer.

Mercer will develop a code book based on the standardized interview guides to analyze the interview transcripts. TA of qualitative data will allow Mercer to draw conclusions from a diverse range of experiences and viewpoints. Mercer will work with the Commonwealth and other partners to understand the best way to collect information on beneficiary experience,

[43] Consolidated Framework for Implementation Research, Research Team, Center for Clinical Management Research. 2024. https://cfirguide.org/.

be that through an interview, focus group, or survey. For any survey that is fielded, Mercer will conduct descriptive statistics and other tests as appropriate on survey answers, as well as conduct TA on open-text responses.

# Section 4
# Methodological Limitations

All analyses are subject to data availability and completeness. Some data sources may be insufficient to complete the analyses as proposed or contain errors that will impact the ability to perform the proposed analyses. Although Mercer will strive to use appropriate comparison populations to conduct DID tests, other proposed analytical measures (such as ITS, t-tests, or descriptive trends over time) preclude causal interpretation. DID analyses rely on the parallel trends assumption, which states that the treatment group and control group would have trended similarly in the outcome variables absent the Demonstration. To assess the plausibility of this assumption, Mercer will visually examine trends for the outcomes of interest between the treatment and control group. Additionally, since participation or receipt of the Demonstration's benefits may not always be determined by the location where their medical services are received, it is possible that analysis results could be biased by characteristics that influence a member to select treatment or control group assignment. If data permits, Mercer will consider inclusion of control variables to DID models to account for underlying differences between the treatment and control group.

ITS also requires a sufficient number of pre- and post-implementation data points. The amount and accuracy of historical data pre-implementation could impact the ability to use ITS to derive robust estimates. Furthermore, ITS analyses are not feasible in some instances, such as for the RRSS Demonstration analyses, as pre-implementation data related to the incarcerated population is unlikely to be available. A key assumption of ITS is that there are no concurrent interventions or policy changes; Mercer will describe any confounding policy changes when analyzing results.

When DID and ITS are not feasible, Mercer will perform descriptive analyses. Mercer will utilize a one-group post-test-only design (also referred to as descriptive trends over time analyses) that will track outcomes over time to assess trends post-implementation, consistent with CMS' recommendations in "Selecting the Best Comparison Group and Evaluation Design: A Guidance Document for State Section 1115 Demonstration Evaluations."[44] Other approaches include pre-post comparisons and comparisons of means between treatment and control groups. Although these findings preclude causal interpretation, they still provide insight into the relationship between the policy and outcomes of interest.

Given the complexity of Medicaid policy and public health, it is possible that there are other external factors occurring at the same frame that impact the observed post-treatment outcomes. For example, for RRSS findings, Mercer will also assess how the reentry policy for individuals leaving incarceration and the SUD Demonstration (given the overlap in target populations) may have also contributed to findings related to RRSS. Mercer will leverage qualitative findings from interviews/focus groups and review new policies and programs to

[44] Bradley K, Heeringa J, Pohl RV, Reschovsky JD, Samra M. "Selecting the Best Comparison Group and Evaluation Design: A Guidance Document for State Section 1115 Demonstration Evaluations." CMS. October 2020. https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/comparison-grp-eval-dsgn.pdf.

evaluate their potential connections to the models under consideration, and how they may impact the interpretation of findings.

Although Mercer is confident that the data sources proposed above should contain all required data elements needed to calculate the proposed measures, there is a possibility that the data needed for some metrics will not be available or will require a high level of cleaning/matching between sources to create a useable data set for analysis. Once the appropriate data sources and data elements are identified, Mercer will work with the Commonwealth as needed to acquire and integrate data sources; potential delays in executing data access agreements or memorandums of understanding may cause barriers to calculating measures in time for the Interim or Summative Evaluations. If any proposed metrics are not feasible, Mercer will assess the data from the Commonwealth and its state partners to determine whether an alternative measure is feasible and appropriate. If that is the case, Mercer will document any changes and rationale in the Interim and/or Summative Evaluation Reports, as applicable.

Although Mercer will use qualitative data collected from key informant interviews and focus groups to understand policy and implementation changes that may impact the quantitative findings, qualitative research methods have their own set of methodological limitations. Qualitative research focuses on a specific group of individuals' experiences with a policy or policy change and therefore has limited generalizability. Qualitative data is also subject to bias and reflects the individual informant's perspective and experience of the program. Mercer will attempt to limit the impact of this by collecting data from a variety of sources and the use of standardized interview guides. Mercer will check for inter-rater reliability when coding interviews. Surveys are limited in their usefulness by their response rate and responses can be biased if questions are constructed poorly, encourage skip patterns, and/or encourage non-answers. Mercer will work with the Commonwealth and partners to determine whether a survey is the best method through which to collect beneficiary experience. Mercer recognizes that some beneficiaries served by Demonstration components may be difficult to recruit for any qualitative data collection or that programs may be too small to produce the number of respondents needed for robust data analysis.

# Section 5
# Attachments

As part of the STCs set forth by CMS, the Commonwealth is required to arrange with an independent party to conduct an evaluation of the reentry Demonstration to ensure the necessary data is collected at the level of detail needed to research the approved Hs.

Mercer was chosen as the independent evaluator through an Individual Project Request process. Mercer will develop the Evaluation Design, calculate the results of the study, evaluate the results for conclusions, and write the Interim and Summative Evaluation Reports. Mercer has over 25 years of experience assisting state governments with the design, implementation, and evaluation of publicly sponsored healthcare programs. Mercer currently has over 25 states under contract and has worked with over 35 different states in total. They have assisted states like Arizona, Connecticut, Missouri, and New Jersey in performing independent evaluations of their Medicaid programs, many of which included 1115 Demonstration waiver evaluation experience. Given their extensive experience, the Mercer team is well equipped to work effectively as the external evaluator for the Demonstration project.

The table below includes contact information for the lead coordinators from Mercer for the evaluation.

**Table 6: Contact Information**

| Name | Position | Email Address |
|---|---|---|
| Nicole Comeaux | Engagement Leader | nicole.comeaux@mercer.com |
| Stacy Smith | Project Manager | stacy.smith@mercer.com |
| Faye Miller | Contract Manager | faye.miller@mercer.com |
| Tonya Aultman-Bettridge, PhD | Evaluator | taultman-bettridge@triwestgroup.net |

# Appendix A
# Conflict of Interest

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

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

Mercer is a technical assistance provider for the Commonwealth on a separate Medicaid project. Given that Mercer is acting as both technical assistance provider and independent evaluator for this project, Mercer has implemented measures to ensure there are no perceived conflicts of interest and project teams do not overlap. The Mercer and TriWest teams are functionally and physically separate from the technical assistance team, and the contract does not include any performance incentives that would contribute to a perception of conflicted interests between technical assistance services and the independence of the evaluation process.

In regards to Mercer's proposed subcontractors, all have assured Mercer there will be no conflicts and that they will take any steps required by Mercer or DMS to mitigate any perceived conflict of interest. To the extent that we need to implement a conflict mitigation plan with any of our valued subcontractors, we will do so. Mercer, through our contract with DMS, has ensured that it presently has no interest and will not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of its services. Mercer has further ensured that in the performance of this contract, it will not knowingly employ any person having such interest. Mercer additionally certified that no member of Mercer's Board or any of its officers or directors has such an adverse interest.

# Appendix B
# Evaluation Budget

Table B.1 presents the budget for the evaluation for the SMI, HRSN, and RRSS components of the TEAMKY Demonstration. Budget estimates include hours for staff, development of data collection instruments, development of metrics and determination of data sources, data cleaning and ingestion, data collection, analysis, and report writing.

**Table B.1: Evaluation Budget**

| Category | SFY 2025 | SFY 2026 | SFY 2027 | SFY 2028 | SFY 2029 | SFY 2030 | SFY 2031 | SFY 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|
| Project Management | $33,467 | $39,290 | $37,745 | $33,828 | $36,818 | $36,818 | $36,815 | $36,815 | $291,596 |
| Evaluation Design | $37,530 | $20,000 | x | x | x | x | x | x | $57,530 |
| Interim Evaluation Report | x | $20,549 | $16,220 | $14,536 | $15,822 | $17,150 | x | x | $84,277 |
| Midpoint Assessment | x | x | x | $75,000 | $15,000 | x | x | x | $90,000 |
| Summative Evaluation Report | x | x | x | x | x |  | $44,587 | $19,000 | $63,587 |
| Data | $89,012 | $168,846 | $191,053 | $171,222 | $186,361 | $191,053 | $95,526 | x | $1,093,073 |
| **Total** | **$160,005** | **$245,020** | **$245,020** | **$294,586** | **$254,001** | **$245,020** | **$176,928** | **$55,815** | **$1,680,063** |

**Table B.2: Hours by Evaluation Staff Role**

| Year | Project Director | Principal Consultant | Senior Consultant | Consultant | Junior Consultant | Project and Administrative Support | Total |
|---|---|---|---|---|---|---|---|
| SFY 2025 | 140 | 130 | 150 | 114 | 55 | 23 | **612** |
| SFY 2026 | 215 | 200 | 226 | 172 | 80 | 75 | **968** |
| SFY 2027 | 215 | 200 | 226 | 172 | 80 | 75 | **968** |

| Year | Project Director | Principal Consultant | Senior Consultant | Consultant | Junior Consultant | Project and Administrative Support | Total |
|---|---|---|---|---|---|---|---|
| SFY 2028 | 215 | 200 | 226 | 172 | 80 | 75 | **968** |
| SFY 2029 | 215 | 200 | 226 | 172 | 80 | 75 | **968** |
| SFY 2030 | 215 | 200 | 226 | 172 | 80 | 75 | **968** |
| SFY 2031 | 215 | 200 | 226 | 172 | 80 | 75 | **968** |
| SFY 2032 | 215 | 200 | 226 | 172 | 80 | 75 | **968** |

# Appendix C
# Potential Timeline and Major Deliverables

The table below highlights key evaluation milestones and activities for the Demonstration and the dates for completion. Dates are estimated based on a full approval date of January 1, 2025.

**Table C.1: Deliverables**

| Deliverable | STC Reference | Date |
|---|---|---|
| Submit Evaluation Design to CMS | 103 | June 10, 2025 |
| Final Evaluation Design | 103 | 60 days after comments received from CMS |
| SMI Midpoint Assessment Due | 60 | 60 days after December 12, 2027 |
| Draft Interim Evaluation Report | 106 | December 31, 2028 |
| Final Interim Evaluation Report | 106 | 60 days after CMS comments received |
| Draft Summative Evaluation Report Due 18 Months Following End of the Demonstration | 107 | July 2031 |
| Final Summative Evaluation Report | 107 | 60 days after CMS comments received |

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