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 15, 2020

Ben Shaffer
Deputy Secretary and Acting Medicaid Director
Rhode Island Executive Office of Health and Human Services
3 West Rd, Virks Building
Cranston, RI 02920

Dear Mr. Shaffer:

The Centers for Medicare & Medicaid Services (CMS) has approved the evaluation design for Rhode Island's section 1115 demonstration entitled, "Rhode Island Comprehensive Demonstration" (Project Number 11-W00242/1) effective through December 31, 2023. We sincerely appreciate the state's commitment to a rigorous evaluation of your demonstration.

CMS has added the approved evaluation design to the demonstration's Special Terms and Conditions (STC) as Attachment Y. A copy of the STCs that includes the new attachment is enclosed with this letter. The approved evaluation design may now be posted to the state's Medicaid website within thirty days, per 42 CFR 431.424(c). 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 renewal 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.

We look forward to our continued partnership with you and your staff on the Rhode Island Comprehensive Demonstration. If you have any questions, please contact your CMS project officer, Kathleen O'Malley. Ms. O'Malley may be reached by email at kathleen.omalley@cms.hhs.gov.

Sincerely,

/s/

Danielle Daly
Director
Division of Demonstration
Monitoring and Evaluation

/s/

Angela D. Garner
Director
Division of System Reform
Demonstrations

cc: Joyce Butterworth, State Monitoring Lead, CMS Medicaid and CHIP Operations Group

Evaluation Design Plan

Rhode Island Section 1115 Medicaid Waiver Evaluation

JUNE 25, 2019
Revised on March 9, 2020

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Chapter 1: Introduction

Rhode Island's Section 1115 Demonstration Waiver was initially approved by CMS in 2009 as the *Global Consumer Choice Compact Waiver*. This waiver included all Medicaid populations and provided the state with flexibility in return for accepting a fixed, aggregate spending cap. An extension to the Demonstration was approved in December 2013 to reflect changes to the healthcare landscape stemming from the Patient Protection and Affordable Care Act (ACA) and the implementation of the ACA's Medicaid expansion provision.

Since its inception, the Demonstration has met the goal of improving healthcare access. Per the waiver extension request in December 2008, Rhode Island provided full Medicaid benefits to 171,546 members. By December 2017, that number had increased by 84% to 315,662 members.[1] Medicaid has been crucial to reducing the share of Rhode Island residents without health insurance from 11.6% in 2013 to 4.3% in 2016. Total spending has increased as well, but this increase is due mostly to enrollment growth. Total program spending increased on average by 2.5% per year between 2013 and 2017, but per-member per-month costs (PMPM) decreased by 1.7% per year. Rhode Island's success in keeping its costs low is due largely to a shift from fee-for-service (FFS) to managed care.[1]

In July 2018, Rhode Island's Executive Office of Health and Human Services (EOHHS) requested a waiver extension to support and expand its four commitments to improving health and healthcare delivery: 1) pay for value, not volume; 2) coordinate physical, behavioral, and long-term healthcare; 3) rebalance the delivery system away from high-cost settings; and 4) promote efficiency, transparency, and flexibility. Our evaluation will primarily seek to address the impact of the first three of these commitments; the effects on efficiency, transparency, and flexibility will be secondary outcomes that will be indirectly addressed through the evaluation activities. Approved by CMS on December 20, 2018, the extension maintains existing authorities and includes new ones as well. Changes sought in the extension include changes in the areas of eligibility, demonstration benefits, delivery system, and financing:[1]

- **Medicaid eligibility** changes will streamline the beneficiary liability collection process, codify the needs-based criteria for service options available to adults with developmental and intellectual disabilities, and create a new eligibility pathway for children with disabilities to receive care in a residential treatment facility.
- **Changes in demonstration benefits** will improve access to a range of programs and cover more services. This evaluation includes the following specific waiver programs:
    - Covering Family Home Visiting Programs to Improve Birth and Early Childhood Outcomes;
    - Supporting Home- and Community-Based Therapeutic Services for the Adult Population;
    - Peer Recovery Specialist (PRS) and Family/Youth Support Partners (FYSP) Programs;
    - Improving Access to Care for Homebound Individuals;

[1] Executive Office of Health and Human Services (EOHHS), State of Rhode Island. The Rhode Island 1115 Waiver Extension Request, July 11, 2018.

  - Behavioral Health Link; and
  - Modernizing the Preventive and Core Home- and Community-Based Services Benefit Package.
- **Delivery system enhancements** include a Dental Case Management Pilot project, which will involve four new dental case management Current Dental Terminology (CDT) codes for addressing appointment compliance, care coordination, motivational interviewing, and patient education. The pilot will address social determinants of health that affect compliance with appointments and treatment recommendations, improving oral health outcomes, and improving member experience.
- **Demonstration financing** changes include the following: an extension of the Designated State Health Program (DSHP) authority, which funds the Health System Transformation Project (HSTP), through December 31, 2020; and waiving the IMD exclusion to improve access to substance use treatment.

We anticipate that a majority of RI Medicaid enrollees will receive services under one or more programs included in this waiver. HSTP, the broadest program listed here, includes 168,676 attributed lives in AEs (approximately 45% of eligible) as of August 2019; thus, it is likely that some AE enrollees will also receive services under another of the programs included in this evaluation.

The evaluation of this waiver extension covers the three research domains mentioned above. The description of key drivers provided by EOHHS (**Exhibit 1**) outlines the anticipated mechanisms of actions and impact on health outcomes expected as a result of the waiver extension. Anticipated mechanisms of action for "pay for value, not volume" include a transition away from FFS models, Medicaid-wide population health targets tied to payments, and the maintenance and expansion of excellence in program design and outcomes. In order to coordinate physical, behavioral, and long-term healthcare, the extension seeks to maximize enrollment in integrated care delivery systems, implement coordinated accountable care for high-cost/high-need populations, ensure access to high-quality primary care, and leverage health information systems. EOHHS aims to reduce utilization in high-cost settings when avoidable. The waiver accomplishes this by aiming to shift expenditures to community-based settings and encouraging the development of AEs for LTSS. We provide further details in **Exhibit 1** concerning how these anticipated mechanisms of actions may be implemented.

Exhibit 1: Key Drivers for the Rhode Island Section 1115 Medicaid Waiver

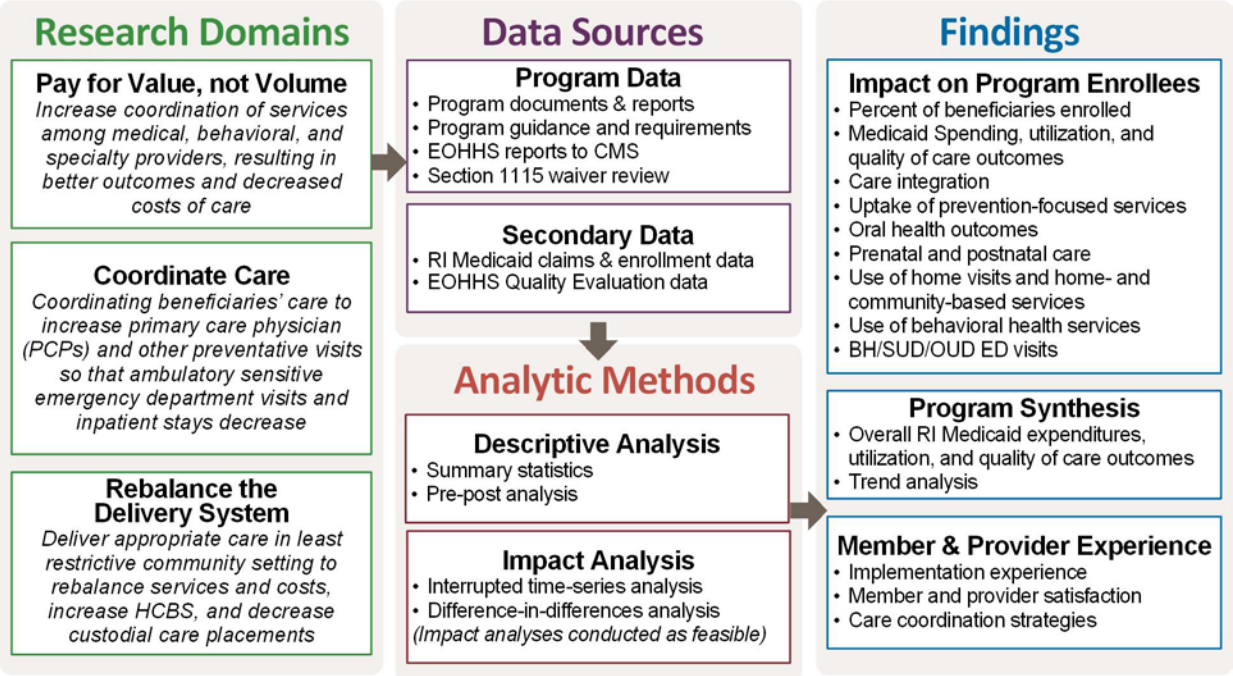
Domain	Goal	Strategy
Pay for Value, not Volume	Substantially transition away from FFS models	Increase the percentage of members attributed to AEs
		Create relationships with PCPs and AE members that foster long-term health management within the same setting. This can be tracked through AE attribution tables and through the member satisfaction survey within the Quality Strategy. We can use financial incentives and penalties to increase performance
	Define Medicaid-wide population health targets and, where possible, tie them to payments	Develop clearly defined measures that demonstrate quality of care
	Maintain and expand record of excellence	Develop measures that demonstrate improvement in birth and early childhood outcomes with the addition of the family home visiting program

		Increase the age-out period for kids in Rite Smiles to 21 years of age and continue to monitor the dental health of these members
		Support network adequacy and capacity to meet the needs of Medicaid members by training the healthcare workforce through institutes of higher education to ensure sustainability of the program.
Coordinate, Physical, Behavioral, and Long-Term Healthcare	Maximize enrollment in integrated care delivery systems	Collaborate with local institutions by incentivizing interventions that support the goals of the waiver and participation of AEs through HSTP funding opportunities
	Implement coordinated, accountable care for high-cost/high-need populations	Address gaps in treatment for adults with special healthcare needs by covering home-based therapeutic services, life skills training, and other evidence based practices
	Ensure access to high-quality primary care	Reduce barriers to accessing home-based primary care by reimbursing these services for members who are homebound
	Leverage health information systems to ensure quality, coordinated care	Identify barriers to data sharing, develop mechanisms for clinical data exchange between various EMRs, and support the managed care organization (MCO) with developing an infrastructure to receive data from the AEs
Rebalance the Delivery System Away from High Cost Settings	Shift Medicaid expenditures from high-cost institutional settings to community-based settings	Provide alternatives to emergency departments (EDs) for members experiencing a behavioral health (BH) crisis (e.g., IMDs)
		Expand services to LTSS eligible members to include an array of Home and Community Based Services (HCBS) with an institutional level of care, or those at risk of needing an institutional level of care
		Expand covered services to improve transitions between care settings
		Develop quality measures to determine effectiveness of peer recovery specialists to assist members in navigating the system
	Encourage the development of AEs for integrated LTSS	Explore alternative payment methodologies for home care providers

Chapter 2: Evaluation Design in Brief

We base our evaluation approach on the three research domains that EOHHS has established as priorities for this waiver extension, as articulated in **Exhibit 1**. These include: 1) pay for value, not volume; 2) coordinate physical, behavioral, and long-term healthcare; and 3) rebalance the delivery system away from high-cost settings. These domains guide the framing of the research questions and the selection of data sources, measures, analytic approaches and other aspects of this evaluation design plan. **Exhibit 2** presents our evaluation approach to addressing these three research domains, including data sources, analyses, and categories of key findings.

Exhibit 2: Proposed Evaluation Approach



We will use secondary data to fully capture the organizational characteristics of the waiver extension programs, characteristics of beneficiaries served, and the impact on health and quality outcomes. Each year, we will review our data collection tools, sources, and analyses, and update our evaluation approach as necessary to reflect the evolution of these programs as they strive to better serve their populations.

To assess the programs' impact on cost, quality, and utilization, we will use Rhode Island Medicaid claims and encounter data. This includes pre-post analysis and, where possible, interrupted time-series analysis and/or difference-in-differences (DiD) regression analysis. For DiD analyses, we will create appropriate comparison groups and will choose the appropriate model specification based on the observed characteristics and distribution (e.g., proportion of zeros) of each outcome. For multivariate analyses used to estimate the impact of these programs, we will include relevant covariates based on our empirical

model of causality and adjust standard errors to account for clustering of observations to the appropriate unit of analysis.

In addition to the claims-based data, we will be integrating information from the EOHHS Quality Evaluation, which is administering an adapted version of the Clinician and Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS) starting in Fall 2020 to measure perceptions of care for AE participants. In addition to the CG-CAHPS, the EOHHS Quality Evaluation will collect and interpret results from CAHPS surveys conducted by participating MCOs annually. We will consider any context and/or outcomes which emerge from the EOHHS Quality Evaluation, and integrate those into our conclusions to the extent possible.

We describe the nine programs included in this evaluation in **Exhibit 3**. While we will use a similar general process to evaluate each of these programs, we will tailor the evaluations to the specific attributes of each program and include additional details on differences in approach in subsequent chapters of this document. We will synthesize findings across programs by analyzing overall trends in Medicaid spending, utilization, and quality of care before and after the waiver implementation dates, which takes into consideration the sum effect of all programs on Rhode Island Medicaid. We will work closely with EOHHS over the course of this contract to update evaluation plans as needed, especially for programs that have not been implemented as of June 2019.

Exhibit 3: Brief Description of Waiver Programs

Program	Summary
Health System Transformation Project (HSTP)	Implementation date: EOHHS provisionally certified six Pilot AEs in late fall of 2015; Program Year One began on July 1, 2018 Anticipated number of recipients: 170,000 The Rhode Island HSTP program has been proposed to support the transformation of the Medicaid program. In addition to building from the state's existing infrastructure such as the health information exchange CurrentCare and the All-Payer Claims Database, HSTP aligns its goals and objectives with other transformative initiatives including the Care Transformation Collaborative and the State Innovation Model (SIM). The core component of the HSTP is the creation of Accountable Entities (AEs), integrated provider organizations responsible for the total cost of care, healthcare quality, and outcomes among an attributed population.[4] The new infrastructure builds on the strengths of the current MCO model to create partnerships between AEs and MCOs. AE attribution is hierarchical. First, eligible AE beneficiaries assigned to a qualified Integrated Health Home (IHH) are attributed to the AE in which the IHH participates. Second, eligible beneficiaries not enrolled in an IHH are attributed to AEs based on each MCO's assignment of PCPs. This assignment is updated quarterly and beneficiaries may be reassigned based on member requests to change PCPs or analyses of utilization patterns. Finally, while MCOs are required to use EOHHS-approved methodology to attribute beneficiaries to AEs, PCP assignment methods vary slightly across MCOs Recognizing that success hinges on having the appropriate workforce in place, HSTP also leverages the state's Health Workforce Transformation (HWT) project, which supports the establishment of AEs and the development of education and training programs to build career pathways to AEs and capacities for AEs.

Program	Summary
Piloting Dental Case Management	Implementation date: February 4, 2019 Anticipated number of recipients: 6 dental practices; 1,375 beneficiaries The Piloting Dental Case Management (CM) program permits six dental practices to participate in a demonstration of the impact of four new dental case management CPT codes. The new codes include addressing appointment compliance barriers, care coordination, motivational interviewing, and patient education to improve oral health literacy. Participating dentists/staff will complete online training modules to give them the skills required to bill for these CM services. The pilot settings include private practice, hospital-based dental clinic, and federally-qualified health centers. Dental care management should improve the social determinants of health that affect compliance, as well as improve member experience, member oral health outcomes, and provider experience (fewer no shows, late appointments, greater chance of improvement to oral health). Vermont, New Jersey, Ohio, Georgia, Indiana, and Minnesota have had positive outcomes with similar dental care management programs.
Covering Family Home Visiting Programs to Improve Birth and Early Childhood Outcomes	Implementation date: July 1, 2020 assuming approval of GR funding Anticipated number of recipients: 1050 families The Covering Family Home Visiting Programs to Improve Birth and Early Childhood Outcomes program targets Medicaid-eligible pregnant women and children younger than five years old who are at-risk for adverse health, behavioral, and educational outcomes to be provided evidence-based home visiting services. An evidence-based tool, like the Family/Parent Survey, will be used to identify risk for poor outcomes, and families with multiple risk factors for poor outcomes will be prioritized. The home visits are designed to improve maternal and child health outcomes, encourage positive parenting, and promote child development and school readiness. Rhode Island's home visits are currently implemented through the Nurse-Family Partnership (NFP) and Healthy Families America (HFA) as part of the federal government's Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program.
Supporting Home- and Community-Based Therapeutic Services for the Adult Population	Implementation date: There are no plans to implement this program in the near term, as additional funds are needed to support implementation Anticipated number of recipients: Unknown; TBD when funding is allocated The Supporting Home- and Community-Based Therapeutic Services for the Adult Population program is intended to provide home- and community-based therapeutic services (HBTS) to Medicaid beneficiaries aged 21 or older with at least one of the following: a chronic condition, a behavioral health diagnosis, a neurological diagnosis, or a significant impairment in functioning level determined by a validated screening tool. This program aims to address the treatment gaps that exist due to Rhode Island's fragmented system of population-specific treatment services between child- and adult-eligible services. For instance, some services target only children with special healthcare needs and others only target medically compromised aging populations. Expanding eligibility to include adults will help adults transition from the child system to the adult system. Other possible outcomes from its services may include improvements to the child's ability to succeed without higher level of care, improvement of socially significant behaviors, effective delivery to treatment delivery to individuals recovering from a first episode of psychosis, improved access to treatment and support services for 16 to 25 year-olds at risk of developing a serious mental health condition, and reduced rates of alcohol and drug abuse among youth. At this time, there are no plans to implement this program due to lack of funding.

Program	Summary
Peer Recovery Specialist (PRS) and Family/Youth Support Partners (FYSP) Programs	Implementation date: June 1, 2019 Anticipated number of recipients: 78 families annually The Peer Recovery and Family Youth Support Peer Program will have a Peer Recovery Specialist (PRS) or Family/Youth Partners (FYSP) work with a beneficiary to offer a unique vantage point and the skills of someone who has succeeded in managing a serious behavioral health condition or developmental disability, or is an adult with an on-going and/or personal experience caring for a child or with another family member with a similar mental illness and/or substance use disorder. The key objective of this program is to provide individuals with a support system to develop and learn healthy living skills. The Peer Recovery Specialists (PRS) offer peer services that focus on people with a mental health and/or substance use disorder who are having trouble stabilizing in the community and/or are in need of supports to maintain their stability in the community. This includes but is not limited to Medicaid-eligible individuals who are experiencing, or are at risk of, hospitalization, overdose, homelessness or are in the hospital after an overdose, are homeless or are in a detox setting. It also includes people recently released from institutions such as hospitals and prison. The FYSP offers services to children under 21 years of age and their caregivers related to supporting a child with behavioral health needs and to improve functioning within family and community settings. The services focus on stabilizing the child with behavioral health or developmental disability disorder to promote well-being of the child and limiting the effects of various social determinants. The goal is for the child to continue to be living in the community with services rather than being institutionalized in a short- or long- term residential treatment facility or hospital. Outcomes from this program may include improved socialization, long-term recovery, wellness self-advocacy, connection to the community, as well as treatment of mental health and/or substance use disorders.
Improving Access to Care for Homebound Individuals	Implementation date: No plans to implement in near term Anticipated number of recipients: Unknown; TBD when funding is allocated The Improving Access to Care for Homebound Individuals program will pay for home-based primary care services for Medicaid-eligible individuals who are homebound, have functional limitations that make it difficult to access office-based primary care, or for whom routine office-based primary care is not effective due to their complex medical, social, and/or behavioral health conditions. Home-based primary care has been shown to reduce hospitalizations and nursing facility use, lower healthcare costs, and improve quality of care. It can also increase patient involvement in care and improve patient and family satisfaction. This program aims to increase access and utilization of primary care services by those individuals who are homebound. At this time, there are no plans to implement this program.
Behavioral Health Link (BH Link)	Implementation Date: Opened on November 1, 2018 using existing FFS codes; bundled rate billing began 01/29/2020. Anticipated number of recipients: 3,650 individuals Half of all emergency department visits by RI Medicaid beneficiaries between 2014 and 2016 were related to treatment for mental health conditions. RI developed one Behavioral Health Link (BH Link) triage center to support these patients and all future Medicaid patients that seek crisis stabilization and short-term treatment for behavioral health needs. The triage center currently bills under the FFS payment agreement, but plans to receive a bundled payment per beneficiary per 24-hour window of treatment provided, once approved by CMS. The expected treatments provided include but are not limited to physician services, medication treatment, skilled nursing care, services from mental health professionals, comprehensive assessment and triage, and crisis stabilization.

Program	Summary
Promoting Access to Appropriate, High-Quality Mental Health and Substance Use Treatment by Waiving the Institutions of Mental Disease (IMD) Exclusion	Implementation date: July 1, 2019 Anticipated number of recipients: 7,171 individuals Institutions of Mental Disease (IMDs) are inpatient facilities with more than 16 beds and with 51% of patients having severe mental health condition. Currently, federal financial participation excludes individuals aged 22-64 years old residing in IMDs. This exclusion has caused problems including Medicaid enrollees being treated in hospital emergency departments, which are more expensive and less prepared for mental health/substance abuse; undermining continuity of care efforts; limiting access to substance use treatment programs and constraining Medicaid-funded services and supports; and raising parity issues as a result of the passage of the Mental health Parity and Addiction Equity Act (MHPAEA). This program waives this IMD exclusion for SUD treatment, with the goal of allowing RI to maintain and enhance beneficiary access to behavioral health services in appropriate settings.
Modernizing the Preventive and Core Home- and Community-Based Services Benefit Package	Implementation date: TBD given that new funding is needed Anticipated number of recipients: 5,064 individuals Because of an increase in the aging population and continued increase in total expenses for nursing homes continue to grow in the state, RI seeks to redesign home- and community-based services (HCBS) coverage. The proposed plan included the following four key parts: 1) eliminating selected HCBS that are no longer needed as they are now State Plan benefits, 2) broadening the range of needs-based Preventive and Core HCBS, 3) updating definitions of the existing benefits, and 4) instituting authority to cap the amount or duration of Preventive HCBS based on need and mandating cost-sharing for Preventive HCBS. After review, the proposal was partially approved; no language was added for special terms and conditions (STCs) to institute authority to cap the amount or duration of Preventive HCBS based on need and mandate cost-sharing for Preventive HCBS (proposal #4); furthermore, no authority was granted to provide home stabilization as a Preventive service. or Core service (proposal #2).

SOURCE: Executive Office of Health and Human Services (EOHHS), State of Rhode Island. The Rhode Island 1115 Waiver Extension Request, July 11, 2018; Excel worksheet "1115 Waiver Implementation Dates_NORC" sent by EOHHS to NORC on 5/28/19.

Exhibit 4 presents additional information about the programs included in this evaluation, including program-specific goals, relevant performance metrics, and descriptions of the target population. This information will help shape our selection of evaluation measures and analytic methodology described in the remainder of this evaluation plan. See **Exhibits 5 and 6** for additional information on evaluation hypotheses/research questions and outcome measures, respectively.

Exhibit 4: Waiver Program Goals, Performance Metrics, and Target Populations

Program	Goals	Relevant Performance Metrics	Target Population	Evaluation Hypotheses	Research Questions
Health System Transformation Project (HSTP)	■ Transition the Medicaid payment system away from fee-for-service to alternative payment models ■ Drive delivery system accountability to improve quality, member satisfaction and health outcomes, while reducing cost of care ■ Develop targeted provider partnerships that apply emerging data capabilities to refine and enhance care management, pathways, coordination, and timely responsiveness to emergent needs ■ Improve health equity and address Social Determinants of Health (SDOH) and Behavioral Health (BH) by building on a strong primary care foundation to develop interdisciplinary care capacity that extends beyond traditional health care providers ■ Enable vulnerable populations to live successfully in the community	■ All-cause readmissions ■ ED utilization among members with mental illness ■ Potentially avoidable ED visits ■ Breast cancer screening ■ Follow-up after hospitalization for mental illness ■ CG-CAHPS and CAHPS outcomes	■ The population eligible for attribution to an AE consists of Medicaid-only beneficiaries enrolled in managed care, and beneficiaries may only be attributed to a single AE. ■ An attribution-eligible provider can only participate in one AE at a time for the purposes of attribution. ■ PCP assignment methods vary slightly across MCOs.	■ The demonstration will reduce utilization and overall Medicaid spending while maintaining quality of care for RI Medicaid enrollees ■ The demonstration will increase coordination among different care types, leading to better health outcomes for RI Medicaid enrollees	■ What percentage of RI Medicaid patients are attributed to this waiver program? ■ What are the trends in spending, utilization, and quality of care? ■ What is the impact on spending, utilization, and quality of care for AE-attributed members? ■ What is the experience of care for AE-attributed members? Are they satisfied with their care? ■ Does better care integration reduce high-cost care for enrollees?
Piloting Dental Case Management	■ Increase use of preventive services ■ Decrease broken appointments ■ Improve the social determinants of health that affect compliance, member experience, health outcomes, and provider experience	■ Frequency of use of new dental case management codes at the participating dental practices ■ Rate of broken appointments	■ RI Medicaid enrollees ages 18 and over in the traditional fee-for-service dental delivery system, seen at participating dental practices	■ The demonstration will reduce utilization and overall Medicaid spending while maintaining quality of care for RI Medicaid enrollees ■ The demonstration will increase coordination among different care types, leading to better health outcomes for RI Medicaid enrollees	■ What percentage of RI Medicaid patients are attributed to this waiver program? ■ What are the trends in spending, utilization, and quality of care? ■ Does the demonstration increase uptake of prevention-focused resources into routine medical care for high-cost/high-need RI Medicaid enrollees?

Program	Goals	Relevant Performance Metrics	Target Population	Evaluation Hypotheses	Research Questions
Covering Family Home Visiting Programs to Improve Birth and Early Childhood Outcomes	■ Improve maternal and child health outcomes ■ Encourage positive parenting ■ Promote child development and school readiness	■ Well child visits ■ Childhood vaccinations ■ Timeliness of prenatal care ■ Postnatal care	■ RI Medicaid-eligible pregnant women and children up to age four; at-risk for adverse health, behavioral, and educational outcomes (families with multiple risk factors will be prioritized)	■ The demonstration will reduce utilization and overall Medicaid spending while maintaining quality of care for RI Medicaid enrollees ■ The demonstration will increase coordination among different care types, leading to better health outcomes for RI Medicaid enrollees	■ What percentage of RI Medicaid patients are attributed to this waiver program? ■ What are the trends in spending, utilization, and quality of care? ■ Does the demonstration increase uptake of prevention-focused resources into routine medical care for high-cost/high-need RI Medicaid enrollees? ■ Does increasing access to home visits impact maternal and child health outcomes?
Supporting Home- and Community-Based Therapeutic Services for the Adult Population	■ Help adults transition from the child HBTS program ■ Improvements in ability to succeed without higher-level care, socially significant behaviors ■ Improved access to treatment and support services ■ Reduced rates of alcohol and drug abuse	■ Use of HBTS services ■ Use and types of HBCS services ■ Rates of institutionalization	■ RI Medicaid enrollees at least 21 years old who have a diagnosis of a chronic condition such as arthritis, asthma, diabetes, heart disease; special needs/diseases; a BH diagnosis; a neurological diagnosis; or significant impairment in functioning level as determined by a validated screening tool.	■ The demonstration will reduce utilization and overall Medicaid spending while maintaining quality of care for RI Medicaid enrollees ■ The demonstration will shift care away from high-cost settings (e.g., the ED), reducing spending while increasing utilization in lower-cost settings.	■ What percentage of RI Medicaid patients are attributed to this waiver program? ■ What are the trends in spending, utilization, and quality of care? ■ Has the expansion of covered home- and community-based services impacted rates of institutionalization and/or home-based care?

Program	Goals	Relevant Performance Metrics	Target Population	Evaluation Hypotheses	Research Questions
Peer Recovery Specialist (PRS) and Family/Youth Support Partners (FYSP) Programs	■ To provide peer-to-peer mentoring supports that go beyond recovery navigation ■ Provide individuals with a support system to develop and learn healthy living skills. ■ Teaching families the skills necessary to improve coping abilities and positive parenting skills ■ Developing and linking children, youth and parents/caregiver with formal and informal support ■ Helping families to secure basic needs, and access health insurance or social service benefits ■ Improving socialization, long-term recovery, self-advocacy, connection to the community, and treatment of mental health and/or substance use disorders	■ Access to physical health care ■ Use of BH services ■ BH-related ED visits ■ Follow-up after ED visit for mental illness ■ IMD use	■ PRS: Medicaid-eligible individuals experiencing or at risk of, hospitalization, overdose, homelessness or are in the hospital after an overdose, are homeless or are in a detox setting, or recently released from institutions such as hospitals and prison. ■ FYSP: Parents and youth covered by RI Medicaid with complex behavioral health needs who are at risk of having to leave the home due to child welfare or juvenile justice involvement, or may need extended residential psychiatric treatment	■ The demonstration will reduce utilization and overall Medicaid spending while maintaining quality of care for RI Medicaid enrollees ■ The demonstration will increase coordination among different care types, leading to better health outcomes for RI Medicaid enrollees ■ The demonstration will shift care away from high-cost settings (e.g., the ED), reducing spending while increasing utilization in lower-cost settings.	■ What percentage of RI Medicaid patients are attributed to this waiver program? ■ What are the trends in spending, utilization, and quality of care? ■ To what extent has the demonstrations integrated BH and SUD care into medical care? How has this affected health outcomes and BH/SUD treatment uptake for RI Medicaid enrollees? ■ What are the trends in ED visits and IMD use for members accessing behavioral health services?
Improving Access to Care for Homebound Individuals	■ Increase access and utilization of primary care services by homebound individuals	■ Primary care visits ■ Primary care home visits ■ ED use	■ RI Medicaid enrollees who are homebound, have functional limitations, or for whom office-based primary care isn't effective because of complex medical, social, and/or BH conditions	■ The demonstration will reduce utilization and overall Medicaid spending while maintaining quality of care for RI Medicaid enrollees ■ The demonstration will shift care away from high-cost settings (e.g., the ED), reducing spending while increasing utilization in lower-cost settings.	■ What percentage of RI Medicaid patients are attributed to this waiver program? ■ What are the trends in spending, utilization, and quality of care? ■ Has the expansion of covered home- and community-based services impacted rates of institutionalization and/or home-based care?

Program	Goals	Relevant Performance Metrics	Target Population	Evaluation Hypotheses	Research Questions
Behavioral Health Link	■ Move to billing bundled rate for BH Link services on a per-beneficiary basis	■ Access to physical health care ■ Use of BH services ■ BH-related ED visits ■ Follow-up after ED visit for mental illness ■ IMD use	■ RI Medicaid enrollees who are in crisis due to substance use disorders, mental health disorders or co-occurring mental health and substance use disorders	■ The demonstration will reduce utilization and overall Medicaid spending while maintaining quality of care for RI Medicaid enrollees ■ The demonstration will increase coordination among different care types, leading to better health outcomes for RI Medicaid enrollees ■ The demonstration will shift care away from high-cost settings (e.g., the ED), reducing spending while increasing utilization in lower-cost settings.	■ What percentage of RI Medicaid patients are attributed to this waiver program? ■ What are the trends in spending, utilization, and quality of care? ■ To what extent has the demonstrations integrated BH and SUD care into medical care? How has this affected health outcomes and BH/SUD treatment uptake for RI Medicaid enrollees? ■ What are the trends in ED visits and IMD use for members accessing behavioral health services?
Promoting Access to Appropriate, High-Quality Mental Health and Substance Use Treatment by Waiving the Institutions of Mental Disease (IMD) Exclusion	■ Allow RI to maintain and enhance beneficiary access to behavioral health services in appropriate settings	■ IMD use ■ Use of BH services ■ SUD/OUD-related ED visits ■ Receipt of care following referral for SUD/OUD ■ Rate of overdose deaths	■ RI Medicaid enrollees aged 21 to 64 years with mental health or substance use disorders and a clinical need for residential treatment and the services and supports required to make a transition back into the community	■ The demonstration will reduce utilization and overall Medicaid spending while maintaining quality of care for RI Medicaid enrollees ■ The demonstration will shift care away from high-cost settings (e.g., the ED), reducing spending while increasing utilization in lower-cost settings.	■ What percentage of RI Medicaid patients are attributed to this waiver program? ■ What are the trends in spending, utilization, and quality of care? ■ What are the trends in ED visits and IMD use for members accessing behavioral health services?

Program	Goals	Relevant Performance Metrics	Target Population	Evaluation Hypotheses	Research Questions
Modernizing the Preventive and Core Home- and Community-Based Services Benefit Package	■ Eliminate select HCBS that are no longer needed as they are now State Plan benefits ■ Update the definitions of HCBS benefits	■ Use of HCBS services ■ Minimizing institutional length of stay ■ Successful transition after institutionalization	■ RI Medicaid enrollees eligible based on age, disability or blindness who meet the applicable clinical/functional criteria	■ The demonstration will reduce utilization and overall Medicaid spending while maintaining quality of care for RI Medicaid enrollees ■ The demonstration will increase coordination among different care types, leading to better health outcomes for RI Medicaid enrollees ■ The demonstration will shift care away from high-cost settings (e.g., the ED), reducing spending while increasing utilization in lower-cost settings.	■ What percentage of RI Medicaid patients are attributed to this waiver program? ■ What are the trends in spending, utilization, and quality of care? ■ Does the demonstration increase uptake of prevention-focused resources into routine medical care for high-cost/high-need RI Medicaid enrollees? ■ Has the expansion of covered home- and community-based services impacted rates of institutionalization and/or home-based care?

NOTE: Bolded program goals will be addressed in this claims-based evaluation.

Chapter 3: Research Domains

NORC's evaluation of this waiver extension will address the success of each program based on its impact on care coordination, health care utilization, spending, quality of care and, ultimately, health outcomes. We will use the following three research domains to guide our evaluation:

- Pay for value, not volume;
- Coordinate physical, behavioral, and long-term care; and
- Rebalance the delivery system away from high-cost settings

As mentioned previously, we will also indirectly addressing the state's goal to promote efficiency, transparency, and flexibility through the three domains above. Using Rhode Island Medicaid claims and encounter data, we will address research questions included under the three domains listed above. **Exhibit 5** lists the demonstration goals, evaluation hypotheses, and research questions for this evaluation. See **Exhibits 4 and 6** for additional information on program goals and outcome measures, respectively.

Exhibit 5: Core Research Domains & Supporting Research Questions

	Research Question	Relevant Programs	Outcome Measures	Data Sources: Demonstration Documents & Data	Data Sources: Medicaid Claims & Encounter Data	Data Sources: EOHHS Quality Evaluation Data	Analytic Methods
Demonstration Goal #1: Pay for value, not volume							
Evaluation Hypothesis: The demonstration will reduce utilization and overall Medicaid spending while maintaining quality of care for RI Medicaid enrollees							
1	What percentage of RI Medicaid patients are attributed to each waiver program?	▪ All programs	▪ Percent of RI Medicaid members enrolled	■	■		▪ Descriptive analysis
2	What are the trends in spending, utilization, and quality of care?	▪ All programs	▪ Total Medicaid spending ▪ Hospitalizations, Readmissions ▪ ED Visits		■		▪ Descriptive analysis ▪ Interrupted time-series if feasible; otherwise pre-post

3	What are the trends in spending, utilization, and quality of care in the entire RI Medicaid population?	▪ All programs (synthesized findings)	▪ Total Medicaid Spending ▪ Total SUD-related Medicaid spending[2] ▪ Hospitalizations, Readmissions ▪ ED Visits ▪ AE performance metrics		■		▪ Descriptive analysis ▪ Interrupted time-series if feasible; otherwise pre-post
4	What is the impact on spending, utilization, and quality of care for AE-attributed members?	▪ HSTP	▪ Spending, utilization, and quality measures		■		▪ Descriptive analysis ▪ Difference-in-differences
5	What is the experience of care for AE-attributed members? Are they satisfied with their care?	▪ HSTP	▪ CG-CAHPS and CAPHS measures			■	▪ Descriptive analysis
Demonstration Goal #2: Coordinate physical, behavioral, and long-term care							
Evaluation Hypothesis: The demonstration will increase coordination among different care types, leading to better health outcomes for RI Medicaid enrollees							
6	Does better care integration reduce high-cost care for enrollees?	▪ HSTP	▪ Potentially avoidable ED use ▪ ED use among members with mental illness ▪ CG-CAHPS and CAPHS measures	■		■	▪ Descriptive analysis ▪ Difference-in-differences
7	To what extent has the demonstrations integrated BH and SUD care into medical care? How has this affected health outcomes and BH/SUD treatment uptake for RI Medicaid enrollees?	▪ PRS/FYSP ▪ Building BH Supports	▪ Access to physical health care ▪ Use of BH services ▪ BH/SUD/OUD ED visits ▪ Follow-up after ED visit for mental illness ▪ Follow-up after SUD/OUD referral		■		▪ Descriptive analysis ▪ Interrupted time-series if feasible; otherwise pre-post
8	Does the demonstration increase uptake of prevention-focused resources into routine medical care for high-cost/high-need RI Medicaid enrollees?	▪ Dental Case Management ▪ Family Home Visits ▪ Modernizing HCBS	▪ Frequency of dental case management code usage ▪ Dental services & oral health events ▪ Well child visits ▪ Childhood immunization ▪ Use of covered preventive services		■		▪ Descriptive analysis ▪ Interrupted time-series if feasible; otherwise pre-post
9	Does increasing access to home visits impact maternal and child health outcomes?	▪ Family Home Visits	▪ Timeliness of prenatal care ▪ Postpartum care		■		▪ Descriptive analysis ▪ Interrupted time-series if feasible; otherwise pre-post
Demonstration Goal #3: Rebalance the delivery system away from high-cost settings							
Evaluation Hypothesis: The demonstration will shift care away from high-cost settings (e.g., the ED), reducing spending while increasing utilization in lower-cost settings.							
10	What are the trends in ED visits and IMD use for members accessing behavioral health services?	▪ IMD Exclusion ▪ PRS/FYSP ▪ Building BH Supports	▪ IMD use ▪ Use of BH services ▪ BH/SUD/OUD ED visits ▪ Rate of overdose deaths		■		▪ Descriptive analysis ▪ Interrupted time-series if feasible; otherwise pre-post
11		▪ Modernizing HCBS	▪ Use of HCBS services ▪ Institutional length of stay		■		▪ Descriptive analysis

[2] As defined in CMS' "SMI/SED and SUD Evaluation Design Guidance: Appendix C," SUD-related spending includes SUD-IMD costs, other SUD costs, and non-SUD costs.

	Has the expansion of covered home- and community-based services impacted rates of institutionalization and/or home-based care?		▪ Successful transition after institutionalization				▪ Interrupted time-series if feasible; otherwise pre-post
		▪ Supporting HBTS	▪ Use of HBTS services ▪ Use of HCBS services ▪ Institutionalization				
		▪ Access for Homebound Enrollees	▪ Primary care visits ▪ Home-based primary care visits ▪ ED use among homebound patients				

Chapter 4: Evaluation Measurement Strategies

This chapter presents the measures that will serve as variables in this evaluation, including outcomes and covariates that will be used to estimate impact. The development of measures is an iterative process expected to be refined over the course of the evaluation. We expect that, as we learn more about these programs and their implementation, we will provide a more clearly defined, parsimonious, set of variables based on how measures are operationalized in the evaluation.

Outcome Measures

Using Rhode Island Medicaid claims, we will construct a number of measures to assess the waiver's impact on cost, utilization, and quality of care outcomes for the program populations and, as possible, for key subpopulations. Successful construction of these measures will be dependent on data quality and availability; we will work with EOHHS to create a final list of outcome measures after conducting a data quality assessment. The list of proposed measures will be refined periodically, with guidance from EOHHS and informed by the evaluation work underway.

Our claims-based outcomes are derived from Rhode Island Medicaid claims shared by EOHHS. We will present a standard set of six core measures for each program, as well as additional program-specific measures as data and resources allow. A list of proposed secondary data outcome measures are displayed in **Exhibit 6**, as well as their working definitions. All measures will be assessed annually and will be included in both the interim and summative evaluation reports. Where possible, evaluation results will incorporate national or state-defined standards and/or benchmarks for comparison purposes. These may include comparison data from the Child and Adult Core Set measures[3] or historical in-state benchmarks using Rhode Island Medicaid claims and encounter data. See **Exhibits 4 and 5** for additional information on program goals and evaluation hypotheses/research questions, respectively.

Our evaluation will also integrate two non-claims data sources. First, we will review 1115 Medicaid program documents and data to explore process measures and implementation experience of each of the programs; this may also include program-derived quality and/or health outcome measures (e.g., quality metrics calculated by MCOs for HSTP, behavioral health data from the Department of Behavioral Healthcare, Developmental Disabilities, and Hospitals (BHDDH)). We plan to review these documents as they are submitted but at least annually, as we understand that these programs may change over time. Second, we will be receiving data from the EOHHS Quality Evaluation, which integrates CG-CAHPS and the CAHPS administered by MCOs; these data will provide context on patient experience and satisfaction for HSTP. We will work closely with EOHHS and the Quality Evaluation team to gain access to the relevant data in an agreeable form and contextualize and expand upon any observed claims-based findings.

[3] CMS releases information annually on state progress in reporting the Adult Core Set measures and assesses state-specific performance for measures that are reported by at least 25 states and which met internal standards of data quality.

Exhibit 6: Claims-Based Outcome Measures and Specifications

Measure	Definition	Steward	Numerator	Denominator	RQ #
All Programs					
Percent of members enrolled	Percentage of members enrolled and/or engaged in each of the waiver programs (definition of enrolled will vary by program criteria)	N/A	Members enrolled and/or engaged in each waiver program	Total number of RI Medicaid enrollees	1
Total Medicaid spending	Total Medicaid expenditures per enrollee per year. Include all Medicaid costs on all claims and encounter data through attribution end date.	N/A	Total Medicaid expenditures in reporting year	Number of beneficiaries per reporting year	2, 3, 4
Hospitalizations	Number of all-cause acute care inpatient stays per enrollee per year, calculated as the total count of inpatient stays per year. In case a hospital to hospital transfer occurs, only one stay is counted.	N/A	All-cause acute care inpatient stays	All-cause acute care inpatient stays	2, 3, 4
Annual wellness visit	Number of continuously enrolled (9 out of 12 months) members who have had at least 1 wellness visit with a provider within the span of the year	N/A	Members with at least 1 wellness visit with a provider in year	All continuously enrolled members	2, 3, 4
ED visits	Number of ED visits and observation stays per enrollee per year not resulting in a short-term inpatient hospitalization. ED admit date needs to fall within the performance or base year.	N/A	ED visits and observation stays not resulting in a short-term inpatient hospitalization	All ED visits and observation stays	2, 3, 4
All-cause readmissions	Occurrences of unplanned hospitalization within 30 days of discharge from hospital (index hospitalization denominator) per beneficiary per year. This analysis will be done for only members with an index hospitalization, as those without an index hospitalization cannot subsequently have a 30-day readmission.	NCQA	Unplanned hospitalizations within 30 days of discharge from index hospitalization	Index hospitalizations in reporting year	2, 3, 4
Health System Transformation Project					
Mental illness ED utilization	Rate of ED utilization among enrollees with a mental illness diagnosis	OHA[4]	Number of ED visits among RI Medicaid enrollees with a mental illness diagnosis	Number of enrollee-months for RI Medicaid enrollees aged 18 years and over with a mental illness diagnosis	6
Potentially avoidable ED visits	Rate of potentially avoidable ED visits per the NYU algorithm	NYU[5]	Number of ED visits deemed preventable	Number of ED visits for RI Medicaid enrollees, excluding those who were subsequently admitted	6
Breast cancer screening	Percentage of women 50-74 years of age who had a mammogram to screen for breast cancer	NQF #2372	Number of women who received a mammogram to screen for breast cancer	Number of women 50-74 years of age	3

[4] Source: https://www.oregon.gov/oha/HPA/dsi-tc/Resources/10-10-18%20ED-Mental%20Illness%20Webinar%20Slides.pdf

[5] Gandhi SO, Sabik S. Emergency department visit classification using the NYU algorithm. *Am J Manag Care* 2014; 20(4): 315-320.

Measure	Definition	Steward	Numerator	Denominator	RQ #
Follow-up after hospitalization for mental illness	Percentage of patients who were hospitalized with selected illness diagnoses and who had a follow-up visit with a mental health provider reported within 30 days and 7 days	NQF #0576	Number of discharges with a follow-up visit with a mental health practitioner within 30 or 7 days after discharge	Number of discharges from an acute inpatient setting with a principal diagnosis of mental illness during the first 11 months of the year	3
Piloting Dental Case Management					
Dental codes	Frequency of use of new dental case management codes (D9991, D9992, D9993, D9994) in claims in up to six qualified dental practices	N/A	Number of dental claims for RI Medicaid enrollees that include new dental case management codes	Total number of dental claims for RI Medicaid enrollees	8
Dental services	Percentage of enrolled members who received at least one dental service within the reporting year	NQF #2511	Number of RI Medicaid enrollees who received at least one dental service	Number of RI Medicaid enrollees with dental coverage	8
Oral health events	Rate of oral health events (e.g., number of dental conditions, fillings, extractions, etc.) annually	N/A	Number of RI Medicaid enrollees with an identified oral health event	Number of RI Medicaid enrollees with dental coverage	8
Covering Family Home Visiting Programs to Improve Birth and Early Childhood Outcomes					
Well child visits	Percentage of children 15 months old who had well-child visits with a primary care physician during the measurement year	NQF #1392	RI Medicaid enrollees who received six or more well-child visits with a PCP during their first 15 months of life	RI Medicaid enrollees who turn 15 months old during the year	8
Timeliness of prenatal care	The percentage of deliveries that received a prenatal care visit as a member of the organization in the first trimester or within 42 days of enrollment in the organization	NQF #1517	Number of live births among RI Medicaid enrollees for which the mother received a prenatal care visit	Number of live births among RI Medicaid enrollees between November 6 of the previous year and November 5 of the measurement year	9
Postpartum care	The percentage of deliveries that had a postpartum visit on or between 21 and 56 days after delivery	NQF #1517	Number of live births among RI Medicaid enrollees for which the mother received a postpartum visit	Number of live births among RI Medicaid enrollees between November 6 of the previous year and November 5 of the measurement year	9
Childhood immunization status	Percentage of children 2 years of age who had four diphtheria, tetanus and acellular pertussis (DtaP); three polio (IPV); one measles, mumps and rubella (MMR); three haemophilus influenza type B (HiB); three hepatitis B (HepB); one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (HepA); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday. The measure calculates a rate for each vaccine.	NQF #0038	Number of RI Medicaid enrollees who received the recommended vaccine by their second birthday	Number of RI Medicaid enrollees who turn 2 during the measurement year	8
Supporting Home- and Community-Based Therapeutic Services (HBTS) for the Adult Population					
Use of HBTS services	Percentage of adult enrollees who access HBTS services	N/A	Number of RI Medicaid enrollees aged 21 and older who access HBTS services	Total number of RI Medicaid enrollees age 21 and older	11
Use of HCBS services	Percentage of enrollees who access HCBS services	N/A	Number of RI Medicaid enrollees who access HCBS services	Total number of RI Medicaid enrollees	11

Measure	Definition	Steward	Numerator	Denominator	RQ #
Type of HCBS services	Types of HCBS services utilized by enrollees, per the HCBS taxonomy categories	N/A	Number of RI Medicaid enrollees who access services in each HCBS taxonomy category[6]	Number of RI Medicaid enrollees who access HCBS services	11
Institutionalization	Rate of institutionalization among homebound enrollees	N/A	Number of RI Medicaid enrollees who are institutionalized	Total number of RI Medicaid enrollees	11
Peer Recovery Specialist (PRS) and Family/Youth Support Partners (FYSP) Programs					
Access to physical health care	Percentage of enrollees in the program who accessed physical health care	N/A	Number of RI Medicaid enrollees in the program who access physical health care	Number of RI Medicaid enrollees participating in the program	7
Use of BH services	Percentage of enrollees accessing BH services	N/A	Number of RI Medicaid enrollees who use BH services	Number of RI Medicaid enrollees participating in the program	7, 10
BH ED visits	Number of behavioral health-related ED visits annually	N/A	Number of behavioral health-related ED visits incurred by RI Medicaid enrollees	Total number of ED visits incurred by RI Medicaid enrollees	7, 10
Follow-up after ED visit for mental illness	Percentage of discharges for patients who visited the ED with a primary diagnosis of mental health or alcohol/drug dependence and who had a follow-up visit to a provider within 7 or 30 days.	NQF #2605	Number of ED discharges with an outpatient visit within 7/30 days of ED discharge among RI Medicaid enrollees	Number of ED discharges with a primary diagnosis of mental health or other drug dependence among RI Medicaid enrollees	7
IMD use	Percentage of enrollees with IMD use	N/A	Number of RI Medicaid enrollees in the program admitted to an IMD	Total number of RI Medicaid enrollees in the program	10
Improving Access to Care for Homebound Individuals					
Primary care visits	Number of primary care visits per enrollee	N/A	Number of primary care visits among homebound RI Medicaid enrollees	Number of homebound RI Medicaid enrollees	11
Primary care home visits	Number of home-based primary care visits per enrollee	N/A	Number of home-based primary care visits among homebound RI Medicaid enrollees	Number of homebound RI Medicaid enrollees	11
ED use among homebound patients	Rate of ED visits among homebound patients	N/A	Number of homebound RI Medicaid enrollees in the program with one or more ED visits	Number of homebound RI Medicaid enrollees	11
Behavioral Health Link					
Access to physical health care	Percentage of enrollees in the program who accessed physical health care	N/A	Number of RI Medicaid enrollees in the program who access physical health care	Number of RI Medicaid enrollees participating in the program	7
Use of BH services	Percentage of enrollees accessing BH services	N/A	Number of RI Medicaid enrollees who use BH services	Number of RI Medicaid enrollees participating in the program	7, 10

[6] Source: https://www.cms.gov/mmrr/Downloads/MMRR2014_004_03_b01.pdf

Measure	Definition	Steward	Numerator	Denominator	RQ #
BH/SUD/OUD ED visits	Number of behavioral health-related/substance use disorder-related/opioid use disorder-related ED visits annually	N/A	Number of BH/SUD/OUD related ED visits incurred by RI Medicaid enrollees	Total number of ED visits incurred by RI Medicaid enrollees	7, 10
Follow-up after ED visit for mental illness	Percentage of discharges for patients who visited the ED with a primary diagnosis of mental health or alcohol/drug dependence and who had a follow-up visit to a provider within 7 or 30 days.	NQF #2605	Number of ED discharges with an outpatient visit within 7/30 days of ED discharge among RI Medicaid enrollees	Number of ED discharges with a primary diagnosis of mental health or other drug dependence among RI Medicaid enrollees	7
IMD use	Percentage of enrollees with IMD use	N/A	Number of RI Medicaid enrollees in the program admitted to an IMD	Total number of RI Medicaid enrollees in the program	10
Promoting Access to Appropriate, High-Quality Mental Health and Substance Use Treatment by Waiving the Institutions of Mental Disease (IMD) Exclusion					
IMD use	Percentage of enrollees with IMD use	N/A	Number of RI Medicaid enrollees in the program admitted to an IMD	Total number of RI Medicaid enrollees in the program	10
Use of BH services	Percentage of enrollees accessing BH services	N/A	Number of RI Medicaid enrollees who use BH services	Number of RI Medicaid enrollees participating in the program	10
BH/SUD/OUD ED visits	Number of behavioral health-related/substance use disorder-related/opioid use disorder-related ED visits annually	N/A	Number of BH/SUD/OUD related ED visits incurred by RI Medicaid enrollees	Total number of ED visits incurred by RI Medicaid enrollees	10
Modernizing the Preventive and Core Home- and Community-Based Services Benefit Package					
Use of HCBS services	Percentage of enrollees who access HCBS services	N/A	Number of RI Medicaid enrollees who access HCBS services	Total number of RI Medicaid enrollees	11
Minimizing institutional length of stay	Percentage of admissions to an institutional facility that result in a successful discharge to the community within 100 days of admission	CMS[7]	Number of discharges from an institutional facility to the community that occurred within 100 days of admission	Number of admissions to institutional facilities between July 1 of prior year and June 30 of measurement year, not including direct transfers	11
Successful transition after institutionalization	Percentage of long-term institutional facility stays that result in successful transitions to the community	CMS	Number of discharges from an institutional facility to the community that result in successful transition to the community for 60 consecutive days	Number of institutional facility discharges with a length of stay of at least 101 days between July 1 of previous year and June 30 of measurement year	11

[7] Source: https://www.medicaid.gov/medicaid/managed-care/downloads/ltss/mltss_assess_care_plan_tech_specs.pdf

Chapter 5: Data Sources & Acquisition Plans

In this chapter, we describe our data sources and outline our planned approach to acquiring and organizing these data for use in our evaluation. We also detail the relevant structure and procedures that we have in place for securing access, storage, linkage, analysis, and transmittal of the data that we collect. **Exhibit 7** lists the current known data sources for this evaluation.

Exhibit 7: Proposed Evaluation Data Sources

Data Source	Years	Source	Use	Example Attributes
Demonstration program documents and data	2018-2023	EOHHS	▪ Identify program characteristics and outcomes	▪ Program implementation progress ▪ Number of members enrolled in a program ▪ Intensity of member engagement in program
Medicaid claims and encounter data	2013-2023	EOHHS	▪ Identify health, cost, utilization, and quality outcomes for Medicaid beneficiaries	▪ Beneficiary demographics (e.g., age, gender, race/ethnicity) ▪ Beneficiary health status (e.g., chronic conditions) ▪ Utilization (e.g., ED visits, inpatient outpatient visits) ▪ Cost of care per beneficiary; total and broken out into service/setting categories
EOHHS Quality Evaluation data	2018-2023	EOHHS	▪ Provide context for claims-based findings	▪ AE member experience and satisfaction

Claims & Encounter Data Acquisition

We will work with EOHHS to select appropriate internal and external data sources to adequately address each research question. We will utilize Rhode Island Medicaid claims and encounter data in this evaluation for our analysis when possible; as of June 2019, NORC and EOHHS have in place an agreement (via the signed contract for this evaluation) that allows EOHHS to share Rhode Island Medicaid data with NORC. EOHHS is scheduled to transmit claims and encounter data to NORC on a quarterly basis via the dedicated Secure File Transfer Protocol (SFTP) site. Below we outline steps for gaining access, checking and linking the secondary data sources.

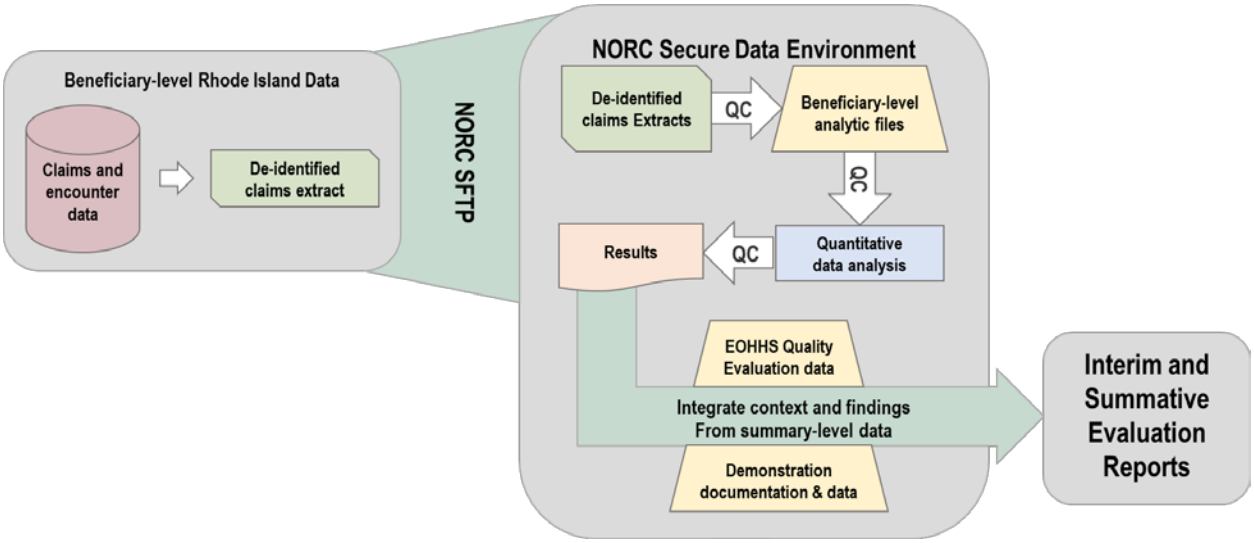
Data Security. Prior to downloading any data or analytic results through the SFTP, we will follow EOHHS's and NORC's institutional confidentiality protection procedures to ensure that files are devoid of personally identifiable information (PII) or protected health information (PHI). NORC's computer and data security program is compliant with federal government regulations and will be adapted to the requirements of this project, as needed. We enforce physical security measures designed to ensure that access to confidential data are restricted only to those employees who possess the need, as well as the authorization, to view such information. We protect project materials through a multi-tiered approach of access control and monitoring, data encryption during transmission, and continuous upgrade of plans and policies to align with the changing security environment. All electronic project files and programs are stored on secure servers, and access to this project's shared space, managed by NORC, is restricted to authorized team members with clearance to use specific data. NORC provides partitioned network storage for each project to mitigate the potential for data loss due to accidents, computer equipment malfunction, or human error, as well as to administer appropriate access rights.

NORC will honor the data use restrictions identified in the business associate agreement (BAA) and will not use government data provided in this contract for purposes outside the scope of this project without explicit permission from EOHHS in writing.

Data Quality Checks. At each step in the analytic process, we will check for missing data, systematic errors, and unexpected outliers. If there appear to be errors in the data, we will reconcile them directly with EOHHS. For the Rhode Island Medicaid data, we will match the variables in the datasets to the data dictionaries, provided by EOHHS, verify variable formats and identify missingness, and we will run frequency and distribution checks on the variables to confirm consistency and standardization of the data throughout the evaluation. With the start of the analysis, NORC will check and document code and output created for the evaluation.

Dataset Flow. The NORC team has developed and will implement a comprehensive data flow plan to ensure that we securely and accurately integrate Rhode Island data from multiple environments for our evaluation. Files from EOHHS and other state of Rhode Island departments will be transferred to NORC through a SFTP site, to which EOHHS staff have access. NORC will then transfer the files to our internal secure data environment, where the subsequent data management and analysis will take place. At every stage in the process, files will undergo thorough quality assurance checks. **Exhibit 8** displays the proposed data flow process for this evaluation; we will work with the Rhode Island analytics teams to ensure this process is as coordinated and as efficient as possible.

Exhibit 8: Proposed Data Process Flow



Non Claims-Based Data Acquisition

We plan to integrate non claims-based context and findings from demonstration program documents and data (including behavioral health data from BHDDH), the EOHHS Quality Evaluation, into this evaluation. We do not anticipate that these documents and/or data will include beneficiary-level detail, and thus will not be integrated into the beneficiary-level models measuring impact; rather, we will use

them primarily to contextualize our claims-based findings. These documents and/or data will originate with EOHHS and/or BHDDH, and we will work closely with the relevant teams to ensure the efficiency and security of data flow. Generally, we will follow the process below for any type of non-claims data request:

- Identify potential documents and/or data sources in discussion with data owner (EOHHS or BHDDH);
- Develop and confirm list of documents and/or data sources, iterating with data owner as needed;
- Decide on transmission method, timing, and format with data owner; and
- Confirm receipt and notify data owner of any irregularities observed in the data during the quality control process.

As mentioned above, we have set up a dedicated SFTP site for this project; we anticipate that most of the documents and data will be transmitted through that site; however, we are flexible and open to alternatives per consultation with EOHHS. We will also provide support where needed (e.g., generate usernames and passwords for additional members to access the SFTP site, provide technical support), and will reach out to EOHHS immediately if anomalies are observed at any point in the process.

Chapter 6: Analytic Methods

In this chapter, we describe our proposed methods for quantitative claims-based analyses used to evaluate Rhode Island's 1115 Medicaid waiver extension. The goals of the quantitative analyses are to characterize the programs and their beneficiary populations, as well as to assess the overall impact of the program on outcomes including spending, utilization, and access to care.

Overall, we anticipate being able to conduct impact analyses using multivariate difference-in-differences (DiD) analyses with comparison groups for the AE program only; due to small sample size and low feasibility of creating an appropriate comparison group for the remainder of the waiver programs, we will primarily rely on descriptive analyses (i.e., summary statistics, pre-post analysis) unless EOHHS opts to expand the range of data sources and methods to be included in the evaluation. To the extent possible, we will also incorporate non-quantitative implementation and process findings from the EOHHS Quality Evaluation (e.g., how AEs are integrating CurrentCare or the APCD into their workflow) to identify key drivers of success and potential causal relationships. **Exhibit 5** above details our proposed analytic approach to each waiver program.

Analytic Methodology for Claims-Based Data

As described in **Exhibit 5** above, we will utilize a number of quantitative methods to estimate the impact of these programs on claims-based and non-claims-based outcomes. First, we will undertake descriptive analyses for all waiver programs, which include summary statistics (using chi-squared tests) and pre-post analyses. Where possible, we will use our findings from the descriptive analyses to develop multivariate models for outcomes, using interrupted time-series (ITS) and DiD analysis. We will utilize the ITS and DiD designs where sample size and data availability allow; we anticipate that for most non-AE programs and outcomes this will not be possible and this evaluation will rely on descriptive (e.g., summary statistic and pre-post) analyses.

Program-Specific Treatment Group. Identification of the treatment group is an important first step in the analysis for each program. Medicaid enrollees who are attributed to an AE will be indicated in the data with a flag; for all other programs, enrollees who received services from a particular program will be identified from the claims based on documentation (e.g., diagnosis codes, visits to a specific provider) provided by EOHHS.

Potential Comparison Groups. Where possible, we will identify program-specific comparison groups using national or state-defined standards and/or benchmarks. These may include within-state comparison groups made up of eligibility groups not subject to a particular program, historical in-state benchmarks using Rhode Island Medicaid claims and encounter data, or national comparison data from the Child and Adult Core Set measures.[8] To define inclusion and exclusion criteria for program-specific comparison groups, we will consider a number of factors including sample size, data availability, and the

[8] CMS releases information annually on state progress in reporting the Adult Core Set measures and assesses state-specific performance for measures that are reported by at least 25 states and which met internal standards of data quality.

comparability of the proposed comparison group to the target population based on observable characteristics.

We anticipate establishing within-state comparison groups for three programs: the Health System Transformation Project, Piloting Dental Case Management, and Behavioral Health Link. **Exhibit 9** describes the inclusion criteria for the proposed treatment and comparison groups for these programs. Given the limited scope, broadly defined eligibility criteria, and small number of participating enrollees it will be challenging to identify valid within-state comparison groups for the remaining demonstration programs. For these programs, we will explore the possibility of using historical comparison groups as well as national or external benchmarks for context.

Exhibit 9: Proposed Treatment and Comparison Groups

Program	Target Population/Treatment Group	Proposed Within-State Comparison Groups
Health System Transformation Project (HSTP)	▪ RI Medicaid-only beneficiaries enrolled in managed care, attributed to an AE.	▪ RI Medicaid-only beneficiaries enrolled in managed care, not attributed to an AE.
Piloting Dental Case Management	▪ RI Medicaid enrollees ages 18 and over in the traditional fee-for-service dental delivery system, seen at participating dental practices	▪ RI Medicaid enrollees ages 18 and over in the traditional fee-for-service dental delivery system, seen at participating dental practices
Behavioral Health Link	▪ Adult Medicaid enrollees in crisis due to substance or behavioral health conditions treated through the Behavioral Health Link triage center	▪ Adult Medicaid enrollees receiving “usual care" for substance use or behavioral health events in an emergency department.

Descriptive Analysis

Summary Statistics. Summary statistics, including frequencies and percentages of unadjusted beneficiary covariates and outcomes, will be reported to characterize the member characteristics in both the treatment and the comparison groups. Descriptive analyses will be focused on program features, organizational characteristics, approaches, providers, and beneficiary populations. Where applicable, we will compare the observed characteristics to other state and national benchmarks using appropriate statistical analyses (e.g. t-tests or chi-squared tests). Results of our descriptive analyses will be presented in tables and visuals, in the interim and final evaluation reports; these will likely also be included in the quarterly monitoring reports to CMS.

Pre-post Analysis. For core and program-specific outcomes, we will conduct pre-post analyses that will allow us to monitor the progress of program implementation and selected utilization, cost, and quality measures via waiver documents and Rhode Island Medicaid claims and encounter data, respectively. Examples of outcomes that will be presented in the pre-post analyses include number of beneficiaries touched by a program, rate of inpatient admissions, and average Medicaid spending per-member-per-month. Additionally, this analysis will inform the development of multivariate models by identifying key covariates and outcomes to emphasize for those models.

Impact Analysis

Interrupted Time-Series. Where data quality and sample size allow, we will assess program-specific outcomes using an ITS design. We will track outcomes observed in the demonstration period and during a two-year baseline period before the program-specific implementation date. Average outcomes in each time period will be estimated with a multivariate model; this will allow our team and EOHHS to track changes in performance over the evaluation period, and will provide valuable insight when compared to the baseline period data. Results will be presented visually and graphically (e.g., run charts) and in tables in the interim and final evaluation reports. We will estimate ITS models using the following segmented linear regression equation:

$$Yt = \beta 0 + \beta 1T + \beta 2Xt + \beta 3TXt$$

Where Yt is the outcome at time t, T represents the time elapsed since the start of the program, β0 represents the baseline (where T=0), Xt is a dummy variable indicating the pre-intervention period, and β_2 is the level change following the intervention and β_3 indicates the slope change following the program.[9]

Difference-in Differences. We propose to use DiD models to conduct impact analyses for the AE program only. DiD models are used to estimate the effect of an intervention by comparing the changes over time between treatment and comparison groups. The DiD design will adjust for time-invariant characteristics of intervention and control groups, or factors that vary over time and effect both groups in the same manner. Pending an assessment of sample size and data availability and quality, we propose to use a DiD design to estimate program impacts for the AE program because this program has a readily available comparison group consisting of Medicaid managed care beneficiaries not enrolled in the AE program. In discussions with EOHHS, we determined that a FFS comparison group was not feasible because the vast majority of RI Medicaid enrollees are in managed care, and that the FFS is inherently made up of a very different population; thus for sample size and comparability issues, we will pursue only a comparison group with managed care beneficiaries. The comparison group will be identified as the enrollees not flagged as participating in an AE, as previously described.

For each outcome measure, we will choose the appropriate model specification based on the observed distribution (e.g., variance, skew, and kurtosis) of the outcome. Next, we will use DiD regression models to estimate the impact of AEs, including relevant covariates based on our empirical model of causality, and adjusting standard errors to account for clustering of observations within appropriate groups. We will use DiD regressions to estimate the effect of the waiver extension programs on each outcome measure using the following equation:

$$g\,[E(Y_{ijt})] = \beta_0 + \theta\, MCOAE_j * I_t + \beta_1 MCO_j + \delta_t Year_t + \gamma BENE_{ijt} + \Pi COMM_j$$

Where Y represents the outcome of interest and θ the DiD parameter for the effect of AEs; i indexes beneficiary, j the community[10], t the time period (year); $MCO_j = 1$ for communities in Rhode Island and

[9] Bernal, J. L., Cummins, S., & Gasparrini, A. (2017). Interrupted time series regression for the evaluation of public health interventions: a tutorial. *International Journal of Epidemiology*, *46*(1), 348–355. https://doi.org/10.1093/ije/dyw098

[10] Community-level variables will be used for social-determinants of health for which we cannot derive individual measures.

$I_t = 1$ for time point after program implementation. The other additive terms control for baseline difference between the treatment and comparison groups, fixed year effect, beneficiary characteristics, and community features, respectively. We will choose $g(\bullet)$, a link function from the exponential family, according to the outcome distribution. We will establish three baseline years (July 2014 – June 2016) to assess impact of the model during the HSTP performance period (July 2018 – June 2022). The pilot period (July 2016 – June 2018) will be considered as an implementation ramp-up period and will be excluded from both baseline and performance periods.[11]

Examining Parallel Trends for the DiD Model. An assumption of DiD is that the impact of the treatment can be inferred because the treatment and comparison group in the pre-period had constant and parallel trajectories. In other words, the rate of change observed in the pre-period is the same for the treatment and comparison groups and would hold constant in the post period in the absence of the intervention. To test for this empirically, we will use regression models that include an interaction of each year on the treatment group and examine if the coefficients for the change between the earliest and most recent base years are significantly different from zero (indicating violation of the assumption).

If our preliminary analyses indicate that the parallel trends assumption is violated, we will use a generalized DiD estimation framework.[12] Under this framework, we will first test for a set of assumptions of parallel trends of different orders, then use the test results to specify our DiD model that, when necessary, accounts for violations of parallel trends with polynomial time-interaction terms.

Addressing Selection Bias. Because enrollment in the AE program is non-random, we assume that individuals in the treatment group may be systematically different from those in the comparison group, a phenomenon known as selection bias. To obtain unbiased estimates of model impacts from our DiD analyses, we propose addressing selection bias using inverse probability of treatment weighting (IPTW), appropriate for such a DiD design.[13] First, we propose to estimate the propensity score as the *predicted probability* of a beneficiary being in the treatment group for each year using a logit model. In addition, we will compute propensity score weights for beneficiaries in the treatment and comparison groups as the relative predicted probability of a beneficiary being in the treatment group. Beneficiaries in the treatment group will receive a weight of one, and individuals in the comparison group will receive a weight of $PS_i/(1\text{-}PS_i)$, where PS_i is the predicted probability of the beneficiary being in the treatment group, given a set of observed covariates. The propensity score model will include beneficiary-level covariates such as demographic characteristics, enrollment, health status, socioeconomic characteristics, and access to care.

Before and after applying propensity score weights we will assess and confirm sample size for the weighted comparison group, and covariate balance between the treatment and comparison groups.[14] The

[11] If required, we will check sensitivity of our impact estimates to include this ramp-up period in the performance period of the model.

[12] Ricardo Mora and Iliana Reggio, "Treatment Effect Identification Using Alternative Parallel Assumptions," 2012.

[13] E. A. Stuart, H. A. Huskamp, K. Duckworth, J. Simmons, Z. Song, M. E. Chernew, and C. L. Barry, "Using Propensity Scores in Difference-in-Differences Models to Estimate the Effects of a Policy Change, *Health Services and Outcomes Research Methodology* 14, no. 4 (2014): 166-182.

[14] We assess common support by visually inspecting overlap in distribution of estimated propensity scores across treatment and comparison groups. We compute standardized differences in baseline covariates between treatment and comparison groups to assess balance.

propensity weights estimated above will be incorporated into our DiD models to provide the unbiased estimates for average treatment effect in the treated population (ATT).

Sensitivity Analyses

To test the robustness of the results of the impact analyses, we will conduct a number of sensitivity analyses for ITS and DiD models. These will include examining differential effects by AE (sample size permitting), and including the pilot in the post-treatment periods as opposed to considering it as a ramp-up period and excluding it from the analysis. Additionally, we will conduct sensitivity analyses varying the attribution methodology for the AEs. In primary analyses we will use the attribution lists generated by the MCOs (described in **Exhibit 3**). In sensitivity analyses we will apply retrospective attribution based on utilization, and compare the attributed populations and results from impact models.

Subgroup Analyses

Individual responses to these programs may differ from the average treatment effect for a variety of reasons; therefore, it is important to examine whether or not the effect of a program varies across beneficiary subgroups.[15] Sample size permitting, we will examine the variation in impacts for select beneficiary characteristics, including age (e.g., children, non-elderly adults, and elderly/dually-enrolled adults), race/ethnicity, health status (e.g., specific conditions, substance use disorders, multiple chronic conditions, co-morbid behavioral and physical health diagnoses, and serious and persistent mental illness), and Medicaid enrollment category. As programs are implemented and we learn more about the characteristics of the program populations, we will work with EOHHS to identify other relevant populations for further subgroup analysis.

Sample Size and Power Calculations

NORC will assess the effect size or minimum detectable effect (MDE) as part of the power analysis for each outcome variables. MDE is the smallest true effect in the average of outcome between treatment and comparison groups that we will be able to detect in our proposed study designs. For analyses of performance outcomes using RI Medicaid claims and encounter data, sample size and power considerations depend on our evaluation study designs.

Effect Size for Pre-Post Analysis. We expect to be adequately powered to analyze Rhode Island Medicaid claims and encounter data with a pre-post design for the program-specific treatment groups. For *m* members clustered within *k* groups (group will vary by waiver program), the total sample size for the pre-post design for a continuous outcome variable of interest, n^*, is given by:

$$n^* = m^* k^* = \left(t_{\frac{\alpha}{2}} + t_{\beta}\right)^2 2\frac{\sigma^2}{\delta^2}\,(1 + (m-1)\rho)$$

[15] Kravitz RL, Duan N, Braslow J. Evidence-based medicine, heterogeneity of treatment effects, and the trouble with averages. Milbank Q. 2004;82(4):661–687. Erratum in: Milbank Q, 2006, 84(4): 759–760.

Where , α is the probability of committing a type 1 error, and 1-β is the power, σ^2 is the variance of the outcome, δ is the MDE, $(1 + (m - 1)\rho)$ is the variance inflation factor, and ρ is the intraclass correlation.

Effect Size for ITS Analysis. Multiple factors affect the power of ITS analysis including sample size per time point, expected effect size, location of intervention in the time series, and pre-intervention trends.[16] We will use a simulation-based approach to estimate power and MDE for all ITS models. Following a method developed by Zhang and colleagues, we will conduct a series of *a priori* simulations to estimate power and required sample size for ITS models.[17]

Effect size for DiD Analysis. We expect to be adequately powered to perform DiD regression models to for only some programs and outcomes, based on sample size and data availability and quality. For *m* members clustered within *k* groups, the total sample size for the DiD design for a continuous outcome variable of interest, n^*, is given by:

$$n^* = m^* k^* = (1 - r^2)\left(t_{\frac{\alpha}{2}} + t_\beta\right)^2 2\frac{\sigma^2}{\delta^2}\,(1 + (m - 1)\rho)$$

Where *r* is the total variance composed of the time invariant components. In reporting results for our cross-sectional and DiD design, NORC will specifically denote the MDE for each outcome of interest, for a given sample size at 80 percent powered and two-tailed alpha of 0.05 or 0.10.

Methodological Challenges & Proposed Solutions

We are aware and attentive to external factors and statistical results that may impact the evaluation design, and are prepared to respond with various solutions to adapt our design as necessary, while still providing Rhode Island with a high-quality evaluation. For instance, we acknowledge that disentangling the program-specific effects of these overlapping programs in the context of other reform initiatives (e.g., SIM) will be a challenge. To address this, we propose a number of strategies, including identifying specific groups (e.g., geographic areas, groups of providers) that are targeted or involved in other initiatives and incorporating that information into adjusted regression models as a covariate; and taking advantage of the rich data included in Rhode Island Medicaid claims and encounter database in order to identify members who received services under another initiative. **Exhibit 10** notes several additional challenges and proposed solutions that are specific to this evaluation.

[16] Hawley, S., Ali, M. S., Berencsi, K., Judge, A., & Prieto-Alhambra, D. (2019). Sample size and power considerations for ordinary least squares interrupted time series analysis: a simulation study. *Clinical Epidemiology*, *11*, 197–205. https://doi.org/10.2147/CLEP.S176723

[17] Zhang, F., Wagner, A. K., & Ross-Degnan, D. (2011). Simulation-based power calculation for designing interrupted time series analyses of health policy interventions. *Journal of Clinical Epidemiology*, *64*(11), 1252–1261. https://doi.org/10.1016/j.jclinepi.2011.02.007

Exhibit 10: Key Evaluation Challenges and Proposed Solutions

Challenges	Proposed Solutions
Data quality may vary for some sources	▪ Assess the usability, completeness, and quality of data before beginning analysis ▪ Follow an iterative quality control process to maintain integrity for all data files and rigor of analysis
Non-parallel baseline trends that violate assumptions of DiD regression	▪ Adopt generalized DiD estimator, perform rigorous checks on assumptions of parallel trends of different orders, and incorporate group-specific time-trend polynomials to control for violation
Heterogeneity in impacts across subgroups not captured in focus on overall impacts	▪ Perform subgroup analysis to compare impacts on outcomes ▪ Include fixed effects and/or interaction terms in regression models ▪ Draw insights from qualitative and mixed-methods findings to contextualize findings and determine appropriate subgroups where relevant
May be difficult to isolate program-specific effects of overlapping demonstration programs in the context of other reform initiatives	▪ Assess the impact of the program within the context of other state/federal interventions by understanding the similarities and differences between HSTP and other initiatives through our review of demonstration and program documents ▪ Include covariates indicating participation in other demonstration programs or other statewide CMS initiatives in impact analyses ▪ Explore the possibility of subgroup analyses (sample size permitting) for programs in which a large proportion of the participants are also involved in another demonstration program or initiative
Sample size concerns for subgroup analyses	▪ Investigate subgroup sample sizes prior to conducting the statistical analysis, and conduct power analyses as needed. ▪ Multivariate statistical analysis might be unable to perform on inadequately sized subgroups; in these cases we will try to integrate information from the EOHHS Quality Evaluation to speak to the effect of the program on different subgroups.

Chapter 7: Reporting

Over the course of this evaluation, NORC will work with EOHHS to prepare quarterly and annual monitoring reports for CMS, as well as interim and summative evaluation reports. Our proposed strategy for these reports are described below.

Report Template Development

Before drafting any report for this evaluation, we will consult with EOHHS about specifications for a style guide, content of deliverables, and process and timelines for report development, in addition to referring to CMS guidelines provided for 1115 demonstration evaluation reports. NORC will draft proposed templates, including research questions and topics, high-level findings, and potential data visualization, for EOHHS review at least two weeks before report production begins. This will allow us to incorporate EOHHS feedback into the first draft. During the bi-weekly check-in calls and/or annual in-person meetings, NORC will lead a discussion of the proposed template for each report. We will make further refinements to the report template based on EOHHS' feedback during these meetings, and will produce a revised template for EOHHS approval well in advance of the deadline for the report's initial draft. By clearly laying out the report template before the writing process begins, NORC and EOHHS hope to decrease the number of revisions required to the submitted report. All reports will receive a technical or substantive edit from team subject matter experts, structured peer-review by NORC senior leadership, and copyediting before submission to EOHHS.

Interim & Summative Evaluation Reports

NORC will develop the interim evaluation report based on the qualitative and quantitative data and analyses performed throughout the course of the evaluation to date. While this is not a final summative report, it will provide EOHHS and CMS with a helpful performance snapshot of HSTP over a longer period of time than the annual reports in terms of quantitative and qualitative outcomes. The draft interim evaluation report will be submitted to CMS by December 31, 2022, with a final version submitted by April 30, 2023.

The interim evaluation report will address specific research questions related to the three research domains described earlier in this document, as well as indirectly addressing the impact on efficiency, transparency, and flexibility:

- Pay for value, not volume
- Coordinate physical, behavioral, and long-term care; and
- Rebalance delivery system away from high-cost settings.

NORC will produce a summative evaluation report as a compilation of the findings from the interim evaluation report and subsequent evaluation findings. It will follow the template of the interim report and provide EOHHS and CMS with comprehensive evaluation findings through a more in-depth assessment

of central research questions driving the success of the waiver programs. The draft summative evaluation report will be submitted to CMS by June 30, 2025, with a final version submitted by October 31, 2025. In addition to updates on the topics addressed in the interim evaluation report, the final evaluation report will include final implications of evaluation results for future initiatives and a discussion of how elements of the waiver were and/or were not sustained after the expiration of this waiver (December 31, 2023).

Quarterly & Annual Monitoring Reports

As part of this contract, NORC will also contribute to the quarterly and annual monitoring reports required by CMS for this waiver extension. NORC will work closely with EOHHS to identify appropriate parts of the report that we can contribute; generally, we expect that the most updated claims-based outcomes will be provided by NORC for inclusion into the reports.

Once the measures required for the monitoring reports have been finalized by NORC and EOHHS, NORC data analysts will develop a series of programs that will create the required measures from the Rhode Island Medicaid claims and encounter data and generate the desired monitoring output. All programs developed for the quarterly and annual monitoring reports will go through a rigorous process of quality checks, including specification checks, version checks, and integration tests, among others. All output will be generated and sent to EOHHS in an agreed-upon format.

Chapter 8: Evaluation Workplan & Budget

NORC will use and continue to build out the schedule of activities laid out in this EDP to guide all evaluation activities and operationalize how the project will meet major milestones. We will submit all deliverables to EOHHS and CMS in the appropriate format by the appropriate due date.

In order to most efficiently use our resources, we will coordinate evaluation activities to the greatest extent possible, including in-person meetings, timing of data analysis, and report production timelines. Data and measure development will be ongoing throughout the course of the evaluation, with findings reported in the two evaluation reports. The interim and final evaluation reports will contain findings from all facets of the evaluation, including qualitative findings from the Quality Evaluation conducted by EOHHS. The evaluation budget is detailed in **Exhibit 11**.

Exhibit 11: Evaluation Budget

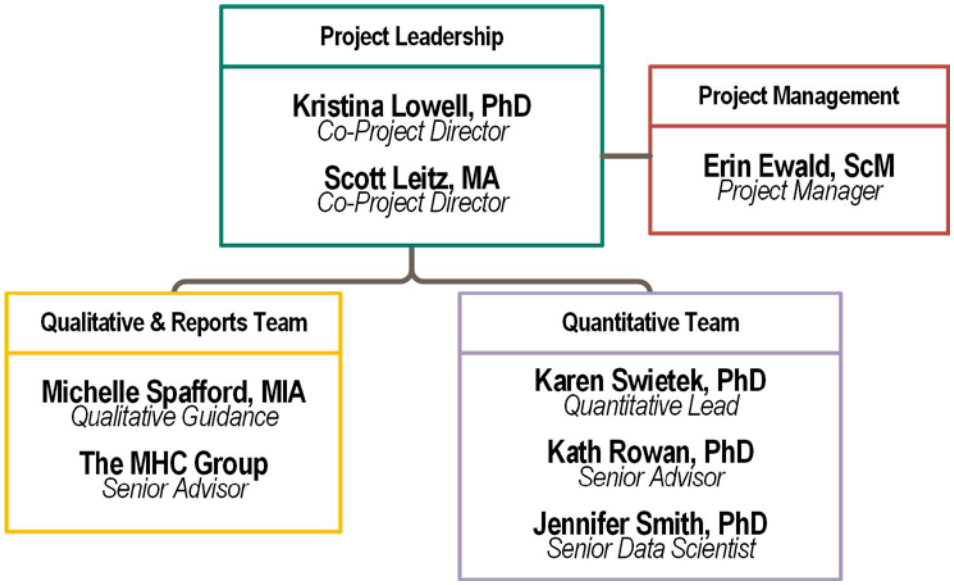
Personnel and Contracted Services	Per Calendar Year							Total Cost
	2019	2020	2021	2022	2023	2024	2025 (10 months)	
Evaluation Design	$ 183,223	$ -	$ -	$ -	$ -	$ -	$ -	$ 183,223
Interim Evaluation Report	$ -	$ 201,903	$ 184,083	$ 411,078	$ 383,663	$ 128,390	$ -	$ 1,309,118
Summative Evaluation Report	$ -	$ -	$ -	$ -	$ 95,916	$ 374,107	$ 519,519	$ 989,542
Total Personnel/Contracted Services Costs	$ 183,223	$ 201,903	$ 184,083	$ 411,078	$ 479,579	$ 502,497	$ 519,519	$ 2,481,884
Other Direct Costs (Supplies/Equipment/Software/	$ 14,658	$ 16,152	$ 14,727	$ 32,886	$ 38,366	$ 40,200	$ 41,562	$ 198,551
Total Contract Budget	**$ 197,881**	**$ 218,055**	**$ 198,809**	**$ 443,965**	**$ 517,946**	**$ 542,697**	**$ 561,081**	**$2,680,435**

Chapter 9: Staffing & Communication

Staffing Plan

Project Directors Kristina Lowell, PhD, and Scott Leitz, MA, will have overall responsibility for this evaluation, with the support of Project Manager Erin Ewald, ScM, and the individual Task Leads. Lowell and Leitz will direct the NORC team and will be responsible for guiding and managing the entire project. Subject matter experts from our partners at The MHC group will assist with providing Rhode Island health policy context and history. **Exhibit 12** displays the organization of the NORC evaluation team.

Exhibit 12: NORC Evaluation Team



Communication Plan

Client Communications

EOHHS and NORC will hold bi-weekly one-hour calls to provide a checkpoint on production metrics, status of deliverables, and potential variances from the schedule. NORC will prepare an agenda for distribution in advance of each meeting, as well as detailed minutes that serve as a record of key discussion and decision points. NORC will immediately communicate any significant issues and their proposed resolutions to the project lead.

NORC will communicate early and frequently with EOHHS to acquire data at the appropriate times, identify and resolve challenges with either primary or secondary data collection, and facilitate smooth communication with other Rhode Island state departments. We will also use regular email communication and ad hoc meetings with EOHHS to facilitate project progression. NORC will triage all email

communications to ensure necessary parties are working together to keep the project running seamlessly, and will work with EOHHS to identify when ad hoc conference calls are needed and include appropriate staff. NORC will direct emails and meeting materials to the EOHHS project manager, who will share the information with EOHHS colleagues.

These formal and informal communications will guarantee an optimal understanding of EOHHS's needs. We will monitor and update meeting schedules and communications methods regularly as needed.

Internal Communication

The NORC management team will meet weekly to discuss current activities and management priorities. NORC will also hold weekly project meetings/calls for the team to report on progress, milestones, and variances from original plans. The management team will meet regularly with a set of working groups organized around research domains and consisting of members across both quantitative and qualitative teams.

Communications with Consultants

As part of their seamless integration into the project team, our consultants at The MHC Group will take part in regular and ad hoc meetings and communications, leveraging processes established during prior partnerships. Project Manager Ewald will be the designated liaison for the MHC Group, ensuring that the lines of communication remain open and clear, and working closely with both teams to resolve any issues.

Appendix A: Draft Evaluation Report Template

Visual Summary (1 page)

- Waiver impact on total cost
- Waiver impact on utilization and quality of care
- Basics about 1115 waiver programs
    - Background and purpose
    - Number of attributed members
    - Previous APM experience

Executive Summary (5 pages)

- Brief overview of evaluation
- High-level findings to date
    - Results for outcome measures (cost, utilization, quality)
    - What is the impact of the waiver programs on beneficiaries participating in a waiver program, compared to those who fall outside of these activities?
- How do results relate to program features (e.g., structure, type of providers, etc.) and implementation approaches to date?
- What's next in the evaluation?

Chapter 1: Introduction (5 pages)

- Overview of chapter
- Narrative of Rhode Island context and our implementation findings: 1) what have the waiver programs accomplished to date in terms of outcomes (claims and quality measures); 2) where are they on the development in terms of structure and implementation experience (i.e., infrastructure transformation); 3) what drivers appear to explain their performance to date and what infrastructure appears to be needed to be successful?
    a. Previous APM experience for providers (e.g., the pilot program)
    b. Emphasis on transformation being a process over time
    c. What difference does it make to be taking part in a waiver program for leadership and providers?
- Overview of the 1115 Waiver and relevant programs
- Overview of NORC's evaluation
- Overview of this report
- What research domains are addressed at least in part, organized according to research domains in the evaluation design plan
    a. In the first AR, we will answer many questions only partially and expect to return to the same questions in subsequent reports with additional information
- Limitations of this report:
    a. Initial set of claims-based findings, for a limited period of performance;
    b. Small sample size in programs leading to a limited analytic capacity;
    c. Initial assessment of EOHHS qualitative data;

    d. Lack of primary data collection.
- Summary

Chapter 2: Impact of RI Section 1115 Medicaid Waiver (5 pages)

- Overview of chapter and key findings
- Anticipated hypotheses related to evaluation domains
    - Program impact on the total spending, utilization, and quality of care for attributed patients as well as among key populations (e.g., dual diagnosis, patients with multiple chronic conditions)
- Data sources (claims) and measures (outcomes and covariates) for cost, utilization, and quality metrics
- Approach (move most technical details to appendix)
    - Qualitative Data Analysis
        - Thematic analysis of qualitative data sources
    - Quantitative Data Analysis
        - Pre-post trend analysis (entire Medicaid population)
        - Construction of treatment and comparison groups (AE program only)
        - Propensity score weighting (AE program only)
        - Difference-in-differences models (AE program only)
        - Identification of key subgroups (as sample size allows)
- Analysis of trends in Medicaid spending, utilization, and quality of care
- Discussion
    - Limitations of analysis
    - Next steps for analysis
- Summary of chapter

Chapter 3: Impact of Individual Waiver Programs (10 pages)

- Impact on Medicaid spending, utilization, and quality of care
- All measures presented for waiver programs, pooled and separated for each program
    - Tables and visuals incorporated
- Impact analyses for HSTP
    - DiD (or other comparison group methods)
    - Examine parallel trends for the DiD model
    - Subgroup analysis
    - Address selection bias
    - Sample size and power calculations
- Interrupted time-series and/or pre-post analyses for the eight other waiver programs:
    - Pilot Dental Case Management;
    - Covering Family Home Visiting Programs to Improve Birth and Early Childhood Outcomes;
    - Supporting Home- and Community-Based Therapeutic Services for the Adult Population;
    - Peer Recovery Specialist (PRS) and Family/Youth Support Partners (FYSP) Programs;

  - Improving Access to Care for Homebound Individuals;
  - Behavioral Health Link;
  - Promoting Access to Appropriate, High-Quality Mental Health and Substance Use Treatment by Waiving the Institutions of Mental Disease (IMD) Exclusion;
  - Modernizing the Preventive and Core Home- and Community-Based Services Benefit Package
- Discussion
  - Limitations of analysis
  - Next steps for analysis
- Summary of chapter

Chapter 4: Qualitative Findings: Beneficiary and Provider Experience (5 pages)

- In this chapter, we will systematically analyze findings from the EOHHS Quality Evaluation, which will speak to the qualitative beneficiary and provider experience in the waiver programs.
- Data source: data from EOHHS Quality Evaluation
  - Specific content and type of qualitative findings will be determined in close consultation with EOHHS
- Methods for data collection and analysis
- Emerging themes from qualitative findings may include (specific themes to be determined based on data available):
  - Program implementation experience
  - Beneficiary experience with waiver programs
  - Provider experience with waiver programs
  - Effective strategies for outreach and partnerships
  - Program coordination and management approaches
  - Waiver-wide coordination and services tools/tracking

APPENDICES

A) Glossary of terms and acronyms
B) List of evaluation research domains and research questions
C) Methods: Quantitative
D) Methods: Qualitative
E) Exhibits to Support Chapter 2
F) Exhibits to Support Chapter 3
G) Exhibits to Support Chapter 4

Appendix B: Conflict of Interest Statement

3 West Road | Virks Building | Cranston, RI 02920

12/6/2019

National Opinion Research Center (NORC)
4350 East-West Highway, 8th Floor
Bethesda, MD 20814

RE: Evaluator for RI Section 1115 Medicaid Waiver – No Conflict of Interest

To Whom It May Concern,

As a contractor for the Executive Office of Health and Human Services (EOHHS), NORC intends to acquire and process data for the purpose of evaluating such data for Centers for Medicare & Medicaid Services (CMS) and the State of Rhode Island. Our organization's acquisition and processing of EOHHS data does not pose a conflict of interest, as our organization performs Section 1115 Medicaid Waiver evaluation activities in the areas of claims-based analyses, monitoring, and evaluation reports.

Despite having no conflict of interest in relation to our use of EOHHS data, my organization intends to separate and secure any EOHHS data acquired through its work with the State of Rhode Island by using the EOHHS data only for the purposes of performing work under the project "RI Health System Transformation Project Evaluation." The EOHHS data will be securely stored in a project designated folder with access limited to individuals who work under the project and have need to access the EOHHS data. NORC will use internal network data storage services to store all project-related data files. Remote access to internal NORC computing resources requires two-factor authentication and encrypted channels. Only secure, encrypted file transfers will be used when transferring data files over the Internet.

The contact person for conflict of interest matters within our organization is Kathleen Parks, NORC's Vice President of Academic Research Centers and senior Institutional Review Board ("IRB") member, who serves as NORC's Compliance Officer and can be reached at Parks-Kathleen@norc.org.

Sincerely,

[redacted]

Adil Moiduddin
Senior Vice President, Health Care Evaluation Research