DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop S2-25-26
Baltimore, Maryland 21244-1850

State Demonstrations Group

November 16, 2020

Henry Lipman
Medicaid Director, Office of Medicaid Business and Policy
New Hampshire Department of Health and Human Services
129 Pleasant St
Concord, NH 03301-6521

Dear Mr. Lipman:

This letter is to inform you that the Centers for Medicare & Medicaid Services (CMS) has approved the interim evaluation covering the 2016-2019[1] period of the New Hampshire delivery system reform incentive payment (DSRIP) section 1115(a) Medicaid demonstration, entitled "Building Capacity for Transformation (BCT)" (Project Number 11-W-00301/1, approved from January 5, 2016 through December 31, 2020). We appreciate your dedication to a rigorous evaluation of the state's demonstration. The interim evaluation will be posted to Medicaid.gov shortly.

Despite the limitation of a small time period with which to measure outcomes, there are a number of important quality and structural improvements stemming from the demonstration that are captured in this report. The BCT demonstration has led to key improvements in Health IT to improve care coordination and integration. Success in these efforts can be seen in the statistically significant improvement observed in quality metrics such as the increase in 7-day follow up after mental health hospitalization and the decline in potentially avoidable emergency department visits. While many metrics in the access to care and quality of care domains did not show statistically significant change, we note that the trends show promise and we look forward to the further analysis with additional years of data that will come with the final evaluation report.

[1] Some analyses use administrative data through 2017

If you have any questions, please contact your CMS project officer, Ms. Kathleen O'Malley at KathleenOMalley@cms.hhs.gov. We look forward to our continued partnership on the New Hampshire BCT section 1115 demonstration.

Sincerely,

Danielle Daly -S
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Date: 2020.11.16 08:41:52 -05'00'

Danielle Daly
Director
Division of Demonstration Monitoring and Evaluation

Angela D. Garner -S
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Date: 2020.11.16 17:20:49 -05'00'

Angela D. Garner
Director
Division of System Reform Demonstrations

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

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Interim Evaluation Report

by the Independent Evaluator for the New Hampshire Delivery System Reform Incentive Payment (DSRIP) Program

October 2020

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Cover photo courtesy of Angie Bordeaux, Cutler Institute

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List of Acronyms

42 CFR Part 2	Regulations to protect patient records created by federally funded programs for the treatment of substance use disorder (SUD)
AAP	American Academy of Pediatrics
ABD	Acquired Brain Disorder
ACA	Affordable Care Act
ACG	Adjusted Clinical Groups
ACP	American College of Physicians
ACS	Ambulatory Care Sensitive
ADHD	Attention-deficit/hyperactivity disorder
AHRQ	Agency for Healthcare Research and Quality
AOD	Alcohol and Other Drugs
APM	Alternative Payment Model
AUD	Alcohol Use Disorder
BH	Behavioral Health
BRFSS	Behavioral Risk Factor Surveillance System
CAHPS®	Consumer Assessment of Healthcare Providers and Systems, a registered trademark of the Agency for Healthcare Research and Quality (AHRQ)
CBO	Community-Based Organization
CCSA	Comprehensive Core Standardized Assessment
CDC	Centers for Disease Control
CHAN	Community Health Access Network
CMHA	Community Mental Health Agreement
CMHC	Community Mental Health Center
CMS	Centers for Medicare & Medicaid Services
COC	Continuity of Care
COPD	Chronic Obstructive Pulmonary Disease
CPI	Consumer Price Index

CSS	Community Support Services
CTI	Critical Time Intervention
CVD	Cardiovascular Disease
CY	Calendar Year
DD	Developmental Disabilities
DHHS	Department of Health and Human Services
DID	Difference-in-Difference
DSRIP	Delivery System Reform Incentive Payment
DY	Demonstration Year
ED	Emergency Department
EHR	Electronic Health Record
EMR	Electronic Medical Record
EQRO	External Quality Review Organization
ER	Emergency Room
FAR	Frontier and Remote
FDA	Food and Drug Administration
FFS	Fee for Service
FORHP	Federal Office of Rural Health Policy
FPL	Federal Poverty Level
FQHC	Federally Qualified Health Center
FTE	Full Time Equivalent
GLM	Generalized Linear Model
HCBS	Home and Community Based Services
HDL	High-Density Lipoprotein class of cholesterol
HEDIS®	Healthcare Effectiveness Data and Information Set, a registered trademark of NCQA
HIT	Health Information Technology
HIPAA	Health Insurance Portability and Accountability Act

HPSA	Health Professional Shortage Area
HSAG	Health Services Advisory Group
IDN	Integrated Delivery Network
IOP	Intensive Outpatient Services
LDL	Low-Density Lipoprotein class of cholesterol
LDL-C	Test of Low-Density Lipoprotein in the blood to determine risk of cardiovascular disease
LOS	Length of Stay
LTSS	Long-Term Services and Supports
IMD	Institute for Mental Disease
MAT	Medication Assisted Treatment
MCM	Medicaid Care Management
MCO	Managed Care Organization
MDCT	Multidisciplinary Care Team
MED	Morphine Equivalent Dose
MM	Beneficiary (Member) Months
MMIS	Medicaid Management Information System
MOM	Maternal Opioid Misuse
MUA	Medically Underserved Area
MY	Measure Year
NCQA	National Committee for Quality Assurance
NH	New Hampshire
NHH	New Hampshire Hospital
NHHPP	New Hampshire Health Protection Program
NPI	National Provider Identifier
NPPES	National Plan and Provider Enumeration System
NQF	National Quality Forum
OUD	Opioid Use Disorder

PAP	Premium Assistance Program
PDMS	Participant Directed and Managed Services
PCP	Primary Care Provider
PMPM	Per Beneficiary (Member) Per Month
PQI	Prevention Quality Indicators
PSM	Propensity Score Matching
QHP	Qualified Health Plan
QI	Quality Improvement
RFP	Request for Proposals
RPHN	Regional Public Health Networks
SAMHSA	Substance Abuse and Mental Health Services Administration
SAS	Statistical Analysis Software
SBIRT	Screening, Brief Intervention, and Referral to Treatment
SED	Serious Emotional Disturbances
SFTP	Secure File Transfer Protocol
SIM	State Innovation Model
SMI	Serious Mental Illness
SPSS	Statistical Package for the Social Sciences
STC	Special Terms & Conditions
SUD	Substance Use Disorder
USPSTF	United States Preventative Services Task Force
UTI	Urinary Tract Infection

Table of Contents

1. Executive Summary

1.1 Overview of the Demonstration

Delivery System Reform Incentive Payment (DSRIP) programs are part of the broader Center for Medicare & Medicaid Services (CMS) Section 1115 Waiver programs and provide states with significant funding to support system transformation efforts. CMS approved New Hampshire's Building Capacity for Transformation Section 1115(a) Medicaid Demonstration Waiver in 2015. The Demonstration was approved for a five-year intervention period (calendar years 2016-2020), with the first year dedicated to capacity building and planning. The overall goal of the DSRIP Demonstration is to improve the care for New Hampshire's Medicaid Beneficiaries with behavioral health disorders by addressing workforce and infrastructure shortages, improving care transitions, and integrating physical and behavioral health. DSRIP features funding of $150 million in incentive payments over the five-year Demonstration period, performance-based funding distributions, and support for transition to alternative payment models (APMs). Funding for project planning and capacity building, not typically covered by standard Medicaid, is a feature of the Demonstration, and the State must participate in a variety of statewide and community-driven projects.

1.2 Summary of the Goals of the Demonstration

New Hampshire seeks to transform the delivery of care to Medicaid Beneficiaries in the state by: 1) improving care transitions; 2) promoting integration of physical and behavioral health; and 3) building mental health and substance use disorder treatment capacity within the state. As part of the Demonstration, seven (7) regional Integrated Delivery Networks (IDNs) were developed to facilitate care integration and transitions. Per the Special Terms and Conditions (STCs) of the CMS waiver, by the end of the Demonstration period, key features of the Demonstration are that New Hampshire's Medicaid Beneficiaries with co-occurring physical and behavioral health issues will experience: higher quality of care; lower costs of care; reduced rates of avoidable re-hospitalizations; shorter wait times for inpatient psychiatric care; and increased access to outpatient care at community mental health centers.

1.3 Overview of the Interim Evaluation Report

DSRIP Demonstrations are required to implement an evaluation conducted by an independent evaluator. The New Hampshire Department of Health and Human Services (DHHS) has contracted with the Cutler Institute for Health and Social Policy at the University of Southern Maine to conduct the Demonstration evaluation. This evaluation utilizes a mixed-methods design to gain a multi-dimensional and robust understanding of the Demonstration's process and performance measures. The interim report details:

- Qualitative data extracted from the process evaluation, including successful strategies and challenges to implementing Demonstration initiatives; and
- Early findings from analysis performance metrics calculated from administrative data.

1.4 Summary of Key Findings

Summary of Key Findings focuses on documenting early observations and implications for practice from the process evaluation, including highlighting both successes and ongoing challenges to implementation. In addition, lessons learned through the NH DSRIP Demonstration are presented to help inform other Demonstration projects.

1.4.1 Early Successes of the DSRIP Demonstration

Below is a summary of some of the early success of the DSRIP Demonstration documented as part of the interim evaluation.

- ***Health Information Technology Software implemented as part of the Demonstration has enhanced the capacity of health systems and providers to communicate with one another, facilitated care coordination, and improved the quality and timeliness of the care provided to Beneficiaries.*** The implementation of software applications has helped providers connect Beneficiaries with appropriate services in a timely manner. Examples of access-related successes include same-day appointments as a result of event notifications and connections between providers and organizations that created additional appointment availability.

- ***Early findings indicate that the Demonstration has helped to enhance the State's behavioral health workforce through targeted recruitment and retention activities; updating policy and licensure requirements and; supporting professional development activities.*** Qualitative findings of increased staff capacity indicate that IDNs are more responsive to the behavioral health care needs of Beneficiaries while at the same time increasing their capacity to address social determinants of health.

- ***The Demonstration has helped to increase access to services for individuals with behavioral health care by increasing awareness of available services in the state.*** Enhanced collaboration across partner organizations has helped to increase provider awareness of the resources available in their region. In addition, enhanced communication and referral processes have increased their ability to engage patients with available resources more efficiently.

- ***The overall health composite rating from the Beneficiary Experience Survey indicates the majority of Beneficiaries rate their health care positively.*** The state mean was 8.03 on scale of 0-10.

- ***Early findings from performance measures indicate improvements to care integration***. Key care integration measures showed statistically significant change ($p \geq .05$) for the interim period of the Demonstration. For example, 7-day follow-up after a mental health hospitalization rose by nearly 6% (p=.0110) between baseline and Demonstration periods. In the same periods, alcohol and other drugs (AOD) emergency department follow-up visits increased by 13% (p=.0127). Furthermore, while not statistically significant, 7 day follow up after a mental health emergency department visit increased by 3% between baseline and Demonstration periods. Taken together, these results may be early indications that the Demonstration is

successfully influencing integration of care, although the changes were not significant at the 0.01 level.

- ***Over the course of the Demonstration, there has been a reduction in emergency department (ED) visits***. The decline in the percentage of Beneficiaries with frequent ED visits (4 or more) and potentially avoidable ED visits over time suggests the Demonstration is having a positive effect on service utilization. Frequent ED use for Beneficiaries with BH disorder varied from a high of 17.9% in 2013 to a low of 14.7% in 2017. In addition, the decline from the pre-Demonstration period in the percentage of Beneficiaries with potentially preventable ED visits was statistically significant at the .01 level (p=.0042). New Hampshire's DSRIP care integration model inherently facilitates care coordination and transition planning, so reducing ED utilization can be a potential early indicator of successful implementation of integration efforts.

1.4.2 Ongoing DSRIP Demonstration Challenges

Below is a summary of some of the ongoing Demonstration implementation challenges documented as part of the interim evaluation.

- ***While findings indicate that enhancements to the HIT infrastructure have facilitated care coordination and integration, there remain issues with reliability of HIT systems to deliver timely and accurate communications between providers and organizations***. In addition, not all organizations and providers have implemented the software packages and there remain significant issues with inter-operability, which has limited the utility of some of the software applications for data sharing and communication.

- ***The reporting requirements associated with the Demonstration remain a challenge for participating organizations.*** Quality data tracking and reporting is largely predicated on the feasibility and perceived utility of the selected metrics; feedback indicates that the reporting requirements are burdensome and lack utility. Current challenges include: not having the time to support collecting, compiling, and recording data on performance metrics; gathering and compiling data from multiple sources using a mix of data collection methods; and staffing (e.g. allocating staff time for monitoring data; staff training).

- ***Although many IDNs have made progress in facilitating data sharing across their partner organizations, regulations and evolving privacy laws remain a challenge to facilitating data sharing***. The complexity of interpreting privacy regulations coupled with the constantly evolving nature of privacy and security laws has slowed down efforts to expand data sharing arrangements among organizations and project partners.

- ***Staff turnover and provider shortages continue to hinder the ability of IDNs and their project partners to expand access to behavioral health services in New Hampshire.*** While the Demonstration has provided resources to increase the capacity of the behavioral health care workforce, workforce shortages in the state remain a significant barrier to behavioral healthcare access. Workforce issues also contribute

to limited available providers, fewer treatment options and locations, as well as long wait times.

- ***While many key stakeholders indicated they feel that there is value in transitioning to APMs, feedback indicates that many providers are uncertain of the path forward.*** At the end of Demonstration Year 4, most partners did not understand or fully see their own role within the future shift to APMs. These findings may partially be attributed to delayed Demonstration implementation.
- ***The implementation of enhanced screening for physical, social and behavioral health needs through the Comprehensive Core Standardized Assessment (CCSA), remains a challenge for many organizations and providers.*** The most frequently cited challenges to integrating the CCSA into workflows included: the time needed in patient visits to complete the screening; and a lack of understanding of the CCSA; no HIT infrastructure to support integrating the CCSA into electronic platforms; and a lack of provider buy-in for adopting the tool.

1.5 Recommendations for Other States Implementing DSRIP Demonstrations

New Hampshire's DSRIP program required considerable time and resources from stakeholders at almost every juncture of implementation. IDNs were formed, in many cases, from disparate partners who had never collaborated before which required substantial time and energy during their formation, application development, and project planning stages. Given analysis on the qualitative data collected for the interim evaluation, below are strategies to consider for similar initiatives in the planning and early stages of implementation:

- ***Pre-planning and assessing implementation readiness prior to submitting an 1115 application is essential to maximizing the full duration of an 1115 Demonstration.*** Early understanding of IDN guidelines and expectations will allow organizations to determine the feasibility of applying to be an IDN and can help facilitate pre-planning efforts prior to the implementation of the 1115 Demonstration. In addition, collaborating with stakeholders during the waiver application planning phase to establish criteria for IDNs prior to Demonstration approval will expedite IDN selection and implementation of IDN networks after the onset of the Demonstration.
- ***Collaboration is fundamental to promoting systems transformation and the implementation of integrated models of care.*** Establishing and maintaining collaborative partnerships are necessary to creating comprehensive systems of care and improving access to care for individuals with complex health care needs. Establishing clinical-community linkages is also critical for establishing and expanding the infrastructure necessary to support integrated models of care that address physical, behavioral and social needs.
- ***Address challenges and communicate strategies around workflows and resources as early as possible in the implementation process, as they are critical to successes and further collaboration.*** It is essential that states implementing large Demonstration projects engage stakeholders as early as possible in the process.

Consistent and frequent communication from leadership on programmatic goals and the value of the initiative can play a pivotal role in helping to overcome implementation challenges.

- ***Strategize around confidentiality and data sharing issues during the Demonstration design phase, and as early as possible in the implementation***. Issues around confidentiality and data sharing are complicated and can lead to substantial delays in program implementation. Clear guidance on privacy laws and data sharing is essential to implementing data sharing protocols. Identifying and gaining consensus on mechanisms for data sharing early in the Demonstration is critical to establishing efficient systems and ensuring application inter-operability across partners to support comprehensive data sharing.
- ***Early engagement of stakeholders in the identification of performance measures can help facilitate more robust reporting.*** External clinical input into the Demonstration process is key to facilitating high-quality data reporting and ensuring that data reporting requirements are specific, measurable, realistic and relevant.
- ***Communicate as much as possible throughout the Demonstration about mechanisms for transitioning to Value Based Payment and/or Alternative Payment Models.*** Frequent, clear and concise communication as well as providing training and resources for organizations and providers are necessary to support successful transitions to APMs.

2. General Background Information

2.1 New Hampshire Medicaid Program: Context for Report

The New Hampshire (NH) Medicaid program provides health care coverage to eligible individuals ("Beneficiaries"), with the common goal of improving public health. At the end of January 2020, 127,823 individuals were enrolled in NH's Standard Medicaid program, with an additional 51,277 adults enrolled in the Granite Advantage Medicaid Expansion program.[1] Of those in the Standard Medicaid program, 67% were children (0-18) and 31% were adults (19+).[1] Due to federal and state eligibility requirements, the majority of individuals served by NH Medicaid are either low-income and/or live with some sort of disability. Unless otherwise indicated (i.e., where total population is used as a reference), this report solely focuses on New Hampshire Medicaid Beneficiaries.

2.2 Addressing Health Care Delivery for Medicaid Beneficiaries with Behavioral Health (BH) Disorders in New Hampshire

Almost 4% of New Hampshire's total 1.4 million residents experience severe mental health conditions.[2] For decades, the State of New Hampshire (NH) has worked to reform care to better serve people with any behavioral health disorder (includes mental health and/or substance use disorders). In the 1980s, New Hampshire began developing a community-based mental health system in an effort to eliminate unnecessary institutionalization of

persons with behavioral health disorders.[3] However, throughout the 1990s and into the 21st century, both inpatient and community mental health provider capacity began declining.[4] Soon after, in 2008, New Hampshire released its comprehensive stakeholder-driven Ten-Year Mental Health Plan which identified key recommendations to improve the State's mental health infrastructure.[5] A grave national recession hindered the implementation of many of the recommendations included in that report, particularly those related to allocating increased funding to support capacity-building efforts in the state.[3] As the recession wore on, both New Hampshire Hospital (NHH), the sole state-run psychiatric hospital, and the Community Mental Health System faced multiple challenges as the State grappled to meet the mental health care needs of the population as demand for services outweighed supply.

In 2014, on average, anywhere from 11-31 adults were waiting for admission to NHH, and almost 1 out of 3 people waited for more than 24 hours in the emergency department before a bed became available.[4] The number of inpatient psychiatric beds at NHH, as well as those at residential and community-based programs declined, while the state experienced a rising population with subsequent growing demands for behavioral health care.[3] Patients also faced long wait times for outpatient services; in 2014, new adult patients waited an average of 26 days for an appointment with a behavioral health counselor and 49 days to see a provider with prescribing authority.[6] Additionally, a landmark settlement agreement signed in 2014, the Community Mental Health Agreement (CMHA),[7] requires the State to provide community-based services and supports to people with serious mental illness (SMI) in lieu of providing care in institutional settings such as NHH or the Glencliff House, a state-operated psychiatric nursing facility.

The State's mental health service capacity was further constrained by limited treatment options for persons with substance use disorders (SUD). As the State's infrastructure sought to meet the increasing demands for treatment, the national opioid epidemic descended on New Hampshire at an alarming rate. Overdose deaths involving opioids more than doubled between 2013 and 2014 alone.[8] Moreover, in 2014, less than 10% of adults in New Hampshire with an alcohol use disorder (AUD) received treatment and approximately 16% of adults with other SUDs received treatment.[9] In the same year, NH Medicaid expanded to include coverage of over 50,000 newly eligible adults and to include coverage of SUD services to that group. However, these efforts placed new demands on providers with already limited capacity; of the adults in the new expansion group, one in six had extensive mental health or substance use needs.[10]

In Fiscal Years 2011 and 2012, over 33% of NH Medicaid Beneficiaries had a behavioral health diagnosis (mental health and/or substance use disorder diagnosis), an increase of almost 1,000 from the previous year. Limited integration of behavioral and physical health services coupled with shortages in the number of health care workers further constrained the State's ability to meet the needs of people with behavioral health disorders.[11] As is the case in other rural states, New Hampshire has difficulties with shortages and turnover in its behavioral health workforce; recruiting and retaining the necessary qualified workforce is

paramount to achieving any progress in the integration of care for persons with behavioral health needs. Historically lower Medicaid reimbursement rates in NH translates to lower salaries, particularly in the Community Mental Health Centers (CMHCs) that predominantly serve Medicaid Beneficiaries. This further exacerbates workforce difficulties in a state that contends with provider shortages, particularly in its more rural northern regions, along with workforce migration in its southern region to higher-paid positions in the greater Boston area.[5]

Such was the landscape when, in April 2014, New Hampshire proposed its Building Capacity for Transformation Section 1115(a) Medicaid Demonstration Waiver aiming to integrate care and better serve the behavioral health needs of the NH Medicaid population.[12] The Demonstration would be implemented in tandem with other efforts aimed at enhancing the State's behavioral health infrastructure for the first time in nearly a decade. The re-investment effort included a number of key strategies including, but not limited to: a plan to begin covering substance use disorder (SUD) services for all Beneficiaries by 2016; the expansion of the population eligible to participate in the Medicaid program; implementing a newly signed Community Mental Health Agreement (CMHA); and, leveraging the renewed legislative commitment to funding behavioral health services in the state to expand access to care for behavioral health conditions.

By design, Medicaid Demonstration Waivers, authorized under Section 1115 of the Social Security Act, give states the ability to test programs aimed at improving the delivery and payment of Medicaid services not typically reimbursable under federal guidelines.[13] New Hampshire's Building Capacity for Transformation Waiver would be funded as the Delivery System Reform Incentive Payment (DSRIP) project.[14] Nationally, DSRIP Demonstrations endeavor to advance the triple aim of improving population health, enhancing the quality of care for patients, and reducing costs of care. Specifically, the NH DSRIP Demonstration aims to reform Medicaid delivery through incentive payments given to networks of providers that meet specific quality metrics aimed at lowering costs while improving patient outcomes.

2.3 Overview of New Hampshire's DSRIP Goals and Objectives

New Hampshire's Building Capacity for Transformation Demonstration Waiver, funded as the Delivery System Reform Incentive Payment Demonstration (hereinafter "DSRIP Demonstration *or* Demonstration"), is part of a statewide multi-pronged approach to address barriers to providing behavioral health services.

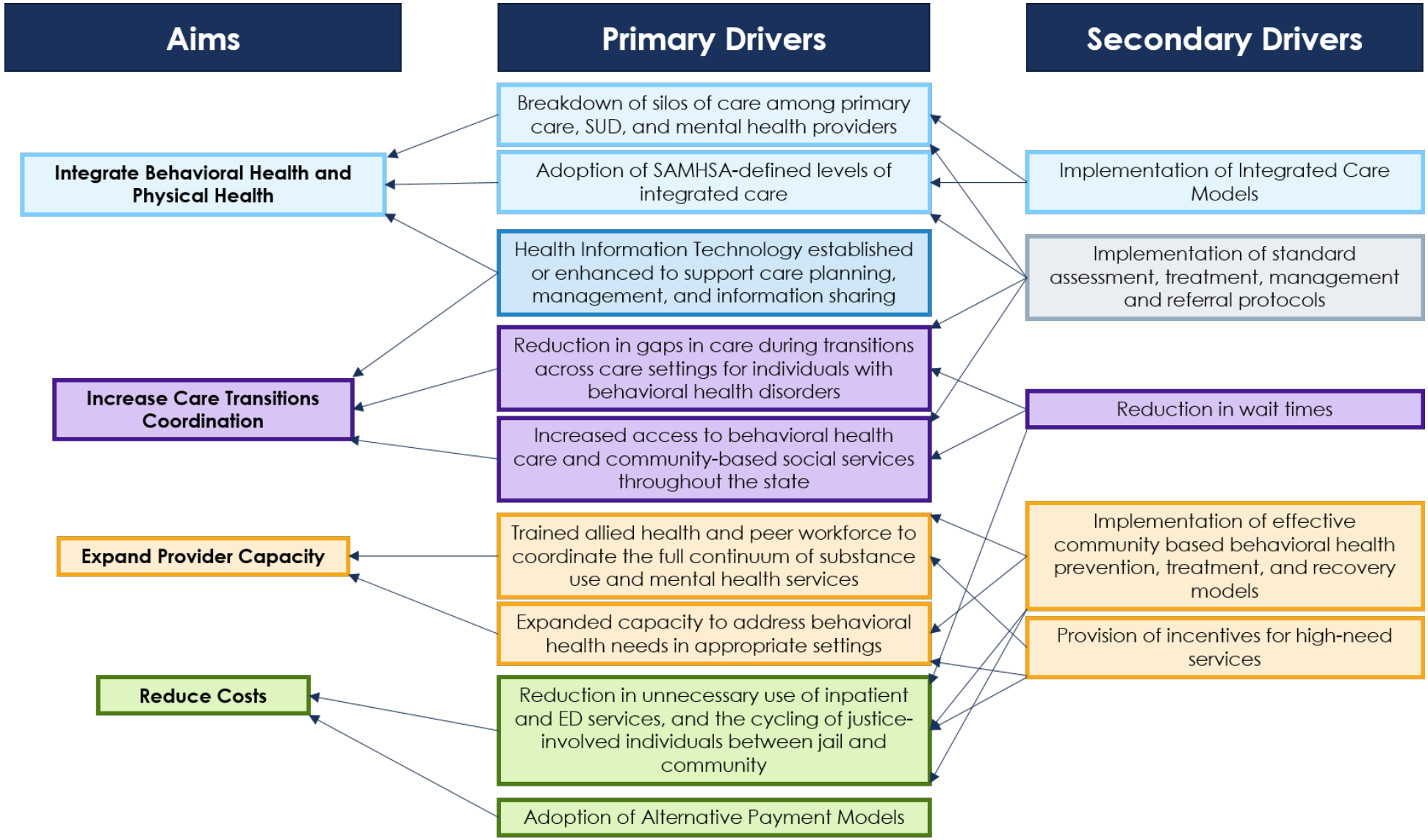
The Demonstration was approved by the Centers for Medicare and Medicaid Services (CMS) on January 5, 2016. With this waiver, New Hampshire seeks to transform its behavioral health care delivery system by integrating physical and behavioral health, expanding provider capacity, and reducing gaps in patient treatment during care transitions. Through its systems transformation and infrastructure building efforts, the DSRIP Demonstration aims to improve quality and access to care; care coordination; and health outcomes for New Hampshire Medicaid Beneficiaries with behavioral health disorders.

Under the DSRIP Demonstration, the state makes performance-based funding available to seven regionally based Integrated Delivery Networks (IDNs) that serve Medicaid Beneficiaries with behavioral health needs. The IDNs will provide support to the providers within their network to:

(1) facilitate integrated models of care designed to address the full range of Beneficiaries' needs;
(2) expand capacity to address emerging and ongoing behavioral health needs in appropriate settings; and,
(3) reduce gaps in care during transitions between settings by improving coordination across providers and linking Medicaid Beneficiaries with community supports.

The NH DSRIP Demonstration, approved through December 31, 2020, covers a five-year period (calendar years 2016, 2017, 2018, 2019, 2020).

Figure 2.3—1: NH DSRIP Driver Diagram



The overarching goal of the NH DSRIP Demonstration is to centrally support the development and maintenance of an integrated care delivery system through the regional implementation of seven IDNs—each serving approximate equal rates of Medicaid Beneficiaries with behavioral health disorders—in order to improve Beneficiaries' health while at the same time reducing the total cost of caring for this population. To achieve that goal, the NH DSRIP Demonstration deploys a number of strategies (Figure 2.3—1). These include:

1. **Workforce Capacity:** Increase community-based behavioral health service workforce capacity through the education, recruitment, and training of a professional, allied health, and peer workforce with knowledge and skills to provide and coordinate the full continuum of substance use and mental health services.
2. **Access:** Increase access to behavioral health care and appropriate community-based social support services throughout all of NH's regions.
3. **Technology:** Establish robust technology solutions to support care planning and management and information sharing among providers and community-based social support service agencies.
4. **Incentives:** Incentivize the provision of high-need services, such as medication-assisted treatment for SUDs, peer supports, and recovery services.
5. **Recovery Models:** Increase the state's use of evidence-based recovery models that will reduce unnecessary use of inpatient and emergency department (ED) services, hospital readmissions, and the cycling of justice-involved individuals between correctional settings and the community due to untreated behavioral health disorders.
6. **Integration:** Promote the integration of physical and behavioral health provider services in a manner that breaks down silos of care among primary care and behavioral health providers, following existing standards (i.e., State Innovation Model (SIM) planning process; SAMHSA-defined standards for Levels of Integrated Health Care).
7. **Care Transitions:** Enable coordinated care transitions for Beneficiaries in various care settings (e.g., CMHC, primary care, inpatient hospital, corrections facility, SUDs clinic, crisis stabilization unit) to ensure that the intensity level and duration of transition services are fully aligned with an individual's documented care plan.
8. **Alternative Payment Models (APMs):** Ensure that IDNs participate in APMs that move Medicaid payment from predominantly volume-based to primarily value-based payment over the course of the Demonstration period.

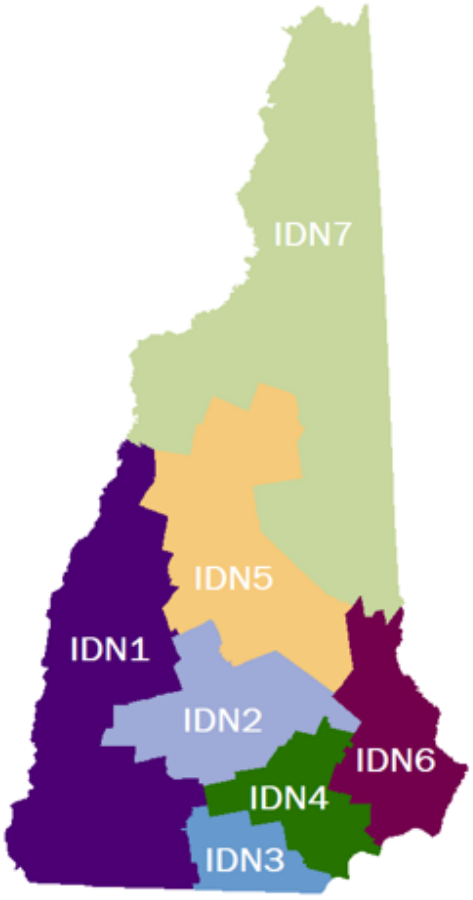
Throughout the Demonstration period, each IDN is required to implement six projects to address the needs of Medicaid Beneficiaries with behavioral health disorders. For each project, the IDNs are tasked with developing detailed plans and focused milestones. IDN project performance is assessed by DHHS based on milestones and metrics that track project planning, implementation progress, clinical quality and utilization indicators, and progress toward transition to APMs.

IDNs are expected to be made up of multiple community-based social service organizations including hospitals, county facilities, primary care providers, and behavioral health providers (both mental health and substance use disorder). These organizations are responsible for collaborating on the design and implementation of projects to build behavioral health capacity, promote integration of primary care and behavioral health, facilitate smooth transitions in care, and prepare for alternative payment models.

Figure 2.3—2: Map of IDN Regions in New Hampshire

IDN	Region
IDN1	Greater Monadnock, Greater Sullivan County, Upper Valley Region *29,493 attributed Beneficiaries*
IDN2	Capital Area Region *19,057 attributed Beneficiaries*
IDN3	Greater Nashua Region *25,486 attributed Beneficiaries*
IDN4	Greater Derry, Greater Manchester Regions *49,256 attributed Beneficiaries*
IDN5	Central NH, Winnipesaukee Regions *17,404 attributed Beneficiaries*
IDN6	Strafford County, Seacoast Region *32,871 attributed Beneficiaries*
IDN7	North Country, Carroll County Region *19,118 attributed Beneficiaries*

Source: NH DHHS Dataset (2019). Total Beneficiaries attributed December 31, 2017.



New Hampshire DHHS proposed seven (7) service regions for the DSRIP Demonstration (Figure 2.3—2), each comprised of one or more regional public health networks. The Demonstration seeks to enable each IDN to improve care for Medicaid Beneficiaries with diagnosed and undiagnosed behavioral health conditions in and around its service region. IDNs are expected to provide support to their partners to facilitate the provision of a full spectrum of services and related social supports to address the complex care needs of Beneficiaries with behavioral health conditions. In order to assess IDN performance on Demonstration quality metrics and determine funding allocations, the Demonstration was

designed so that each Medicaid Beneficiary is attributable to one IDN based on where they receive care. More information on the IDN attribution is included in Section 4, Methodology.

2.4 Development of Integrated Delivery Networks

Under the DSRIP Demonstration, New Hampshire made process-based incentive payments to providers to form seven (7) regionally based IDNs that serve Medicaid Beneficiaries through fee-for-service (FFS) or Medicaid Care Management (MCM) programs. Consistent with the NH DSRIP program's Centers for Medicare and Medicaid Services Special Terms and Conditions (STCs), these provider networks formed regional coalitions that then applied collectively for funds as a single IDN. The IDNs are intended to serve as the vehicle to foster partnerships between behavioral health providers and other health care providers within their region to achieve the state's vision for system transformation including establishing financial relationships, creating mechanisms for data sharing, and instituting formal business relationships between project partners. Specifically, per the STC, IDNs receive incentive payments for their "performance on projects to increase integration across providers and community social service agencies; expand provider capacity; develop new expertise; and improve care transitions."[15] As mandated in the STCs, as part of the application process IDNs were to:

- Identify a proposed geographic catchment.
- Designate a lead applicant/provider (IDN Administrative Lead) and several partners. The Administrative Lead is responsible for ensuring all partners meet the requirements of the IDN, including reporting to the state and CMS.
- Establish a clear business relationship between all providers within an IDN; develop a joint budget and funding distribution plan; and, establish methods for distributing funds.
- Implement a data agreement to share/manage data on IDN performance.

The IDN applications, approved by CMS and released by NH through a formal Request for Proposals (RFP) process in May 2016, allowed for flexible governance structure while requiring a primary governing body that reflected representation from organizations of various types within the IDN. At a minimum, the IDN Administrative Lead would maintain oversight over financial, clinical, data, and information technology governance, as well as community engagement. To be approved, an IDN needed to meet a threshold of at least 15,000 attributed Medicaid Beneficiaries, with at least 50% of attributed care provided as identified through claims analysis (as opposed to geographic location).

IDNs received approval in July 2016 (note, all starting points within the IDN Project Plans were required to be after January 1, 2017). In August 2016, NH DHHS approved the IDN contracts. In the following month, September 2016, the IDNs received their first payments (statewide total: $19.5M) and NH DHHS initiated its first monthly IDN meetings. There are four (4) IDN lead organization types: a hospital or its parent organization; a county

administrator; a public health organization; and a not-for-profit Rural Health Network (Table 2.4—1).

Table 2.4—1: IDN Regions

IDN	Regions	Administrative Lead	Lead Organization Type
1	Greater Monadnock, Greater Sullivan County, Upper Valley Region	Mary Hitchcock Memorial Hospital	Hospital Facility
2	Capital Area Region	Concord Hospital	Hospital Facility
3	Greater Nashua Region	Southern New Hampshire Health	Parent org. for Hospital Facility
4	Greater Derry, Greater Manchester Regions	Catholic Medical Center	Hospital Facility
5	Central NH, Winnipesaukee Region	Lakes Region Partnership for Public Health	Public Health Organization
6	Strafford County, Seacoast Region	Strafford County	County Government
7	North Country, Carroll County Region	North Country Health Consortium	Non-profit Rural Health Network

Source: NH DSRIP Program Overview Documents

Per the STC, the State not only developed and oversaw the application process for the IDNs; they hired an Independent Assessor to review and make recommendations on IDN project plans and their approval. The State was also mandated to establish statewide resources to support the IDNs. New Hampshire provided IDNs with technical assistance and the opportunity to participate in a learning collaborative designed to foster the sharing of lessons learned and help facilitate the spread of best practices across IDNs (Waiver Special Terms and Conditions [STC] 36.a.iv). As part of that effort, concurrently in the fall of 2016 while IDN implementation was initiated, meetings began for the Health Information Technology (HIT) Taskforce as well as the Workforce Taskforce.

2.5 Project Valuation

As mandated in the STC 29, IDNs earn payments for meeting performance milestones, specified in each IDN Project Plan, as outlined below.

- A maximum value for each project on the project menu was calculated based on valuation components (as specified by the IDN Program and Funding Mechanics Proposal).
- An IDN project's total valuation is distributed across the milestones in the IDN Project Plan, with an increasing proportion of IDN funding allocated to performance on outcome milestones each year of the Demonstration.

Throughout the Demonstration, the payment distribution of IDN reimbursements has shifted from process-based measures to performance-based measures. In all years, the payment

distribution was consistent for all IDNs. In 2016, incentive payments were 100% dependent on process measures. In 2017, they were 90% dependent on process measures with 10% tied to performance. In 2018, incentive payments were 25% dependent on performance measures and 75% dependent on process measures. In 2019, incentive payments were 100% dependent on performance measures.[16] From years 2018 to 2020 of the Demonstration, a percentage of statewide funding is to be contingent on statewide performance metrics.[17] A substantive goal of the Demonstration is to transition, by the end of 2020, to move 50% of payments to Medicaid providers into alternative payment models (APMs). The APM roadmap outlines how this movement will be initiated and completed.[18] Figure 2.5—1 below depicts how project valuations change throughout the Demonstration. By 2020, the care integration-focused Core Competency Project will comprise 60% of IDN payment distributions.

Figure 2.5—1: Achievable Payment Distribution between Project Types

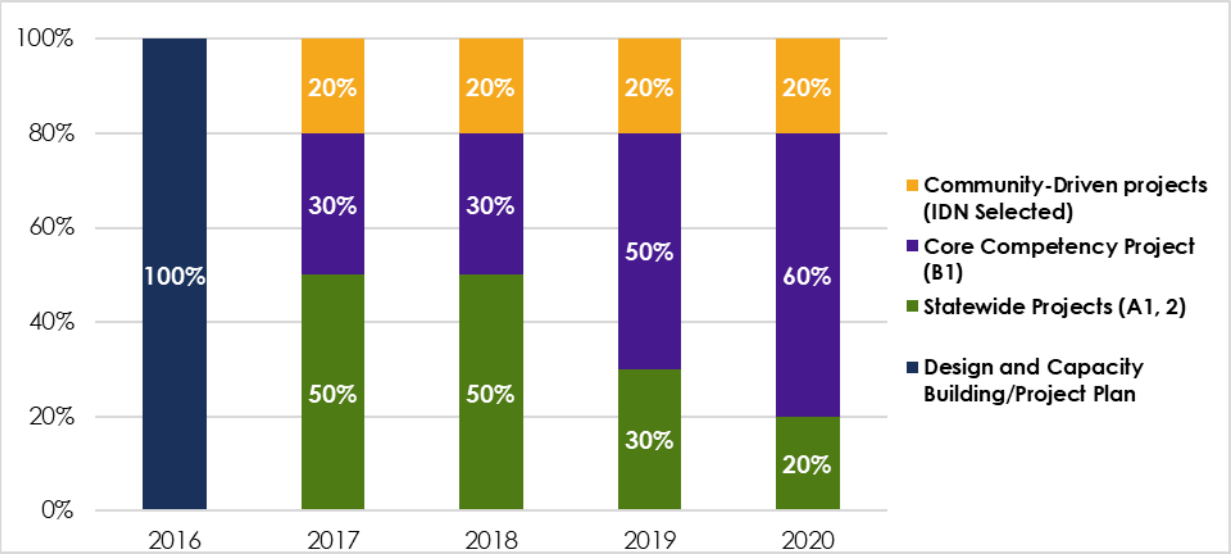


Image Source: NH DHHS, DSRIP Annual Report [Slide deck]; 2016.

2.6 DSRIP Funding & Life Cycle of Five-Year Demonstration

CMS funding mechanisms for New Hampshire DSRIP mandate that a gradual percentage of funding be at risk based on performance in the later years of the Demonstration. Total IDN funding is at risk if the state fails to demonstrate progress toward meeting the objectives of the Demonstration. The percentage at risk gradually increases from 0 percent in Demonstration Years (DY) 1-2 to five percent in DY 3, increasing to 10 and 15 percent in DYs 4, and DY 5, respectively. The maximum allowable for funds in each Demonstration Year, which are CY 2016-2020, is $30 million per year, making at-risk dollar amounts $1.5M for 2018, $3.0M in 2019, and $4.5M in 2020 (Table 2.6—1).

Table 2.6—1: DSRIP IDN Funding

	DY 1 01/01/16-12/31/16	DY 2 01/01/17-12/31/17	DY 3 01/01/18-12/31/18	DY 4 01/01/19-12/31/19	DY 5 01/01/20-12/31/20
Allowable DSRIP Funds: Maximum	$30M	$30M	$30M	$30M	$30M
Percent At-Risk Based on Performance	0%	0%	5%	10%	15%
Dollar Amount At-Risk for Performance	n/a	n/a	$1.5M	$3.0M	$4.5M

Source: Adapted from STC

Per the STC, the outcome measures on which reimbursement became dependent were developed by New Hampshire in collaboration with DSRIP stakeholders. They are mandated to be statewide and measure progress towards the state's goal of enhanced behavioral health capacity, better integration of physical and behavioral health, and improving care transitions (Figure 2.6—1).

Figure 2.6—1: Funding Measures Timeline

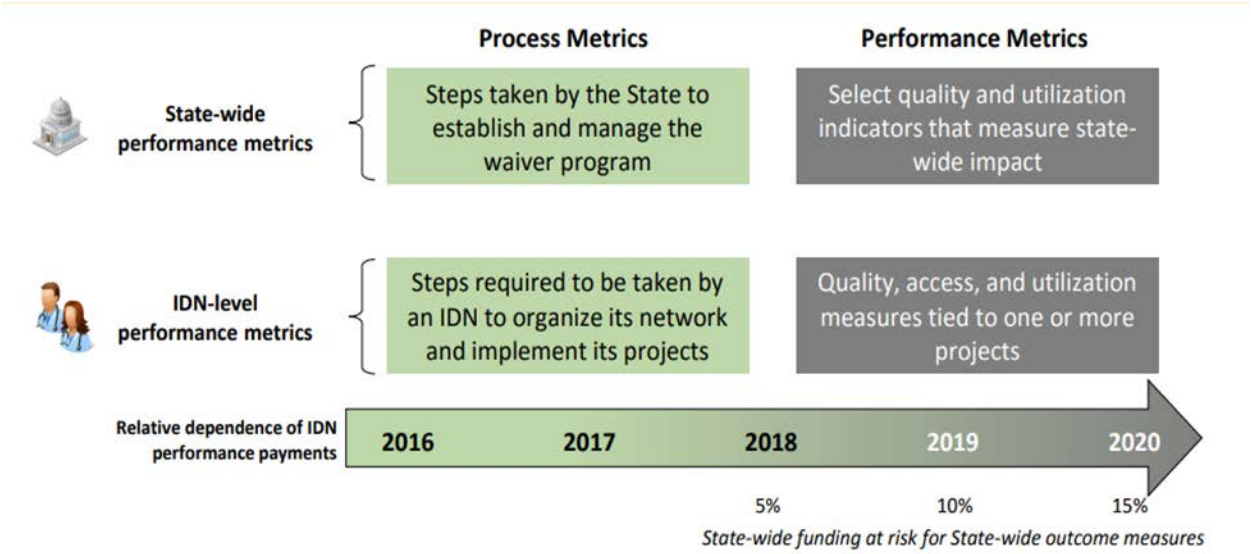
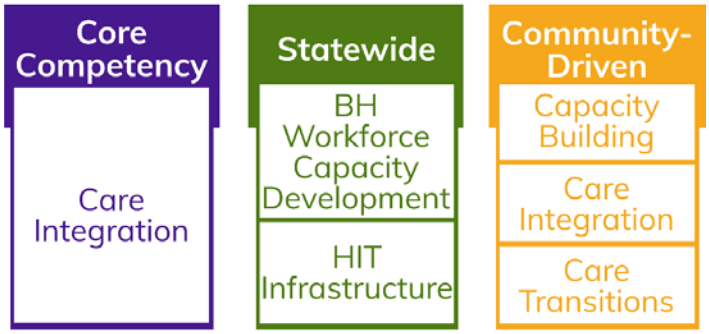


Image Source: NH DHHS, New Hampshire's DSRIP Waiver Program [Slide deck]; 2016.

2.7 Overview of Integrated Delivery Network Demonstration Projects

Each IDN is participating in two statewide projects; one mandatory core competency project; and, three community-driven projects selected from a menu defined by DHHS (Figure 2.7—1).[16] Each IDN selected at least one project to be focused exclusively on the substance use disorder population.[9] IDN Project Plans were submitted to NH DHHS by October 31, 2016, and were approved on September 1, 2017.

Figure 2.7—1: IDN Demonstration Projects



2.7.1 Statewide Projects

Each IDN is required to implement two Statewide Projects designed to address the following critical elements of New Hampshire's vision for transformation:

- **Behavioral Health Work Force Capacity Development Project** - to develop a workforce equipped to provide high-quality, integrated care throughout the state; and,
- **Health Information Technology Planning and Development Project** - to establish an HIT infrastructure that allows for the exchange of information among providers and supports a robust care management approach for Beneficiaries with behavioral health disorders.

Table 2.7—1 below provides a summary of Demonstrations statewide projects.

Table 2.7—1: Demonstration Statewide Projects

	Project	Description
A1	Behavioral Health Workforce Capacity Development	This project and its associated taskforce largely targets policy, billing/coding, education, and licensing strategies.[17] Its goal is to establish an enhanced community-based behavioral health service capacity through the education, recruitment, retention efforts and training of professional and peer workforce to provide comprehensive care for substance use disorder and mental health.[19]
A2	Health Information Technology (HIT) Infrastructure to Support Integration	This project is designed to increase the HIT ecosystem within the state to support care integration.[19] The initiatives of the A2 project include 1) implementing the Shared Care Plan, Secure Message Exchange, and Event Notification software packages, as well as 2) regularly submitting measures data to Massachusetts eHealth Collaborative for data aggregation.[20]

2.7.2 IDN Core Competency Project

In addition to the statewide projects, each IDN is also required to implement an Integrated Healthcare Core Competency Project to ensure that primary care, behavioral health, and social service needs are routinely and systematically addressed across care settings. The Core Competency Project is designed to establish systems that enable providers to prevent as well as detect, diagnose, treat and manage behavioral and physical health disorders using established standards of care, while at the same time identifying and addressing social determinants of health. Table 2.7—2 below provides a description of the Demonstration Core Competency Project.

Table 2.7—2: Core Competency Project

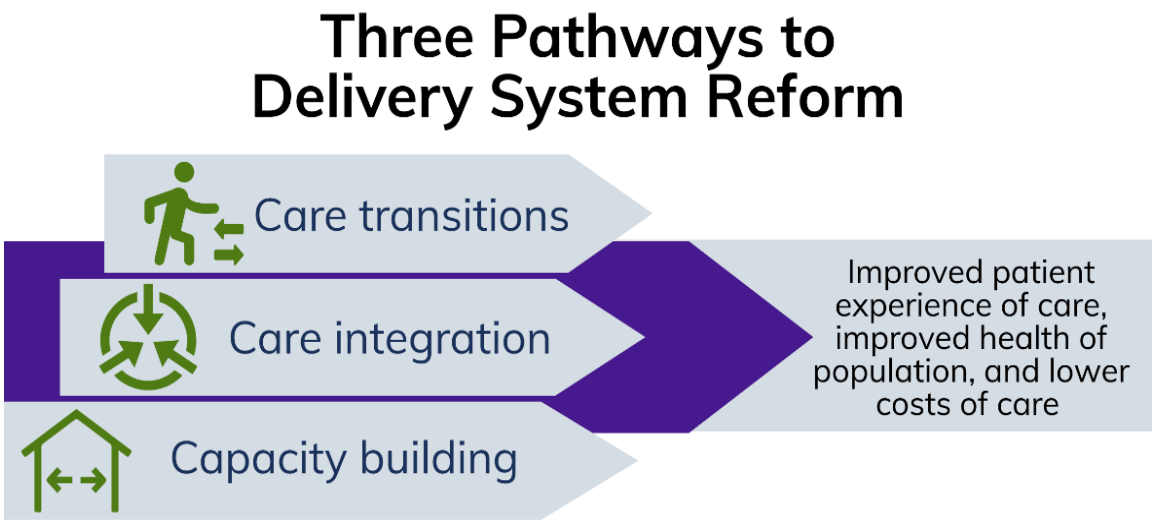
	Project	Description
B1	Integrating Behavioral Health and Primary Care	The Demonstration requires that all IDNs participate in a project focused on integrating behavioral health and primary care. IDNs dictate mode of implementation in each community.[9] Through the project, the IDN will facilitate partnership between primary care and behavioral health providers to integrate care for patients with behavioral health disorders, reflecting the highest possible levels of collaboration and integration as defined by SAMHSA's Levels of Integrated health care.[21] Implementing this model will better enable providers to prevent and detect, diagnose, treat and manage behavioral and medical disorders using the following care standards: • Universal screening - using Comprehensive Core Standardized Assessment (CCSA) framework • Software that promotes information sharing and care management, including integrated electronic medical records • Multidisciplinary care teams (MDCT) that provide care management, care coordination, and support for care transition

2.7.3 Community Driven Projects

The menu specified by DHHS for Community-Driven Projects was organized into three categories designed to facilitate the implementation of Demonstration goals. These categories leverage NH DHHS' three different pathways to delivery system reform, depicted in Figure 2.7—2. Each IDN selected one project from each category. The flexibility of the selection process allowed IDNs to pursue initiatives *"reflective of community-specific priorities identified through a behavioral health needs assessment and community engagement, to change the way that care is provided in a variety of care delivery settings and at various stages of treatment and recovery for sub-populations, and to use a variety of*

approaches to change the way care is delivered."[21] These projects are designed to facilitate the adoption of care models that offer a full spectrum of services for Beneficiaries who are at risk for, currently undiagnosed, or have an active behavioral health disorder(s).[21]

Figure 2.7—2: Project Pathways to Delivery System Reform,



Information Source: NH DHHS (2016), New Hampshire's DSRIP Waiver Program [Slide deck]

Mental Health and SUD treatment capacity-building projects (D1, D3) support treatment capacity and supplement workforce in all settings. Projects may develop workforce initiatives, new intervention programs, or implement alternative care delivery models.

Care integration projects (E1, E5) are designed to promote provider integration and collaboration between primary care, behavioral health care and community services by supporting physical and virtual integration, expanding programs that foster collaboration, and promoting integrated care delivery strategies that incorporate community-based social support providers.

Care transition projects (C1, C2) support the development of systems to support Medicaid Beneficiaries transitioning from institutional settings to the community or between organizations in the community by incentivizing provider collaboration and the adoption of evidence-based practices to support the behavioral health care needs of Beneficiaries. Table 2.7—3 outlines the Community-Driven projects.

Table 2.7—3: Community-Driven Projects

	Project	Description
Capacity Building Projects		
D1	Medication Assisted Treatment	Implement evidence-based programs combining behavioral and medication treatment for people with substance use disorders, with or without co-occurring chronic medical and/or mental health conditions. IDNs selecting this project will increase access to MAT programs through multiple settings, including primary care offices and clinics, specialty office-based ("stand alone") MAT programs, traditional addiction treatment programs, mental health treatment programs, and other settings. The goal is to successfully treat more individuals with substance use disorders, and for some people struggling with addiction, help sustain recovery.
D3	Expansion in Intensive SUD Options	Expanding capacity within an IDN for delivery of partial intensive outpatient, partial hospital, or residential treatment options for SUD, in conjunction with expansion of lower acuity outpatient counseling. These services are intended to result in increased stable remission of substance misuse, reduction in hospitalization, reduction in arrests, and decrease in psychiatric symptoms for individuals with co-occurring mental health conditions.
Care Integration Projects		
E4	Integrated Treatment for Co-Occurring Disorders	Individuals with serious mental illness (SMI) or serious emotional disturbances (SED) commonly experience obesity, tobacco addition, and other risk factors for the development of diabetes, heart and blood vessel diseases, and cancers leading to high disease burden and early mortality. This project involves the implementation of wellness programs that address physical activity, eating habits, smoking addiction, and other social determinants of health for adolescents with SED and adults with SMI through evidence-informed interventions, health mentors/coaches. These programs are aimed at reducing risk factors and disease burden associated with co-morbid chronic diseases, as well as reductions in preventable hospitalizations and Emergency Room visits.
E5	Enhanced Care Coordination for High Needs Population	Developing comprehensive care coordination/management services for high-need adult and child populations with multiple physical health and behavioral health chronic conditions. These services are intended to maintain or improve an individual's functional status, increase that individual's capacity to self-manage their condition, eliminate unnecessary clinical testing, address the social determinants creating barriers to health improvement, and reduce the need for acute care services.

	Project	Description
Care Transitions Projects		
C1	Care Transitions	Time-limited care transition program led by a multidisciplinary team that follows the 'Critical Time Intervention' (CTI) approach to providing care at staged levels of intensity to support patients with serious mental illness during transitions from hospital settings to the community.
C2	Community Re-entry Program for Justice-Involved Adults and Youth with SUD or Significant Behavioral Health Issues	Research indicates that significant numbers of adults in correctional facilities and youth in juvenile justice residential facilities have diagnosed and undiagnosed mental illness and/or substance use disorders. Community re-entry is a time-limited program to assist those individuals with behavioral health conditions to safely transition back into community life. The program is initiated pre-discharge and continues for 12 months post discharge. The program's objectives are to: (1) Support adults and youth leaving the state prison, county facilities or juvenile justice residential facilities who have behavioral health issues (mental health and/or substance misuse or substance use disorders) in maintaining their health and recovery as they return to the community; (2) Prevent unnecessary hospitalizations and ED usage among these individuals by connecting them with integrated primary and behavioral health services, care coordination and social and family supports.

Source: NH DHHS (2017) IDN Semi-Annual Report; NH DHHS (2018) Quarterly Report; DSRIP 2019 Annual Update

Table 2.7—4 identifies which of the following IDNs are pursuing which of the Community-driven projects.

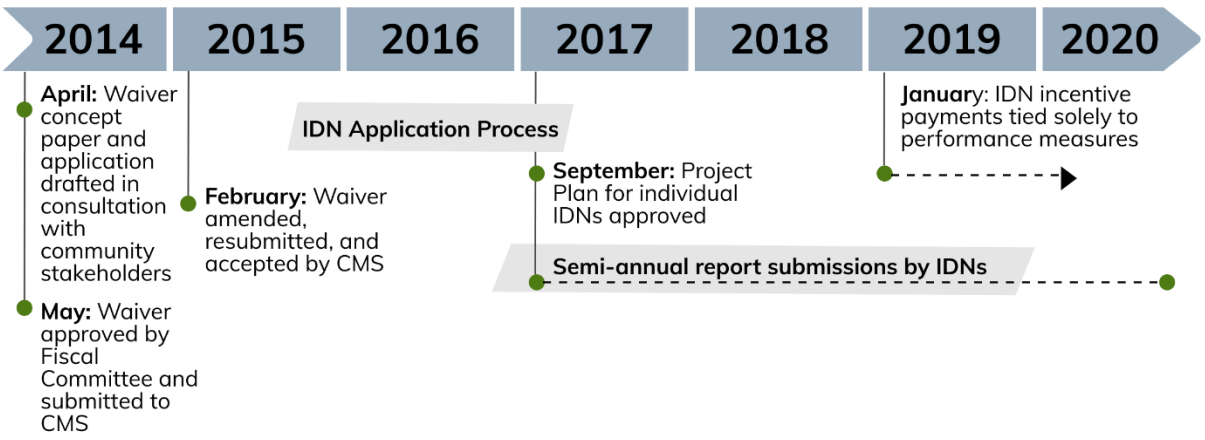
Table 2.7—4: DSRIP Community-Driven Projects by IDN

	Project Name	IDN1	IDN2	IDN3	IDN4	IDN5	IDN6	IDN7
Capacity Building	Medication Assisted Treatment		•					
	Expansion in Intensive SUD Treatment Options	•		•	•	•	•	•
Care Integration	Integrated Treatment for Co-Occurring Disorders			•	•			
	Enhanced Care Coordination for High Needs Population	•	•			•	•	•
Care Transitions	Care Transitions	•		•	•		•	•
	Community-Entry Programs for Justice-Involved Individuals with BH Issues		•			•		

Source: NH DHHS Quarterly Reports (2018), IDN Semi-Annual Reports (2017)

2.8 Demonstration Timeline

Figure 2.8—1 shows the timing of implementation of the NH DSRIP Demonstration, highlighting key reporting and incentive payment periods. Demonstration years align with calendar years, 2016-2020.



3. New Hampshire DSRIP Evaluation Study Design

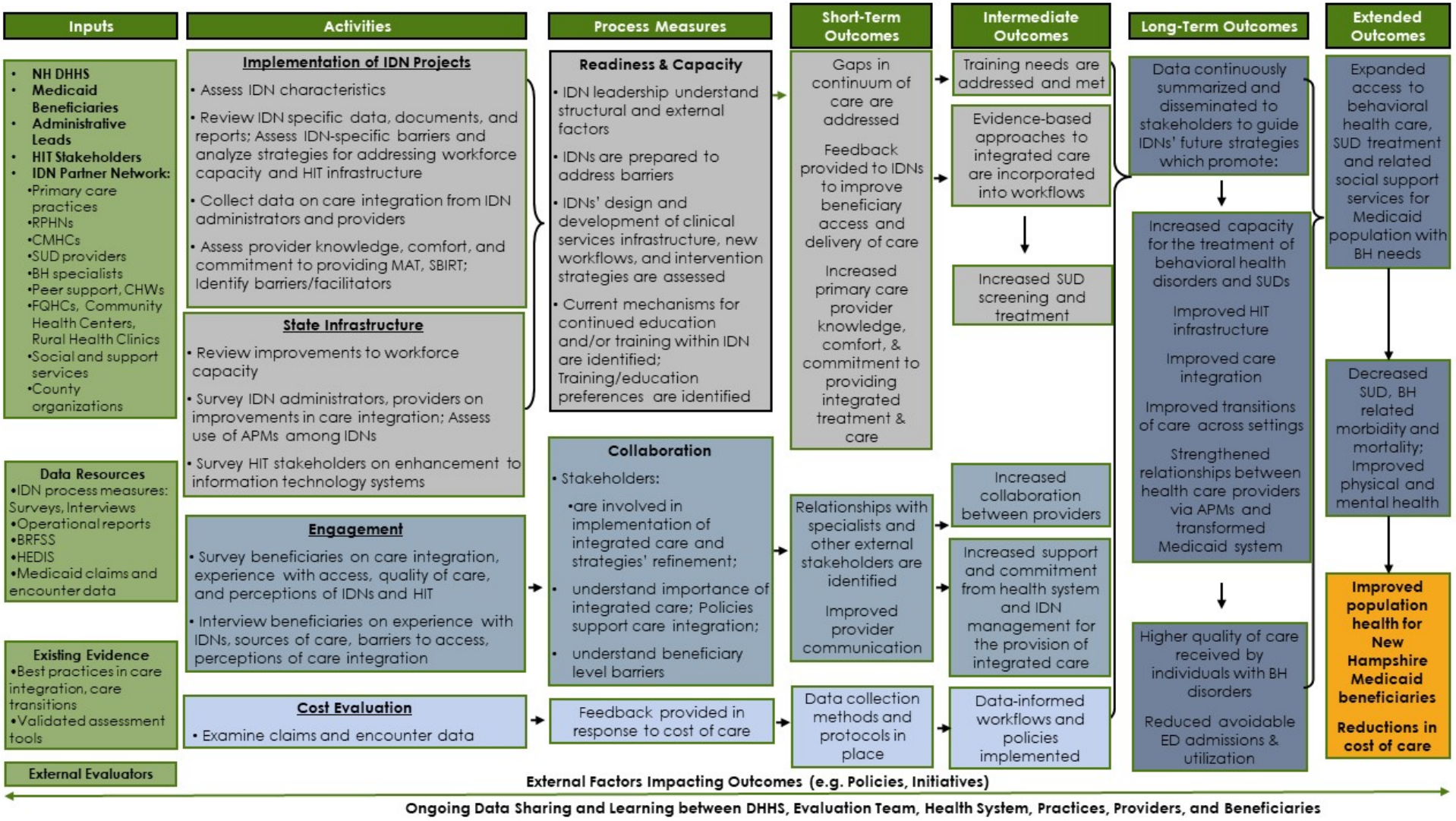
3.1 Overview of Independent Evaluation

The NH DSRIP Demonstration includes a robust mixed-methods evaluation implemented by an experienced team of health services researchers and evaluators from Catherine E. Cutler Institute (Cutler Institute) at the University of Southern Maine. The evaluation includes a strong public health perspective that applies a population health model ideal for evaluating the health and systems-level outcomes of the Demonstration. The evaluation design implemented by the independent evaluator was approved by CMS in August 2017 as required by the STC.

Implementation of a multi-level, multi-sector intervention is challenging because it requires significant buy-in from a diverse group of stakeholders as well as the coordination of a variety of activities across multiple settings. To ensure that the independent evaluation gained a robust and multi-dimensional understanding of the Demonstration, a mixed-methods design was used to conduct process and outcome evaluations that document and examine ongoing planning and implementation strategies and examine how these approaches enhance state infrastructure, reduce barriers to access, improve patient outcomes, and promote sustainability of alternative payment models (see Figure 3.1—1 for evaluation logic model). The primary goals of the independent evaluation are to:

- document implementation strategies and identify barriers and facilitators to implementation;
- assess the effectiveness of Demonstration activities at increasing the state's infrastructure and capacity to address behavioral health disorders among Medicaid Beneficiaries;
- evaluate the impact of the Demonstration strategies on increasing access and quality of care;
- examine the impact of the Demonstration strategies on service utilization and costs; and,
- examine if and how the Demonstration strategies have impacted the physical and behavioral health outcomes of Beneficiaries.

Figure 3.1–1: New Hampshire DSRIP Demonstration Overall Evaluation Logic Model



3.2 Overview of Research Questions

The DSRIP Demonstration evaluation is guided by five overarching research questions and corresponding hypotheses designed to explore the effectiveness of the Demonstration through a set of short-term and intermediary performance measures collected at appropriate times throughout the Demonstration period.

- **Research Question 1:** Was the DSRIP Demonstration effective in achieving the goals of better care for individuals (including access to care, quality of care, health outcomes), better health for the population, or lower cost through improvement? Was there any variation between IDNs/geographic regions/market areas? To what degree can improvements be attributed to the activities undertaken under DSRIP?
- **Research Question 2:** To what extent has the DSRIP Demonstration improved integration and coordination between providers? To what extent has the DSRIP Demonstration fostered the bi-directional and integrated delivery of physical health services, behavioral health services, SUD services, transitional care, and alignment of care coordination to serve the whole person? Was there any variation between IDNs/geographic regions/market areas?
- **Research Question 3:** To what extent has the DSRIP Demonstration improved the capacity of the state's behavioral health workforce to provide quality, evidence-based, integrated care?
- **Research Question 4:** To what extent has the DSRIP Demonstration enhanced the state's health IT ecosystem to support delivery system and payment reform? Have changes to the HIT ecosystem brought about by the DSRIP Demonstration specifically enhanced the IDNs concerning the following four key areas: governance, financing, policy/legal issues and business operations?
- **Research Question 5:** To what extent has the DSRIP Demonstration improved the IDNs' readiness to transition to or implement Alternative Payment Models (APMs)? Are IDNs making adequate preparations in data infrastructure, financial infrastructure, and other required changes needed to achieve the goal of 50% of Medicaid provider payments to providers using APMs by the end of the Demonstration period? Have the IDNs engaged with the state and managed care plans in support of that goal?

3.3 Research Questions and Hypotheses by Domain

The Cutler Institute examined the research questions defined in the CMS approved evaluation plan by assessing the 12 corresponding research hypotheses outlined below (Table 3.3—1).[i] Because a number of the research questions address a variety of goals and some metrics are relevant to multiple research questions, hypotheses have been organized

[i] Changes from the CMS approved evaluation plan are listed in Appendix E.

into the following seven key domains: infrastructure development, access to care, quality of care, integration of care, service utilization, cost of care, and population health. Each research question and corresponding hypothesis, described below, includes one or more evaluation measures. The methods used to test the hypotheses and answer the research questions are described in detail in the Methodology Section of the report (Section 4). The source of data and technical specifications for the measures are described in Appendix A.

Table 3.3—1: Evaluation Domains of Research Questions and Hypotheses

Domains:	Infrastructure Development	Access to Care	Quality of Care	Integration of Care	Service Utilization	Cost of Care	Population Health
Research Question 1: Was the DSRIP Demonstration effective in achieving the goals of better care for individuals (including access to care, quality of care, health outcomes), better health for the population, or lower cost through improvement? Was there any variation between IDNs/geographic regions/market areas? To what degree can improvements be attributed to the activities undertaken under DSRIP?							
Hypothesis 1.1 Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.		■	■		■		
Hypothesis 1.2 Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will have greater access to care at the end of the Demonstration regardless of IDN, geographic location, or market area.		■					
Hypothesis 1.3 Population health will improve as a result of the implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.							■
Hypothesis 1.4 The total cost of care will be lower for Medicaid Beneficiaries with behavioral health disorders or co-occurring physical and behavioral health disorders after IDNs are operating regardless of IDN, geographic location, or market area.						■	

Domains:	Infrastructure Development	Access to Care	Quality of Care	Integration of Care	Service Utilization	Cost of Care	Population Health
Hypothesis 1.5 The rate of avoidable hospital re-admissions for individuals within IDNs with behavioral health disorders or co-occurring physical and behavioral health disorders will be lower at the end of the Demonstration than prior to the Demonstration regardless of IDN, geographic location, or market area.							
Hypothesis 1.6 The statewide rate of avoidable hospital admissions for individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will be lower at the end of the Demonstration than prior to the Demonstration regardless of IDN, geographic location, or market area.							
Hypothesis 1.8 The average length of stay for inpatient psychiatric care at New Hampshire Hospital (NHH, NH's state run psychiatric facility) will be lower at the end of the Demonstration than prior to the Demonstration, as options for community-based care increase regardless of IDN, geographic location, or market area.							

Domains:	Infrastructure Development	Access to Care	Quality of Care	Integration of Care	Service Utilization	Cost of Care	Population Health
Research Question 2: To what extent has the DSRIP Demonstration improved integration and coordination between providers? To what extent has the DSRIP Demonstration fostered the bi-directional and integrated delivery of physical health services, behavioral health services, SUD services, transitional care, and alignment of care coordination to serve the whole person? Was there any variation between IDNs/geographic regions/market areas?							
Hypothesis 2.1 Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.							
Research Question 3: To what extent has the DSRIP Demonstration improved the capacity of the state's behavioral health workforce to provide quality, evidence-based, integrated care?							
Hypothesis 3.1 Capacity to deliver evidenced-based behavioral health treatment will increase as a result of the DSRIP Demonstration statewide and IDN specific project activities.							

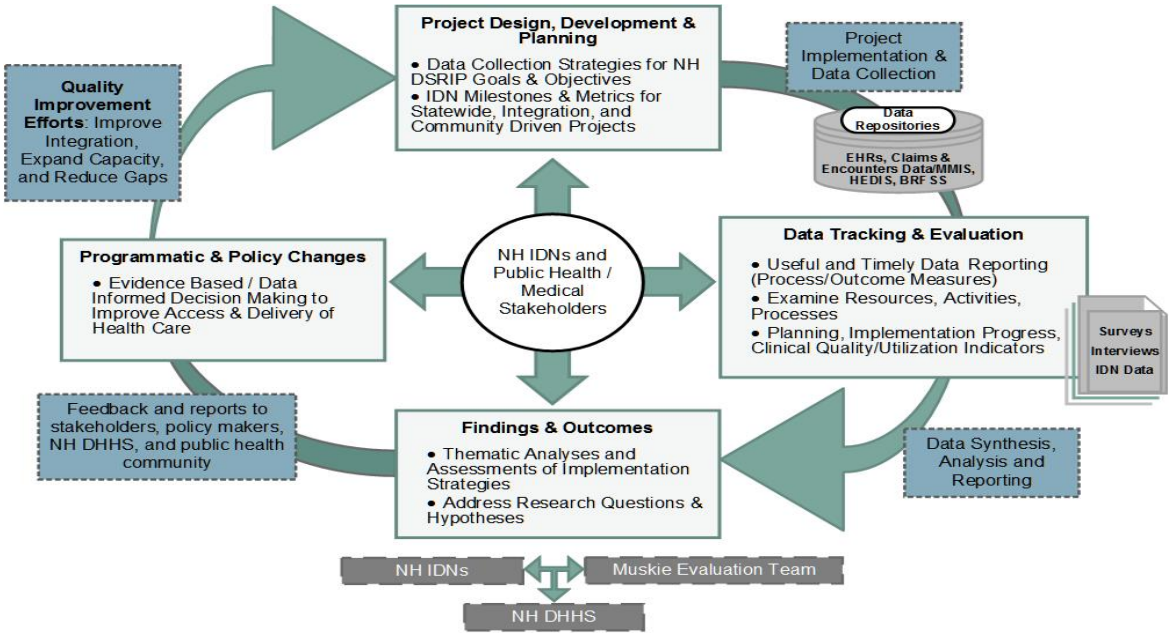
Domains:	Infrastructure Development	Access to Care	Quality of Care	Integration of Care	Service Utilization	Cost of Care	Population Health
Research Question 4: To what extent has the DSRIP Demonstration enhanced the state's HIT ecosystem to support delivery system and payment reform? Have changes to the HIT ecosystem brought about by the DSRIP Demonstration specifically enhanced the IDNs in regard to the following four key areas: governance, financing, policy/legal issues and business operations?							
Hypothesis 4.1 HIT infrastructure among the IDNs will improve as a result of the DSRIP Demonstration statewide and IDN specific project activities.	■						
Hypothesis 4.2 HIT strategies implemented during the DSRIP Demonstration will result in improved information exchange across settings and enhanced care management for Beneficiaries with behavioral health disorders.				■			
Research Question 5: To what extent has the DSRIP Demonstration improved IDNs' readiness to transition to or implement Alternative Payment Models (APMs)? Are IDNs making adequate preparations in data infrastructure, financial infrastructure, and other required changes needed to achieve the goal of 50% of Medicaid provider payments to providers using APMs by the end of the Demonstration period? Have the IDNs engaged with the state and managed care plans in support of that goal?							
Hypothesis 5.1 DSRIP Demonstration activities have improved the IDNs' ability to make the necessary changes to their systems to transition to or implement APMs and achieve the DSRIP goal.	■						

3.4 Evaluation Framework

Adopting the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) framework as a method to frame evaluation questions and corresponding hypotheses,[22,23] the independent evaluation of the NH DSRIP Demonstration is designed to build knowledge and provide valuable feedback to help inform the implementation process. Evaluation activities, also rooted in the RE-AIM framework, are designed to assess potential public health impacts as well as the possibility for dissemination of intervention models. This evaluation uses the RE-AIM framework to examine the ***reach*** (striving for representative and population-based interventions), ***effectiveness*** in practice and community settings, as well as effective models for integration and care coordination that can be easily ***adopted, implemented***, and ***maintained*** over time in varied settings.[19] The framework is particularly well suited for this evaluation because of its emphasis on understanding the roles of reach and effectiveness of programs, as well as the importance of understanding the implementation processes and sustainability of care delivery networks and alternative payment models that address the needs of Medicaid Beneficiaries with complex health care needs.

The major components of the evaluation framework include: describing programs (capturing barriers and facilitators), gathering evidence (collecting data and calculating measures), summarizing and justifying conclusions (quantitative and qualitative data analysis), and disseminating lessons learned (evaluation reports).

Figure 3.4—1: Evaluation Approach



The NH DSRIP evaluation includes a strong public health perspective ideal for evaluating systems, networks and Beneficiary-level outcomes. In addition, Quality Improvement (QI) tools and techniques, in tandem with more traditional evaluation methods, were applied throughout the Demonstration to examine the progress and effectiveness of implementation activities allowing for the early identification of opportunities for improvement. Ongoing data collection and feedback ensured that the evaluation captured implementation strategies and documented IDN activities, key metrics and milestones, as well as in-depth information that could be used to answer specific research questions and provide actionable feedback to key stakeholders (Figure 3.4—1).

3.5 Study Group and Comparison Group

The total possible study group for this evaluation included all New Hampshire Medicaid fee-for-service and Medicaid Care Management Program Beneficiaries with full Medicaid benefits, both children and adults, who had a documented mental health disorder and/or a substance use disorder. Given that brief periods of enrollment were less likely to have a significant impact on Beneficiaries' outcomes, only Beneficiaries who were continuously enrolled in the Medicaid program for ten months or longer during each year of the evaluation period were included in the study group. In addition, some of the evaluation outcome measures had additional enrollment criteria as described in the measures specifications. As indicated in the CMS-Approved Evaluation all Beneficiaries with a behavioral health and/or a substance use disorder(s) are attributed to an IDN so this evaluation does not include a direct comparison group. In an effort to address this methodological challenge, the Demonstration evaluation uses a pre-post design which compares eligible Beneficiaries before and after program implementation. The comparison population includes New Hampshire Medicaid fee-for-service and Medicaid Care Management Program Beneficiaries; both children and adults, who have had a behavioral health disorder and/or a substance use disorder with full Medicaid benefits in the three years prior to the implementation of the Demonstration. For more detailed information on the study group and comparison group, including inclusion and exclusion criteria, please refer to the overview of the pre-post study design in the methodology section.

3.6 Evaluation Data Sources and Measures

This Demonstration includes a mixed-methods design that utilizes data from multiple sources to comprehensively evaluate the DSRIP Demonstration research hypotheses. These data include administrative data (e.g., Medicaid claims and encounter data), survey and in-depth interview data collected specifically for this evaluation, and documentation provided by the IDNs in quarterly operational reports. Given the wide scope for the evaluation, the measures selected by NH DHHS capture a broad range of topics including: health outcomes, cost reduction, access to care, integration of care, care coordination (particularly around transitions of care), consumer satisfaction, and infrastructure development (workforce, HIT, payment models). The study measures are organized by domains to tie them more closely to

hypotheses and research questions in the evaluation plan. For example, Research Question 1, Hypothesis 1.1 has been broken into three domains: access to care, quality of care, and utilization. Below is an overview of the evaluation measures by key domain with corresponding information on the data source and type.

3.6.1 Infrastructure Development Data Sources and Measures

Workforce development, HIT, and payment models are all major components of healthcare infrastructure. An issue brief by Commonwealth Fund describes three essential components for integration of health services, especially for Medicaid Beneficiaries, which include: (1) a coordinating mechanism; (2) quality measurement and data-sharing tools; and, (3) aligned financing and payment.[24] The Demonstration is designed to address these components through their capacity building efforts. Measures under the domain of ***Infrastructure Development and Capacity Building*** are part of the implementation and process evaluation; they examine key areas of interest including HIT enhancements, workforce development and APMs (Table 3.6—1).

Table 3.6—1: Infrastructure Development

	Measure Name	Data Source	Data Source Type
Hypothesis 3.1			
3.1.1	Size and Training of the Provider Network	IDN Documents	Administrative
Hypothesis 4.1			
4.1.1	Enhancements to the HIT System	Survey, IDN Documents	Survey, Administrative
4.1.2	Perceptions of the Enhanced HIT System	Key Stakeholder Interviews	Qualitative
4.1.3	Perceptions of the Usability and Utility of the Enhanced HIT System	Key Stakeholder Interviews	Qualitative
4.2.3	Perceptions of Improved Information Exchange	Key Stakeholder Interviews	Qualitative
Hypothesis 5.1			
5.1.1	Transitioning to Alternative Payment Methods	IDN Documents	Administrative
5.1.2	Experiences Transitioning and Implementing APMs	Key Stakeholder Interviews	Qualitative

3.6.2 Access to Care Data Sources and Measures

Medicaid Beneficiaries with behavioral health conditions often experience barriers to accessing medical care and treatment. Key barriers include shortage of mental health providers, stigma, and lack of mental health education and awareness.[25-27] Financial barriers also prevent many from obtaining needed mental health care.[28-30] Measures under

the domain of ***Access to Care*** are designed to examine the ease with which Beneficiaries in NH can obtain needed medical services for behavioral or physical health conditions (Table 3.6–2).

Table 3.6–2: Access to Care Measures

	Measure Name	Data Source	Data Source Type
Hypothesis 1.1			
1.1.12	Cervical Cancer Screening	BRFSS	Administrative
1.1.13	Breast Cancer Screening	Medicaid Claims and Encounters	Administrative
1.1.14	Colorectal Cancer Screening	BRFSS	Administrative
1.1.15	Cholesterol Screening	Medicaid Claims and Encounters	Administrative
1.1.16	Adolescent Well-care Visit	Medicaid Claims and Encounters	Administrative
Hypothesis 1.2			
1.2.1	Beneficiary Experiences of Accessing Care	Key Stakeholder Interviews	Qualitative
1.2.3	Annual Primary Care Visit	Medicaid Claims and Encounters	Administrative
1.2.3	Annual Primary Care Visit- ages 12-19	Medicaid Claims and Encounters	Administrative
1.2.4	Behavioral Health Care Visits	Medicaid Claims and Encounters	Administrative
1.2.5	Substance Use Treatment Services	Medicaid Claims and Encounters	Administrative
1.2.6	Adolescent Well-care Visit	Medicaid Claims and Encounters	Administrative

3.6.3 Quality of Care Data Sources and Measures

In their influential work on quality of care, the Institute of Medicine provides six aims for healthcare as safe, effective, timely, efficient, equitable, and people-centered[31] and further defines quality as "the degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."[32] Measures under the ***Quality of Care*** domain examine the extent to which health care services provided to individuals and patient populations improve desired health outcomes (Table 3.6–3).

Table 3.6—3: Quality of Care Measures

	Measure Name	Data Source	Data Source Type
Hypothesis 1.1			
1.1.1	Experiences of Health Care with DSRIP	Key Stakeholder Interviews	Qualitative
1.1.2	Antidepressant Medication Management	Medicaid Claims and Encounters	Administrative
1.1.3	Follow-Up After Hospitalization for Mental Illness	Medicaid Claims and Encounters, NH Hospital Discharge for non-claim	Administrative
1.1.4	Initiation and Engagement of Alcohol and Other Drug Dependence Treatment	Medicaid Claims and Encounters	Administrative
1.1.5	Adherence to Antipsychotic Medications for Individuals with Schizophrenia	Medicaid Claims and Encounters	Administrative
1.1.6	Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications	Medicaid Claims and Encounters	Administrative
1.1.7	Diabetes Screening for People with Diabetes and Schizophrenia	Medicaid Claims and Encounters	Administrative
1.1.8	Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia	Medicaid Claims and Encounters	Administrative
1.1.9	Follow-up Care for Children Prescribed ADHD Medication	Medicaid Claims and Encounters	Administrative
1.1.10	Metabolic Monitoring for Children and Adolescents on-Antipsychotics	Medicaid Claims and Encounters	Administrative
1.1.11	Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics	Medicaid Claims and Encounters	Administrative
1.1.20	Use of Opioids at High Dosage	Medicaid Claims and Encounters	Administrative

3.6.4 Integration of Care Data Sources and Measures

SAMHSA defines integrated care as the systematic coordination of general and behavioral healthcare, characterized by a high degree of collaboration and communication among health professionals.[33] Measures under the *Integration of Care* domain examine the extent to which DSRIP Demonstration activities foster care integration, coordination, and transitions across providers (Table 3.6—4).

Table 3.6—4: Integration of Care Measures

	Measure Name	Data Source	Data Source Type
Hypothesis 2.1			
2.1.1	Fragmented Care	Medicaid Claims and Encounters	Administrative
2.1.5	Receipt of Necessary Care Composite Score	CAHPS® Survey	Surveys
2.1.6	Timely Receipt of Health Care Composite Score	CAHPS®/QHP Experience of Care Survey	Administrative
2.1.7	Care Coordination Composite Score	CAHPS®/QHP Experience of Care Survey	Administrative
2.1.8	Behavioral Health Composite Score	CAHPS®/QHP Experience of Care Survey	Administrative
2.1.9	Mental Illness Hospitalization Follow-Up (7 days)	Medicaid Claims and Encounters, NH Hospital Discharge for non-claim	Administrative
2.1.10	Mental Illness Hospitalization Follow-Up (30 days)	Medicaid Claims and Encounters, NH Hospital Discharge for non-claim	Administrative
2.1.11	Mental Illness Emergency Department Visit Follow-Up (30 days)	Medicaid Claims and Encounters	Administrative
2.1.12	Alcohol/Drug Dependence Emergency Department Visit Follow-Up (30 days)	Medicaid Claims and Encounters	Administrative
2.1.13	Ratings of Improvement in Care Coordination and Integration	Surveys	Surveys
2.1.14	Patient Experiences of Care Integration and Coordination	Key Stakeholder Interviews	Qualitative
2.1.15	Practice and Provider Experiences of Care Integration and Coordination	Key Stakeholder Interviews	Qualitative
Hypothesis 4.2			
4.2.1	Care Coordination Composite Score	CAHPS®/QHP Experience of Care Survey	Administrative
4.2.2	Ratings of Improvement in Care Coordination and Integration	Surveys	Surveys

3.6.5 Service Utilization Data Sources and Measures

The *Service Utilization* domain uses relevant measures to describe and track Beneficiaries' use of services for the purpose of preventing and curing health problems, promoting maintenance of health and well-being, or obtaining information about one's health status and prognosis.

Table 3.6—5: Service Utilization Measures

	Measure Name	Data Source	Data Source Type
Hypothesis 1.1			
1.1.18	Emergency Department (ED) Visits	Medicaid Claims and Encounters	Administrative
1.1.19	Potentially Preventable Emergency Department (ED) Visits	Medicaid Claims and Encounters	Administrative
Hypothesis 1.5			
1.5.1	Hospital Readmission for Any Cause	Medicaid Claims and Encounters	Administrative
1.5.2	Hospital Readmission for Behavioral Health Disorder	Medicaid Claims and Encounters	Administrative
Hypothesis 1.6			
1.6.1	Hospital Admission for Ambulatory Care Sensitive Admission for Those with Behavioral Health Disorders	Medicaid Claims and Encounters	Administrative
Hypothesis 1.8			
1.8.1	Length of Stay for Inpatient Psychiatric Care	Medicaid Claims and Encounters, NH Hospital Discharge for non-claim	Administrative

3.6.6 Population Health Data Sources and Measures

While the DSRIP Demonstration goals emphasize improving access and quality of care for Medicaid Beneficiaries, the Demonstration also aims to enhance local delivery systems and address the overall population health priorities of the state.[35] Measures under the domain of *Population Health* examine Demonstration strategies for addressing public health priorities as well as the corresponding improvements in population health indicators (Table 3.6—6).

Table 3.6—6: Population Health Measures

	Measure Name	Data Source	Data Source Type
Hypothesis 1.3			
1.3.1	Strategies to Improve Population Health	Key Stakeholder Interviews	Qualitative
1.3.2	Improvements in Population Health	BRFSS	Administrative

3.6.7 Cost of Care Data Sources and Measures

Measures under the domain of ***Cost of Care*** examine the health care expenditures associated with providing care to Beneficiaries (Table 3.6—7). Recent research examining the use of alternative payment methodology to support cost savings and promote the financial sustainability of integrating care models found that non-FFS payments for behavioral health services integrated into primary care may provide significant cost savings for public payers (e.g., Medicaid).[34]

Table 3.6—7: Cost of Care Measures

	Measure Name	Data Source	Data Source Type
Hypothesis 1.4			
1.4.1	Total Costs of Care	Medicaid Claims and Encounters	Administrative
1.4.2	Total Cost of All Inpatient Care	Medicaid Claims and Encounters	Administrative
1.4.3	Total Cost of All Outpatient Care	Medicaid Claims and Encounters	Administrative
1.4.4	Total Cost of Emergency Department Care	Medicaid Claims and Encounters	Administrative
1.4.5	Total Cost of Behavioral Health Care	Medicaid Claims and Encounters	Administrative
1.4.6	Total Cost of Outpatient Behavioral Health Care	Medicaid Claims and Encounters	Administrative
1.4.7	Total Cost of Inpatients Behavioral Health Care	Medicaid Claims and Encounters	Administrative
1.4.8	Total Cost of Emergency Department Behavioral Health Care	Medicaid Claims and Encounters	Administrative

3.7 Evaluation Period

The analysis for many of the quantitative measures will include a pre-post test design, which will compare rates and outcomes in two periods: a baseline period and an evaluation period. The baseline period is the period prior to implementation of the NH DSRIP Demonstration.

The evaluation period will be used to assess the impact of the NH DSRIP Demonstration. Table 3.7—1 Evaluation Period Data below details the evaluation periods for the full evaluation as well as those presented in the interim and final reports by data source.

Table 3.7—1: Evaluation Period Data

Data Source	Baseline Period	Demonstration Period	Interim Report Includes:	Final Report Will Include:
Administrative	January 2013 to December 2015	January 2016 to December 2020	January 2013 to December 2017	January 2013 to December 2020
NH BRFSS	2014	2017 - 2019	2014, 2017	2014, 2017, 2018, 2019
Beneficiary Experience Survey	2019 Administration	2020 + 2021 Administrations	2019 Administration	2019, 2020, 2021 Administrations
Stakeholder Surveys	April - November 2019 Administration: Wave 1	October 2020 - May 2021 Administration: Wave 2	Wave 1 of Surveys	Waves 1+2 of Surveys
Interviews	August - November 2019 Administration: Wave 1	February - May 2021 Administration: Wave 2	Wave 1 of Interviews	Waves 1+2 of Interviews
IDN Data	N/A – Trending over time		2017-2019	2017-2020

4. Methodology

4.1 Implementation and Process Evaluation

The summative evaluation focuses on documenting the factors external and internal to the IDNs that may have influenced implementation. The internal factors will include documenting and comparing implementation tactics within and across IDN sites and evaluating strategies used to overcome barriers to delivering integrated care, enhancing capacity to address behavioral health, and enhancing care coordination across care settings. Evaluation activities will also focus on documenting and tracking the impact of strategies aimed at improving state infrastructure, including increasing behavioral health workforce capacity; enhancing information technology solutions to support ongoing care planning, management, and coordination; and, the transition to and implementation of APMs.

4.1.1 Key Stakeholder Surveys

Stakeholder surveys were used to assess aspects of the DSRIP Demonstration that could not be gathered from administrative health care data. Four key stakeholder groups were surveyed: IDN administrators, health information technology (HIT) stakeholders, health care and community-based providers, and Medicaid Beneficiaries. Survey topics included: improvements in care coordination and integration; perceptions of the implementation process; HIT infrastructure; and, transitions to APMs.

4.1.1.1 Data Collection Procedures and Analysis of IDN Administrator Survey

4.1.1.1.1 Survey Design

The IDN Administrator Survey, created in partnership with key stakeholders including NH DHHS staff, was designed to capture information on the implementation process and progress of Demonstration activities. The survey captured information on a number of key domains corresponding to evaluation research questions and hypotheses including: barriers and facilitators to implementation; progress of capacity building efforts; perceived effectiveness of the DSRIP Demonstration and corresponding projects; programmatic impact; and, administrator observations of sustainability efforts. The majority of questions were Likert scales with additional options for open-ended responses where IDN Administrators could elaborate on their responses.

4.1.1.1.2 Sampling, Recruitment and Data Collection

Each Integrated Delivery Network has one to two IDN Administrators (based on the organizational structure of the IDN). A distribution list of potential respondents (n=10) was provided to the evaluation team by NH DHSS. Surveys were deployed electronically using Snap Survey software in September of 2018 with the data collection period completed in October of 2018. The overall response rate was 80% (n=8).

4.1.1.1.3 Data Analysis

Analysis of IDN Administrator surveys was done using basic descriptive statistics. Frequencies were calculated using SPSS 25, and open-ended questions were coded using qualitative thematic analysis techniques.

4.1.1.1.4 Respondent Characteristics

Eight administrators representing all seven IDNs completed surveys. No demographic information was analyzed due to small survey sample size.

4.1.1.2 HIT Survey Data Collection Procedures and Analysis

4.1.1.2.1 Survey Design

The HIT Survey, created in partnership with key stakeholders including NH DHHS staff, was informed by information collected as part of the NH DSRIP mid-point assessment. The HIT

survey was designed to capture information on the implementation process and progress of the Demonstration HIT activities. HIT stakeholders were surveyed about their views and knowledge of: software implementation and use throughout NH and within individual IDNs, HIT activities and enhancements affecting clinical workflows and coordination of care, and successes and challenges with the HIT infrastructure. The majority of questions were Likert scales with additional options for open-ended responses where HIT stakeholders could elaborate on their responses.

4.1.1.2.2 Sampling, Recruitment and Data Collection

NH DHHS provided the distribution list for the survey. Surveys were deployed electronically using Snap Survey software in October of 2018 with the data collection period completed in November of 2018. The overall response rates varied by IDN, for an overall response rate of 36% (See Table 4.1—1).

Table 4.1—1: HIT Stakeholder Survey Response Rates

IDN	Completed Surveys	Total Survey Respondents	IDN Response Rate	Respondent IDN Distribution
IDN 1	3	16	19%	7.1%
IDN 2	4	6	67%	9.5%
IDN 3	9	21	43%	21.4%
IDN 4	6	10	60%	14.3%
IDN 5	2	6	33%	4.8%
IDN 6	13	44	30%	31%
IDN 7	5	15	30%	11.9%
Total	42	118	36%	100%

4.1.1.2.3 Data Analysis

Analysis of HIT surveys was done using basic descriptive statistics. Frequencies were calculated using SPSS 25 and open-ended questions were coded using qualitative thematic analysis techniques.

4.1.1.2.4 Respondent Characteristics

The HIT Stakeholder Survey did not query demographic information from respondents, but the distribution list indicated the IDN affiliation of respondents. The distribution of IDN affiliation among respondents who completed the survey is shown in the right-most column of Table 4.1—1.

4.1.1.3 Provider Survey Data Collection Procedures and Analysis

4.1.1.3.1 Provider Survey Design

The evaluation team worked with NH DHHS staff to create the Provider Survey. This survey gathered information from DSRIP providers about their opinions on the successes and

barriers of: strategies aiming to promote care integration, information sharing and health information technology utilization, software utilization, and implementing the Comprehensive Core Standardized Assessment (CCSA). Additional questions were asked about resource needs, as well as overall successes/challenges to promoting care integration and information sharing. The majority of questions were Likert scales with additional options for open-ended responses to elicit more in-depth responses from IDN providers.

4.1.1.3.2 Sampling, Recruitment and Data Collection Procedures

NH DHHS provided a list of potential respondents representing a variety of providers across various sectors. Surveys were deployed electronically using Snap Survey software in October of 2018 with the data collection period completed in November of 2018. The overall response rates varied by IDN, for an overall response rate of 36% (See Table 4.1—2).

Table 4.1—2: Provider Survey Response Rates

IDN	Completed Surveys	Total Survey Respondents	IDN Response Rate	Respondent IDN Distribution
IDN 1	13	36	36%	16%
IDN 2	10	29	34%	12.3%
IDN 3	23	108	21%	28.4%
IDN 4	8	43	19%	9.9%
IDN 5	15	35	43%	18.5%
IDN 6	1	5	20%	1.2%
IDN 7	11	34	32%	13.6%
Total	81	290	28%	100%

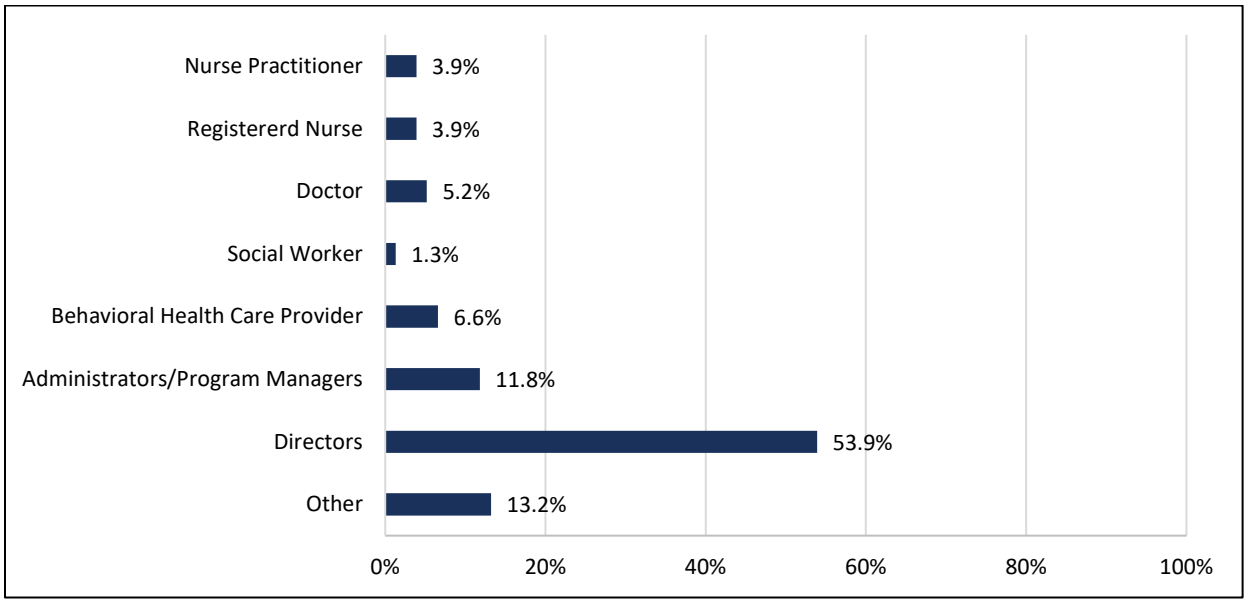
4.1.1.3.3 Respondent Characteristics

The distribution of IDN affiliation among respondents who completed the survey is shown in the right-most column of Table 4.1—2.

The majority of respondents to the Provider Survey were female (80%) and nearly two-thirds of providers were between the ages of 40-59. Given the broad spectrum of health care workers who participated in the training, it is not surprising that women comprised the majority of the sample. Recent statistics indicate that women comprise 75% of healthcare practitioners and technical occupations as well as 87% of healthcare support occupations.[36] In addition, the age distribution among providers is consistent with aging behavioral health workforce and the lack of individuals entering the profession.[37]

Provider survey respondents primarily represented the healthcare sector (62.7%) and the social service sector (26.7%). Respondents largely represented directors and administrators (65.7%), individuals responsible for overseeing implementation of Demonstration strategies within their organization.

Figure 4.1—1: Provider Stakeholder Surveys Completed by Organizational Role



Respondents indicated diverse lengths of experience in their organizational role, with similar numbers reporting 1-3 years in role (36.8%), 4-10 years in role (30.3%), and more than 10 years in role (31.3%). Providers were fairly evenly distributed across delivery systems with approximately one-third reporting being involved in medical care (33.3%), behavioral health (32%) and social service delivery (28%). Slightly more than half (51.3%) of providers reported being involved in a multidisciplinary care team.

4.1.1.4 Beneficiary Experience Survey Data Collection Procedures and Analysis

4.1.1.4.1 Beneficiary Experience Survey Design

Working with the University of Massachusetts Medical School, the evaluation team ensured the design of the Beneficiary experience survey assessed: Beneficiary perceptions of care coordination and integration, health care access, and quality of care. Questions were drawn from standardized survey instruments, such as the Consumer Assessment of Healthcare Providers and Systems Clinician & Group Survey (CG-CAHPS) and the CMS Qualified Health Plan (QHP) enrollee experience survey. The survey was intended to assess Medicaid Beneficiaries' perceptions of their respective IDNs, such that improvements over time could be assessed by repeating the survey. Being mindful of respondent burden, the survey length did not exceed an average of 12 minutes. The survey instrument was finalized with NH DHHS approval.

4.1.1.4.2 Sampling, Recruitment and Data Collection

The University of Massachusetts Medical School oversaw sampling, recruitment and data collection procedures for the Beneficiary Experience survey. The final sample size was 9,450

for the first wave of the survey. The sample selection criteria is outlined below in Table 4.1—3. Data was collected via phone, mail, and online surveys during January and February of 2018. There were 3,509 completed interviews, for a final response rate of 38.3%.

Table 4.1—3: Beneficiary Survey Sampling Criteria

Criteria	Notes
Ages 18 and older	
Must have been continuously enrolled in Medicaid since June 10, 2018 or longer (with no more than one 30-day break in enrollment during that time period)	6-month look-back period based on data collection start date of 12/10/18
Currently attributed to an IDN	
Must have primary health coverage through Medicaid	
Must have visited a primary care physician since June 10, 2018	6-month look-back period based on data collection start date of 12/10/18

4.1.1.4.3 Data Analysis

4.1.1.4.3.1 Calculating CAHPS Composite Scores

The CAHPS macro was used to calculate mean scores for the multi-item composite measures and overall ratings. Using the macro enables the application of case mix adjustment (see below). The composite scores can be tracked to assess change over time over the course of the Demonstration. The CAHPS macro applies the following statistical tests:

- regression to perform case mix adjustment;
- global F-test to examine if there are differences among subgroups (i.e., IDNs) on mean scores; and,
- t-tests to compare the mean score for each IDN to the overall mean score.

4.1.1.4.3.2 Case Mix Adjustment

Case-mix adjustment was used to control for specific variables that may contribute to differences between groups. CAHPS recommends using general health status, age, and education for case-mix adjustment. In addition to the CAHPS-recommended variables, additional variables were controlled for. The full list of variables to be included for case-mix

adjustment is as follows: age, gender, education, race and ethnicity, general health status and mental health status.

4.1.2 Key Stakeholder Interviews

Qualitative methods are the preferred method for capturing in-depth data on topics that are not easily reduced to closed-ended questions or numeric estimates. Semi-structured interviews were utilized to gather in-depth data from stakeholders on aspects of the DSRIP Demonstration that could not be gathered from administrative data or stakeholder surveys. The evaluation relies on qualitative methods to investigate stakeholder experiences of the DSRIP Demonstration as well as to describe changes in the size and training of the IDNs' workforces. Four groups were interviewed: Medicaid Beneficiaries, health care and community-based providers, IDN administrators, and HIT stakeholders. Semi-structured interview guides were developed for each type of key informant interview. The interview guides were designed to gather information on key domains of interest with a specific focus on documenting the implementation process. For the first cycle of interviews, the goal was to conduct approximately 75 key informant interviews stratified by respondent type and IDN (See Table 4.1—4 for Completion Rates). Some IDNs had harder-to-reach Beneficiary populations within the interview period, and we reached 35 Beneficiary interviewees by exceeding targets in other IDNs.

Table 4.1—4: Key Stakeholder Interviews

		Sample Size	# Complete	% Complete
IDN 1	Admin	1	1	100%
	HIT	2	2	100%
	Provider	2	2	100%
	Beneficiary	5	4	80%
IDN 2	Admin	2	2	100%
	HIT	1	1	100%
	Provider	2	2	100%
	Beneficiary	5	5	100%
IDN 3	Admin	2	2	100%
	HIT	2	2	100%
	Provider	2	2	100%
	Beneficiary	5	4	80%

		Sample Size	# Complete	% Complete
IDN 4	Admin	1	1	100%
	HIT	1	1	100%
	Provider	2	2	100%
	Beneficiary	5	5	100%
IDN 5	Admin	1	1	100%
	HIT	2	2	100%
	Provider	2	2	100%
	Beneficiary	5	5	100%
IDN 6	Admin	1	1	100%
	HIT	2	2	100%
	Provider	4	4	100%
	Beneficiary	5	7	140%
IDN 7	Admin	2	2	100%
	HIT	1	1	100%
	Provider	3	3	100%
	Beneficiary	5	5	100%
Summary	Admin	10	10	100%
	HIT	11	11	100%
	Provider	17	17	100%
	Beneficiary	35	35	100%

4.1.2.1 Data Collection Procedures and Analysis for Administrator Interviews

4.1.2.1.1 Administrator Interview Protocol Development

The IDN Administrator Interview Protocol was created in partnership with key stakeholders including NH DHHS quality and DSRIP program staff, with the goal to capture information on the Demonstration's implementation process and progress to-date using a retrospective lens. The evaluation team's approach to these interviews was to ascertain lessons learned

and promising practices that could help guide New Hampshire throughout the remainder of the Demonstration. The interview included questions about the following topics:

- Successes and challenges regarding IDN planning, implementation and operation
- DSRIP program successes and challenges
- Perceived effects of DSRIP on care integration at provider and Beneficiary level
- Perception of how DSRIP HIT strategies and activities may have/have not yet advanced DSRIP goals
- Sustainability of the DSRIP project
- Progress made towards transition to APMs and the Administrator's perception of their role in that process

4.1.2.1.2 Sampling, Recruitment and Data Collection Procedures

Given the limited number of IDN Administrators, it was determined in the CMS-approved evaluation plan that all of them would be interviewed for the evaluation. Three IDNs have shared Administrator roles, and in those cases, the two individuals in those roles were interviewed together (n=10). The remaining IDNs have one Administrator each.

Evaluation team staff emailed IDN Administrators and offered times to be interviewed via telephone. Administrators responded and Cutler Institute staff scheduled interview times with assigned researchers, who sent consent language to the Administrators via email.

Interviews were conducted in August of 2019 using the approved, standardized, semi-structured protocol. Members of the evaluation team ensured that Administrators had read and understood the consent language emailed to them when the interview was scheduled. IDN Administrators had the opportunity to ask questions prior to the administration of the telephone interview. All interviews, which averaged approximately 40 minutes, were recorded, with permission of the interviewee, using encrypted digital audio recorders. Interview audio files were transcribed verbatim for analysis.

4.1.2.1.3 Data Analysis

Qualitative data from the key informant interviews were analyzed using established qualitative analytic techniques. Thematic analysis was used to examine semi-structured interview data for patterns across interviews. Themes were defined based on their appearance in the data and not on a pre-defined structure. For example, IDN Administrators may have described the Demonstration as improving care integration in six unique ways and impeding their care in four ways. Below is a summary of the key steps Cutler Institute used to analyze the qualitative data collected as part of the DSRIP evaluation. It is important to note that qualitative data analysis is an ongoing, fluid, and cyclical process. Although the

steps listed below are somewhat sequential, they did not always happen in isolation of each other.

a. *Process and Record Data:* After each interview, Cutler Institute staff immediately processed the information and recorded detailed notes. Staff used a standardized reflection sheet template after each interview so that post interview reflections were standardized across all data collection points. All qualitative interviews were digitally audio-recorded and transcribed verbatim for analysis.

b. *Data Reduction:* Qualitative data collection generally produces a wealth of data, but not all of it is meaningful. After data was collected, Beneficiaries of the evaluation team implemented a data reduction process in order to determine significance to transform the raw data into a simplified format that could be understood in the context of the research. The data reduction process was guided by the research questions and hypotheses laid out in the DSRIP evaluation plan.

c. *Identifying Meaningful Patterns and Themes:* In order for qualitative data to be analyzable, it must first be grouped into the meaningful patterns and/or themes that have been observed. This process is the core of qualitative data analysis. Some themes naturally emerged from the data while others evolved from the research questions. Once themes had been identified, the data was further organized into thematic groups to allow for continued analysis.

d. *Conclusion Drawing and Verification*: Data was coded and analyzed to identify systematic patterns and interrelationships across themes and/or content. Data was compared with quantitative data to further explicate and validate findings and to identify other areas needing exploration.

Software-assisted coding of interview transcripts was conducted using the qualitative analysis software program NVivo®. Two coders were used in order to ensure inter-coder reliability and the reliability of the analyses. Neither method was intended to support comparison between groups of interviewees or follow principles of statistical significance. The evaluation team used standard techniques to identify emergent themes, independently code transcripts, and resolve coding discrepancies or questions.

Thematic analysis of interview data was done iteratively to build a coding scheme for all textual data using the grounded theory technique, in which codes are drawn from the text and coding involves frequent comparative analysis of the data. Thematic analysis was conducted separately on each semi-structured interview transcript, for each group of interviewees using an inductive approach. Patterns in the transcripts were identified and grouped into themes. Themes were checked against the original transcripts for validity. The identified key themes and sub-themes were used to compile a codebook with emerging themes and constructs with attention to those elements suggested to be important for successful implementation. Interview data was triangulated with quantitative data to further explicate and validate findings and to identify other areas needing exploration.

4.1.2.2 Data Collection Procedures for Health Information Technology Interviews

4.1.2.2.1 HIT Interview Protocol Development

The HIT stakeholder interview protocol focused on gathering in-depth information on perceptions of the DSRIP HIT enhancement strategies, including whether HIT has enhanced governance, finance, policy/legal issues, and business operations during the DSRIP Demonstration. Given the legality of health data information sharing, an effort was made to understand the challenges and best practices around that domain.

4.1.2.2.2 Sampling, Recruitment and Data Collection Procedures

In July 2019, the evaluation team asked IDN Administrators for a list of HIT staff for the DSRIP project who were appropriate to interview. Administrators provided a list to Cutler Institute of these key HIT staff, and informed this staff Cutler Institute may contact them.

Cutler Institute staff emailed key HIT staff offering interview dates and times. Each responded, and Cutler Institute staff scheduled telephone interviews with HIT staff and assigned researchers, who sent consent language to the HIT staff via email as well as a secure conference phone line to use.

Using a standardized script developed by the evaluation team and approved by NH DHHS, members of the evaluation team ensured that HIT staff had read and understood the consent language emailed to them when the interview was scheduled. HIT staff had the opportunity to ask questions prior to the administration of the telephone interview. Interviews were administered using an approved, standardized, semi-structured protocol. All interviews were audio recorded, with permission of the interviewee, using encrypted digital audio recorders. HIT staff interviews averaged approximately 50 minutes. Interviews were conducted in August of 2019.

4.1.2.2.3 Data Analysis

All interviews with HIT staff were recorded, transcribed verbatim, coded and analyzed for patterns and themes in NVivo® (Version 12) using the same process described above in section 4.1.2.1.3.

4.1.2.3 Data Collection Procedures for Provider Interviews

4.1.2.3.1 Provider Interview Protocol Development

The provider interview protocol focused on documenting providers' experiences with care coordination and integration during the DSRIP Demonstration, as well as perceptions of the impact of HIT systems in assisting with ongoing management of patient care. The protocol was designed to gather information on barriers to integration of care and perceptions of how DSRIP may facilitate integration of care. The interview included questions about the following topics:

- Successful strategies perceived as promoting integration of care
- Barriers to integration of care for persons with behavioral health disorders
- Barriers to information-sharing between providers
- Successes with care integration related to DSRIP activities
- Perceived ease and usefulness of HIT strategies and software related to DSRIP
- Resources needed to implement evidenced-based care for persons with behavioral health disorders

4.1.2.3.2 Sampling, Recruitment and Data Collection Procedures

NH DHHS provided Cutler Institute staff with a list of 386 providers within the state. Cutler Institute stratified the list by IDN and three major provider types (physical health, behavioral health, and social services), and created a random sample for each IDN of 12-15 providers to recruit for a telephone interview.

To get to the sample size of 17, research staff attempted to reach 2 to 3 providers in all seven of the IDNs. It was determined that every attempt would be made to reach at least one physical health and one behavioral health provider within each IDN.

NH DHHS sent a global email to all providers on the list introducing them to the Cutler Institute evaluation team and giving them notice that they may be contacted to participate in an interview for the evaluation. The evaluation team then emailed providers in the sampling frame to offer available times to be interviewed via telephone. Providers that responded scheduled an interview with evaluation team staff, who sent consent language via email.

It was discovered in the recruitment phase that some providers on the list were HIT staff or in administrative positions within a health agency, further diminishing the total sampling pool. With approval from NH DHHS, the evaluation team then initiated snowball sampling, which is a probability sampling technique where existing study subjects recruit future subjects from among their peer group. For example, a HIT administrator at a behavioral health agency that was contacted during the provider recruitment and deemed not an appropriate subject, was then asked if there were providers within the agency that would like to be included.

Using a standardized script developed by the evaluation team and approved by NH DHHS, members of the evaluation team ensured that providers had read and understood the consent language emailed to them when the interview was scheduled. Providers had the opportunity to ask questions prior to the administration of the telephone interview. Interviews were administered using an approved, standardized, semi-structured protocol. All interviews were audio recorded, with permission of the interviewee, using encrypted digital

audio recorders. Provider interviews averaged approximately 40 minutes. Interviews were conducted between September and November of 2019.

4.1.2.3.3 Data Analysis

All interviews with IDN providers were recorded, transcribed verbatim, coded and analyzed for patterns and themes in NVivo® (Version 12) using the same process described above in Section 4.1.2.1.3.

4.1.2.4 Data Collection Procedures for Beneficiary Interviews

4.1.2.4.1 Beneficiary Interview Protocol Development

For the Beneficiary interview protocol, the evaluation team focused on documenting Beneficiary experiences with health care access and the quality of their care during the Demonstration. While developing the protocol, the evaluation team took into consideration that Beneficiaries attributed to an IDN would not know about that process, nor would they necessarily know what an IDN was or that they were participating in the Demonstration. Accordingly, the interview focused on gathering data on experiences with health care, usual source of care, barriers to access, provider communication, and perceptions of care integration, without mentioning the Demonstration or any IDN by name. The interview included questions on the following topics:

- Ease of referrals for treatment, ease of accessing care
- Barriers to accessing care
- Perception of provider(s) collecting social determinants of health information for the Comprehensive Core Standardized Assessment (CCSA)
- Quality of care: overall, perceived changes (good or bad) in last 12 months
- Perception of communication between various providers and between Beneficiary and provider(s)
- Use of HIT and/or technology in getting care and information from provider(s)

4.1.2.4.2 Sampling, Recruitment and Data Collection Procedures

The Cutler Institute evaluation team randomly selected New Hampshire Medicaid Beneficiaries ages 18+, that were continuously enrolled in Medicaid over the last 12 months (as of July 31 2019), had a behavioral health diagnosis, and attributed to an IDN based on the NH DHHS IDN attribution algorithm. The evaluation team further stratified by age and gender to ultimately sample 56 people from each IDN (total sample pool was 386 after DHHS eliminated Beneficiaries for whom contact information was not available). (Note: the first round of outreach was done with a sample of 28 from each IDN; after not reaching sample size, a new sample was pulled using the same criteria.) As part of the initial verbal

contact with Beneficiaries, the evaluation team interviewers asked if the Beneficiary had a health care visit in the last 12 months to further ensure they had contact with health care services within the IDN. If the Beneficiary did not have a health care visit in the last 12 months, they were screened out. To get to the sample size of 35, research staff attempted to reach five Beneficiaries in all seven of the IDNs. It was determined that the minimum number of Beneficiaries to reach would be four, as some IDNs had higher response rates from Beneficiaries for the interviews. Thus, there were two IDNs with four completed Beneficiary interviews, one IDN had seven interviews; the rest had five Beneficiaries interviewed.

Excel spreadsheets containing contact information were created and stored on a secure network drive that only key research staff could access. Minimal information necessary to contact Beneficiaries such as name, address, and phone number was included in the spreadsheets. Team members went from top to bottom of the Excel sheet list when making calls; every Beneficiary in the sample was called at least once.

Beneficiary outreach: first, a letter from the New Hampshire Department of Health and Human Services, Division of Medicaid Services, was mailed to all potential interviewees in the sample pool. The letter informed participants that a researcher from the University of Southern Maine might be calling them to ask if they were willing to schedule an interview to talk about their experience with their health care services. Research staff initiated telephone outreach to Beneficiaries approximately 5-7 days after the letters were mailed.

The evaluation team initially thought that in-person interviews at a location within the Beneficiary's IDN would be the preferred method of administration and room locations were secured, with assistance from staff at each IDN. It became clear early in the recruitment phase that due to Beneficiaries' transportation, mobility, and employment situations that telephone interviews were preferred over the in-person method.

Using a standardized script developed by the evaluation team and approved by NH DHHS, six members of the evaluation team simultaneously called potential interviewees from the sample. If necessary, multiple call attempts (up to three or more) within a two-week period were made to reach each potential interviewee to schedule an interview. Research staff logged the dispositions of each individual call attempt, for example, whether the call attempt resulted in a Refusal, Answering Machine, Not in Service, No Answer, Hang Up, or Completion. Research staff attempted to contact approximately 386 Beneficiaries to complete 35 interviews.

Beneficiaries agreeing to be interviewed were read consent language and had the opportunity to ask questions prior to the administration of the telephone interview. Interviews were administered using an approved, standardized, semi-structured protocol. All interviews were audio recorded, with permission of the Beneficiary, using encrypted digital audio recorders. Interviews took approximately 30 minutes. At the conclusion of each interview, when the recording stopped, the Beneficiary's mailing address was confirmed and

staff mailed a copy of the consent/research description and a $25 gift card as a sign of appreciation.

Interviews were conducted between September and November of 2019.

4.1.2.4.3 Data Analysis

All interviews with Medicaid Beneficiaries were audio recorded, transcribed verbatim, coded and analyzed for patterns and themes in NVivo® (Version 12) using the same process described above.

4.1.2.5 Administrative Documents

Administrative documents from IDNs were used to gain in-depth information on implementation progress, including changes in the workforce capacity, HIT infrastructure and progress towards APM implementation across IDNs over the course of the Demonstration. Document review was conducted on an ongoing basis, separately for each IDN. Review of quarterly operational reports were examined and summarized on an ongoing basis with a focus on identifying IDNs' progress towards meeting project milestones as well as identify any potential lessons learned and recommendations to improve the roll-out and/or design of the Demonstration.

4.2 Evaluation of DSRIP Performance Measures

4.2.1 Overview of Pre-Post Study Design

The Demonstration evaluation included a pretest-posttest design to assess the statewide impact of the Demonstration on outcome measures by examining trends in cost, service utilization, and quality of care for Medicaid Beneficiaries with behavioral health disorders attributed to the IDNs before and after the implementation of the Demonstration. The DSRIP Demonstration evaluation used NH DHHS administrative data to assess the receipt of services, estimate health care visits and costs, and analyze closed-ended survey questions. Quantitative analytic methods will also be used to compare outcomes and the extent of existing health and health care differences between sub-populations as well as between IDNs.

Administrative data was analyzed using statistically valid methods to test hypotheses and answer research questions. The evaluation team produced descriptive statistics to describe the population and look for associations. Results from descriptive statistics were used to help inform model specification for the multivariate analyses. A pre-post design (with clustering to account for Beneficiaries in multiple years) will be used to measure change over time. Depending on the outcome measure, the evaluation team ran Poisson, negative binomial, logistic, or generalized linear regression models. The team ran additional comparative analyses to examine within and between group differences across IDNs.

4.2.1.1 Evaluation Target and Comparison Populations

4.2.1.1.1 Study Group

The study group for this evaluation included all New Hampshire Medicaid fee-for-service and Medicaid Care Management Program Beneficiaries: both children and adults, who have had a behavioral health disorder with full Medicaid benefits. Behavioral health disorders range from moderate depression and anxiety to substance use and severe mental illness. In order for Beneficiaries to have adequate health care experiences during the year, they must have been continuously enrolled in the Medicaid program for ten months or longer to be included in the analysis study group. Individuals who did not have an eligible behavioral health disorder were excluded from the study population.

4.2.1.1.2 Comparison Group

Since all of the Demonstration's seven IDNs serve all Medicaid Beneficiaries with a behavioral health condition, there was no direct comparison group. Therefore, this evaluation uses a pre-post design. The comparison population included New Hampshire Medicaid fee-for-service and Medicaid Care Management Program Beneficiaries: both children and adults, who have had a behavioral health disorder and/or a substance use disorder with full Medicaid benefits in the three years prior to the implementation of the Demonstration.

Given that the providers and provider relationships created by the IDN structures did not exist and the ability to recreate these provider structures would be difficult, if not impossible, IDN attribution in the pre-periods 2013 and 2014 were based on geographic location. IDN attribution for 2015-2017 used the NH Beneficiary attribution files provided by NH DHHS. Identifying Beneficiaries for the pre-Demonstration period with a behavioral health disorder applied the same claims-based algorithm used by NH DHHS in their attribution algorithm.

Three criteria are used:

1. Beneficiaries receiving care at community mental health centers, or
2. Beneficiaries with a primary diagnosis code for a behavioral health disorder as defined by NH DHHS; or
3. Beneficiaries with a prescription for a therapeutic medication for a behavioral health disorder as defined by NH DHHS.

Beneficiaries who met one or more of the eligibility criteria were considered to have had a behavioral health disorder and were considered to be part of the study group. The analysis also included a comparison group for falsification tests that was comprised of Beneficiaries who have had no behavioral health disorders, as this population was not expected to be impacted by the Demonstration. Similar to the study group, these individuals were identified

through claims and eligibility data. The specific eligibility criteria are outlined in more detail below in Table 4.2—1.

Table 4.2—1: Claims-based Behavioral Health Disorder Criteria for Identification of 2013 and 2014 Comparison Group

Criteria 1:
Beneficiaries receiving care at a community mental health center (CMHC)

Beneficiaries who are indicated as eligible recipients of behavioral health care received at Community Mental Health Centers (CMHC). Beneficiaries meeting this criterion were identified based on the assignment of one of the following codes in the Medicaid Management Information System (MMIS; Medicaid claims and encounter data).
Codes are based on CMHC submission to Managed Care Organizations or paid fee-for-service claims with the following modifiers:

- U1 - Severe/Persistent Mental Illness (SPMI)
- U2 - Severe Mental Illness (SMI)
- U5 - Low Utilizer of Mental Health Services
- U6 - Serious Emotionally Disturbed Child
- U7 - Emotion Disturb Child/Interagency

Criteria 2:
Beneficiaries with a primary diagnosis code for a behavioral health disorder as defined by NH DHHS

Beneficiaries who have a Medicaid claim on which the primary diagnosis code is for a behavioral health disorder. The following ICD-10 codes identify Beneficiaries with mental health disorders:

- F20-F29 Schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders
- F30-F34 Mood (affective) disorders
- F41-F44 Anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders
- F53 Puerperal psychosis
- F60 Specific personality disorders
- F63 Impulse disorders
- F68 Other disorders of adult personality and behavior
- F84.0 Autistic disorder
- F84.9 Pervasive developmental disorders, unspecified
- F90 Attention-deficit hyperactivity disorders
- F91 Conduct disorders
- F93 Emotional disorders with onset specific to childhood
- F94 Disorders of social functioning with onset specific to childhood and adolescence

The following ICD-10 codes identify Beneficiaries with SUDs:

- F10 Alcohol related disorders (excluded: F10.21 Alcohol dependence, in remission)
- F11 Opioid related disorders (excluded: F11.21 Opioid dependence, in remission)
- F12 Cannabis related disorders (excluded F12.21 Cannabis dependence, in remission)
- F15 Other stimulant related disorders (excluded: F15.21 Other stimulant dependence, in remission)
- F16 Hallucinogen related disorders (excluded: F16.21 Hallucinogen dependence, in remission)
- F18 Inhalant related disorders (excluded: F18.21 Inhalant dependence, in remission)

Criteria 2 continued

- F13 Sedative, hypnotic, or anxiolytic related disorders (excluded: F13.21 Sedative, hypnotic, or anxiolytic dependence, in remission)
- F14 Cocaine related disorders (excluded: F14.21 Cocaine dependence, in remission)
- F19 Other psychoactive substance related disorders (excluded: F19.21 Other psychoactive substance dependence, in remission)
- F55 Abuse of non-psychoactive substances
- K29.2 Alcoholic gastritis
- K70.1 Alcoholic hepatitis

Criteria 3:
Beneficiaries with a prescription for a therapeutic medication for a behavioral health disorder as defined by NH DHHS.

Beneficiaries who have a Medicaid pharmacy claim for a behavioral health disorder. The following specific therapeutic class codes identify these Beneficiaries:

- H2D Barbiturates
- H2E Non-Barbiturates, Sedative-Hypnotic
- H2F Anti-Anxiety Drugs
- H2G Anti-Psychotics, Phenothiazines
- H2H Monoamine Oxidase (MAO) Inhibitors
- H2M Bipolar Disorder Drugs
- H2S Serotonin Specific Reuptake Inhibitor(SSRI)
- H2U Tricyclic Antidepressant & Related Non-Selective Reuptake Inhibitor
- H2V Anti-Narcolepsy/Anti-Hyperkinesis
- H2W Tricyclic Antidepressant/Phenothiazine Combination
- H2X Tricyclic Antidepressant/Benzodiazepine Combination
- H7B Alpha-2 Receptor Antagonists Antidepressant
- H7C Serotonin-Norepinephrine Reuptake-Inhibitor (SNRIs)
- H7D Norepinephrine & Dopamine Reuptake Inhibitors (NDRIs)
- H7E Serotonin-2 Antagonist/Reuptake Inhibitor (SARIs)
- H7J Monoamine Oxidase (Mao) Inhibitors -Non-Selective & Irreversible
- H7O Antipsychotic, Dopamine Antagonist, Butyrophenones
- H7X Antipsychotic, Atypical, D 2 Partial Agonist/Serotonin Mix
- H7Y Treatment For Attention Deficit Hyperactivity Disorder, Norepinephrine Reuptake Inhibitor Type
- H7Z Serotonin Specific Reuptake Inhibitor (SSRIs)/Antipsychotic, Atypical, Dopamine & Serotonin Antagonist Combination
- H8B Hypnotics, Melatonin Receptor Agonists
- H8D Hypnotics, Melatonin & Herb Combination
- H8F Hypnotics, Melatonin Combination Other
- H8G Sedative-Hypnotic, Non-Barbiturate/Dietary Supplement
- H8H Serotonin-2 Antagonist, Reuptake Inhibitor/Dietary Supplement Combinations
- H8I Selective Serotonin Reuptake Inhibitor (SSRIs)/Dietary Supplement Combinations
- H8M Treatment For Attention Deficit Hyperactivity Disorder -Selective Alpha-2 Adrenergic Receptor Agonist
- H8P Serotonin Specific Reuptake Inhibitor (SSRI) & 5Ht1A Partial Agonist Antidepressant
- H8Q Narcolepsy/Sleep Disorder Agents

Criteria 3 continued	
• H7P Antipsychotic, Dopamine Antagonist, Thioxanthenes • H7R Antipsychotic, Dopamine Antagonist, Diphenylbutylpiperidines • H7S Antipsychotic, Dopamine Antagonist, Dihydroindolones • H7T Antipsychotic, Atypical, Dopamine, & Serotonin, Antagonists • H7U Antipsychotic, Dopamine & Serotonin Antagonist	• H8T Serotonin Specific Reuptake Inhibitor (SSRI) & Serotonin Receptor Modifier Antidepressant • H8W Antipsychotic-Atypical, D3 • J5B Adrenergic, Aromatic, Non-Catecholamine • C0D Anti-alcoholic Preparations • H3T Narcotic Antagonists • H3W Narcotic Withdrawal Therapy Agents

4.2.1.1.3 Exclusions

Individuals who did not have an eligible behavioral health disorder were excluded from the study population. Beneficiaries who did not have a qualifying behavioral health disorder and eligible co-occurring physical health condition were excluded from the subpopulation group.

It is important to note that in some specific instances, where persons dually eligible for both Medicaid and Medicare ("dual eligibles") were excluded from the study population. For example, Medicare pharmacy data was not included in the NH Medicaid claims, so dual eligibles were not included in the study group on the following outcome measures:

- 1.1.2 Antidepressant Medication Management
- 1.1.5 Adherence to Antipsychotic Medications for Individuals with Schizophrenia
- 1.1.6 Diabetes Screening for People with Schizophrenia or Bipolar Disorder who are using Antipsychotic Medication
- 1.1.20 Use of Opioids at High Dosage

4.2.1.2 Administrative Data Sources

NH DHHS has provided Medicaid administrative data for this evaluation. Several administrative data sources were used to create the analytic data files for this study including:

1. **Medicaid Enrollment and Eligibility** – These data included information on the Medicaid Beneficiary's age, gender, address, category of eligibility, time periods of enrollment, Medicare enrollment, managed care and Expansion plan enrollment, and type of insurance (FFS or managed care).

2. **Premium Assistance Plan (PAP) Enrollment** – A separate set of enrollment files were received on the Medicaid Expansion Beneficiaries CY2014 – CY2018. This enrollment data had a different format from the regular Medicaid enrollment data, and were translated into a consistent format with the Medicaid enrollment data for the analytic data files.

3. **NH Hospital Discharge Summary** – NH Hospital (the State's Institute for Mental Disease (IMD)) discharges for the evaluation period including identification of Beneficiary and the time period they were admitted. For Medicaid adults (aged 19-64), these data are not captured in claims and are important to the examination of length of stay in the IMD.
4. **Medicaid Claims data** – Medicaid claims includes both fee-for-service (FFS) and encounter claims for the study period and the required look-back period for the measures (Q4 2011 and full year 2012). Medicaid managed care started January 1, 2014, prior to this date all data are FFS claims. Claims for 2014 onward are a mixture of FFS and encounter. Medical and Pharmacy claims are included.
5. **PAP claims data** – Medical and Pharmacy encounter claims data for the Premium Assistance Program (PAP) were received for calendar years 2014-2018. PAP claims data were provided in a different format from the regular Medicaid claims data. PAP claims were translated into a consistent format with the Medicaid claims data to create the analytic data files.
6. **IDN Attribution Files** – NH provided the data file they use for attributing Beneficiaries to an IDN. The file contained information about the Beneficiary as of the date of attribution, including a flag for behavioral health condition and both the geographic and DSRIP behavioral health and service use attribution method.
    a. Community Mental Health Enrollment file was provided to assist in creating the DSRIP behavioral health attribution methodology in the pre-study years.
7. **Provider file** – Information on Medicaid enrolled providers including Medicaid and National Provider Identifiers (NPI), various address information (e.g., billing address, services locations).
    a. The NPI was used to link to the National Plan and Provider Enumeration System (NPPES) to obtain the provider taxonomy code. Taxonomy codes identify the provider type and area of specialization for health care providers. Taxonomy codes enable providers to identify their specialty at the claim level. This information was used for measure development.

4.2.1.3 Data Collection and Validation Procedures

4.2.1.3.1 Data Transfer Procedures

NH DHHS staff provided data files. Data were transmitted to the evaluator via secure file transfer protocol (SFTP). Historic claims data were transmitted with a minimum of six months of run-out; however, most had a much longer (over a year) run-out period.

4.2.1.3.2 Data Validation Activities

NH DHHS requires the submission of encounter data in contract with managed care organizations (MCO). NH DHHS contracts with Health Services Advisory Group, Inc. (HSAG),

the Department's External Quality Review Organization (EQRO) to evaluate each MCO's contract compliance including encounter data validation (EDV). Results of the 2017 NH External Quality Review Technical Report[38] found compliance with electronic X12 data interchange (EDI) edits and accuracy edits for servicing providers in the National Council for Prescription Drug Program (NCPDP). The report identified three areas for improvement: (1) data accuracy related to Beneficiary identification numbers; (2) servicing provider information on the 837 Professional/Institutional (P/I) files; and, (3) timely encounter data submissions. The report indicated that these areas continue to be areas for improvement from a 2016 review of encounter data (12/1/2013-5/2/2016). The identification of accurate Beneficiary and provider information would have been addressed by the rejection of these claims when sent to the MMIS system. Therefore, these finding did not affect data received for this evaluation.

Data were examined for completeness, consistency, value ranges, valid claim coding schemes and duplication.

Table 4.2—2: New Hampshire Data Validation Activities

MCO Encounters	PAP Encounters
NH has contract requirements that Managed Care Organizations must meet for the timeliness, quality and accuracy of encounter data. New Hampshire utilizes the CMS optional External Quality Review (EQRO) activity of encounter data validation of the Managed Care Organizations data. MCOs with encounter data that fall outside of established contract standards may be subject to liquidated damages.	PAP Encounter data is validated through a highly automated data audit tool for data file intake verification and processing. The system checks data files submitted through a Secure File Transfer Protocol (sFTP) for conformity to data submission requirements customized by the State of New Hampshire. These submission requirements include: data file structure; field detail (type and max/min length); percentage filled field frequency default thresholds; and, data quality checks with maximum and minimum default thresholds.

4.2.1.3.3 Data Transformation and Measures Calculation

Medicaid and PAP claims and eligibility data were translated to a common data format to combine data files. Depending on the type of claim, encounter or FFS, specific transformations were applied based on information obtained from NH DHHS technical staff. For example, paid amount had to be identified from various data elements depending on the type of claim—facility versus profession, encounter versus FFS or crossover claims.

Relational models linked diagnosis, surgical procedures and provider information to each claim line. Provider information required additional parsing to identify billing, rendering and attending providers for each service line. The provider NPI was then used to link to the NPPES data to identify the primary provider type and specialty using taxonomy codes. From this common data structure, data elements were further mapped into the data format required for the measures engine.

A flexible claims-based measures engine developed by the Cutler Institute over several years was then applied to the transformed data formats. The measures engine takes a standardized claim format and produces various standards-based, health-related measures including National Quality Forum (NQF) and Healthcare Effectiveness Data and Information Set (HEDIS®).[ii]

In addition, cost (e.g., total costs, various cost categories) and utilization (e.g., inpatient stays, readmission, emergency room use, primary care visits) measures were calculated. Cutler Institute can create client-tailored quality, costs and utilization measures, particularly relevant for use in the DSRIP evaluation.

The Cutler Institute employs a robust measure development and quality assurance process. In the development environment, multiple programmers independently code measures. Validation of the code then occurs by verifying that the results of each programmer match exactly and comparing results over time and with national benchmarks. A senior programmer conducts a final review of the coding and results before moving the measure into the measures engine.

Each year, published technical specifications (e.g., HEDIS®, AHRQ, and CMS) are reviewed for any changes or modifications to the measures. If updates exist, they are applied to the measures following the same quality assurance process identified above. After a measure is initially coded, a second year review is conducted for measures with no technical specification updates. Senior programmers review any coding enhancements not related to the technical specification before moving into the measures engine.

4.2.1.3.4 Development of Analytic File

A Beneficiary year level analytic file was created combining information from the various data sources into a common format including Beneficiary's demographics, eligibility, IDN enrollment, and outcome measures.

[ii] The Healthcare Effectiveness Data and Information Set (HEDIS®) is a registered trademark of NCQA. The logic used to produce these HEDIS® measure results has not been certified by NCQA. Such results are for reference only and are not an indication of measure validity. A calculated measure result (a "rate") from a HEDIS measure that has not been certified via NCQA's Measure Certification Program, and is based on unadjusted HEDIS specifications, may not be called a "Health Plan HEDIS rate" until it is audited and designated reportable by an NCQA-Certified HEDIS Compliance Auditor. Until such time, such measure rates shall be designated or referred to as "Uncertified, Unaudited Health Plan HEDIS Rates."

4.2.1.4 Data Analysis

For the purposes of this interim evaluation report, performance measures were calculated annually for a three-year pre-Demonstration period (calendar years 2013, 2014, and 2015) and annually for the first two years of the Demonstration period (calendar years 2016 and 2017).

4.2.1.4.1 Descriptive Statistics

Descriptive analyses for performance measures was conducted for each year in the pre- (2013, 2014 and 2015) and post periods (2016, 2017). Bivariate analyses were used to examine trends in Beneficiaries' access to care, service utilization and cost of care. Chi-square, Mann-Whitney U Test, and Wilcoxon Signed Rank Test will be used to assess health and health care outcomes that are categorical or continuous but do not meet the assumptions (e.g., normality) used by parametric tests. Parametric analyses (e.g., t-tests, etc.) may be used as appropriate. The Demonstration evaluation will test whether continuous measures (e.g., number of visits, etc.) meet the assumptions of parametric analyses. If these measures do not meet the assumptions of parametric tests, non-parametric methods will be used to analyze the data. The non-parametric tests will be used to assess whether any differences found between the pre- and post-periods are statistically significant. The traditionally accepted risk of error ($p \leq 0.05$) will be used for all comparisons.

4.2.1.4.2 Multivariate Analysis

A pretest-posttest design was used to examine the statewide impact of the Demonstration on DSRIP performance measures. It is important to note that for the purposes of the Interim report, multivariate modelling was limited due to insufficient post data years. Key outcomes will be calculated annually for a three-year pre-Demonstration period (calendar years 2013, 2014, and 2015) and annually for two years during the Demonstration period (calendar years 2016 and 2017). Regression models accounting for Beneficiaries in more than one year (clustering) were used to assess the rate of change over time in study outcomes for the study group. To assess change over time, the evaluation will use Poisson or negative binomial regression models for the utilization measures, generalized linear models for the cost measures, and logistic regression for the quality measures. Age, gender, dual status (enrollment in Medicare and Medicaid), ACG®[iii] risk level, and eligibility through Medicaid expansion are controlled for in each of the models. Statistically significant results are

[iii] The ACG® system quantifies morbidity by grouping individuals based on their age, gender and **all** medical diagnoses that have been recorded over a defined period of time, typically one year. ACG® is a system is a population/patient case-mix adjustment system developed by researchers at The Johns Hopkins University School of Hygiene and Public Health in Baltimore, Maryland.

reported based on $p \leq 0.05$. See Table 4.2—3 for a description of the analytic methods used by measure.

Table 4.2—3: Overview of Regression Analysis

Measure Number	Measure Name
Poisson/Negative Binomial Regression Models	
1.1.3	Follow-Up After Hospitalization for Mental Illness
1.1.19	Potentially Preventable ED Visits
1.5.1	Hospital Readmission for Any Cause
1.5.2	Hospital Readmission for Behavioral Health Disorder
1.6.1	Ambulatory Care Sensitive Admission
2.1.9	Mental Illness Hospitalization Follow-Up (7 days)
2.1.11	Mental Illness ED Visit Follow-Up (30 days)
2.1.12	Alcohol/Drug Dependence Emergency Department Visit Follow-Up (30 days)
Generalized Linear Models	
1.4.1	Total Costs of Care
1.4.2	Total Cost of All Inpatient Care
1.4.3	Total Cost of All Outpatient Care
1.4.4	Total Cost of Emergency Department Care
1.4.5	Total Cost of Behavioral Health Care
1.4.6	Total Cost of Outpatient Behavioral Health Care
1.4.7	Total Cost of Inpatients Behavioral Health Care
1.4.8	Total Cost of Emergency Department Behavioral Health Care
Logistic Regression	
1.1.2	Antidepressant Medication Management
1.1.4	Initiation and Engagement of Alcohol and Other Drug Dependence Treatment
1.1.5	Adherence to Antipsychotic Medications for Individuals with Schizophrenia

Measure Number	Measure Name
1.1.6	Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications
1.1.7	Diabetes Screening for People with Diabetes and Schizophrenia
1.1.8	Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia
1.1.9	Follow-up Care for Children Prescribed ADHD Medication
1.1.10	Metabolic Monitoring for Children and Adolescents on Antipsychotics
1.1.11	Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics
1.1.13	Breast Cancer Screening
1.1.16	Adolescent Well-care Visit
1.1.20	Use of Opioids at High Dosage
1.2.3	Annual Primary Care Visit (Adult and ages 12-19)
1.2.4	Behavioral Health Care Visits
1.2.5	Initiation of Alcohol or Drug Treatment Services
Ordinary Least Squares Regression	
1.8.1	Length of Stay for Inpatient Psychiatric Care

To control for external context and examine whether or not any changes in Beneficiary outcomes could be attributed to DSRIP, the evaluation conducted a difference-in-difference analysis. This approach assesses changes in outcomes over time for a group of individuals without behavioral or substance use disorders and compares them to changes for the study group. For part of the evaluation, the analysis relied on measures of outcome variables before and after implementation of the Demonstration for Beneficiaries with (study group) and without (comparison group) behavioral health disorder diagnoses.

The comparison group comprised of New Hampshire Medicaid Beneficiaries without a behavioral health disorder was selected using propensity score matching. Although we intended to use a 2 to 1 match, we found that the pool of Beneficiaries was not large enough to accommodate this approach and instead attempted a 1 to 1 match. We were only able to match 88% of the study population due to the variation in characteristics between

the behavioral health population and the population without behavioral health disorders. Table 4.2—4 displays the difference between the various populations used in the study.

Beneficiaries with behavioral health disorders were older, with higher ACG risk scores and more likely to be dually eligible and enrolled in the Medicaid Expansion program than the pool of Beneficiaries without a behavioral health condition. Although there were still significant differences in the characteristics of the propensity-matched populations, they were considerably more similar than the two groups in the full Medicaid population. Beneficiaries that did not match to the non-behavioral health pool were considerably older with much higher risk scores than the other groups. They were also more likely to be female, dually eligible, and enrolled in the Medicaid Expansion population.

The full Medicaid population was used for the unadjusted trend analysis and for multivariate analysis of measures that do not apply to Beneficiaries without a behavioral health or SUD analysis. The matched population was used in the difference-in-difference analysis. To complete the picture, we ran multivariate models on the behavioral health population that did not have a match to explore whether the Demonstration had an impact on individuals with the greatest risk.

Table 4.2—4: Study Populations

	All Medicaid		Matched Population		Unmatched Population
	Behavioral Health	Non-Behavioral Health	Behavioral Health	Non-Behavioral Health	Behavioral Health
IDN					
1	14.8%	14.9%	15.2%	14.5%	12.0%
2	10.3%	10.3%	10.3%	10.2%	10.2%
3	12.3%	13.2%	12.2%	13.0%	12.6%
4	24.5%	24.9%	24.4%	24.6%	25.1%
5	9.7%	9.6%	9.7%	9.7%	9.6%
6	18.2%	16.7%	18.0%	16.9%	20.3%
7	10.2%	10.4%	10.3%	11.1%	10.2%
Sex					
Male	43.6%	47.6%	45.2%	47.3%	31.79%
Female	56.4%	52.4%	54.8%	52.7%	68.21%

	All Medicaid		Matched Population		Unmatched Population
	Behavioral Health	Non-Behavioral Health	Behavioral Health	Non-Behavioral Health	Behavioral Health
Age					
Under 6	2.8%	25.3%	3.1%	4.7%	0.1%
6-11	14.5%	22.6%	16.3%	16.1%	0.4%
12-17	17.4%	17.6%	19.4%	18.2%	1.8%
18-44	39.0%	20.2%	38.0%	33.7%	46.2%
45-64	21.0%	8.9%	17.7%	16.9%	45.4%
65 or older	5.5%	5.4%	5.4%	10.4%	6.2%
Dual					
Eligible	17.3%	8.5%	15.9%	15.9%	27.8%
Non-Eligible	82.7%	91.5%	84.1%	84.1%	72.2%
Expansion					
In Expansion	24.9%	16.2%	24.1%	28.7%	30.8%
Not in Expansion	75.1%	83.8%	75.9%	71.3%	69.2%
Age					
Mean	31.10	20.00	29.30	31.40	41.50
ACG Risk Score					
Mean	1.1480	0.3755	0.7723	0.5987	3.9948

4.2.1.4.3 **Comparative Analysis**

The NH DSRIP Demonstration established seven (7) IDN service regions covering the state. In our comparative analysis, trends for individual IDNs are examined. Each IDN is unique in its make-up of providers, administrative structure, primary and behavioral health infrastructure, acuity-mix of Beneficiaries, community needs, goals and approaches to integration. As noted earlier, the IDN lead organizations were comprised of four hospitals,

one county administrator, one public health organization and one not-for-profit rural health network.

For the interim report, a subset of measures were examined to assess access to and integration of health care. To select this subset, the following criteria were utilized:

- Measure specifications did not significantly change over the study period;
- Reported numbers were sufficient to support IDN level analysis;
- Clear connection to the quantitative research questions and associated hypotheses;
- Measure relates to community driven projects that were selected by multiple IDNs;
- Results are available for all IDNs; and
- Data can be trended over multiple years.

After using the selection criteria, the chosen seven measures for the IDN analysis are shown in Table 4.2—5. Please note, not all domains are represented in this comparative analysis section, due to the early stages of Demonstration data included in this report, and the logic used for selected measures chosen. Complete definitions of these measures can be found in Appendix A.

Table 4.2—5: Selected Measures for IDN Analysis

Measure	Domain
2.1.1 – Fragmented Care	Access to Care
2.1.1 – No Primary Care Visit	Access to Care
1.1.2 – Antidepressant Medication Management -- Initiation (3 month) Follow-Up	Quality of Care
1.1.2 – Antidepressant Medication Management -- Engagement (6 month) Follow-Up	Quality of Care
2.1.9 – Mental Health Hospitalization Follow-Up Within 7 days of Discharge	Integration of Care
2.1.11 – Mental Illness Emergency Department (ED) Follow-Up Visit Within 30 days	Integration of Care
1.1.19 – Potentially Preventable ED visits per 1,000 member months	Service Utilization

NH DHHS developed a NH Beneficiary attribution algorithm to assign Beneficiaries to IDNs. The first year of attribution was calendar year 2015. Prior to that time, an attribution file is not available. Every Medicaid Beneficiary was attributed to an IDN based on either where they received care or, when service use was not available, the geography of their residence. Often the geography of residence and service use attribution resulted in placement in the same IDN. In the December 31, 2017 attribution file, 91% of members were attributed to the same IDN whether service use or geography was used. The distribution of unmatched members varied from a loss of 3.2% of members in one IDN to a gain of 14.3% in another.[iv]

Four approaches were identified to deal with the lack of attribution files for 2013 and 2014. Given that the providers and provider relationships created by the IDN structures did not exist and the ability to recreate these provider structures would be difficult, if not impossible, the following methods were identified to examine IDNs over time:

1.) Attribute Beneficiaries to IDNs by geography over the whole time period;

2.) Attribute Beneficiaries by geography in years 2013-2014 and use the NH attribution for years 2015-2017;

3.) Use NH IDN attribution for years 2015 forward and eliminate 2013 and 2014 in the pre years; or,

4.) Attribute Beneficiaries by geography in years 2013-2014 and NH attribution years 2015-2017, but exclude any members whose IDNs do not match.

To determine the best approach to use, sensitivity analysis were conducted. Preliminary multivariate analysis concluded that results varied both in terms of significance and direction of the change. Additionally, characteristics of the Beneficiaries whose IDN changed based on service use or geography found these members were more likely to be female, younger, non-dual eligible and a member of the Expansion population. These members were also more likely to have a substance use disorder. Given other considerations of the earlier data years (e.g., change to managed care, implementation of Medicaid Expansion), the third approach (limiting this analysis to calendar year 2015-2017) was selected. This approach provides one pre-year and two post-years for the interim report analysis; however, the attribution of members clearly aligns with the Beneficiaries the IDNs have been assigned by the State to manage.

4.2.1.4.4 Beneficiary Characteristics

Among Beneficiaries without a behavioral health disorder, the majority of claims were for children ages 0 - 17. The percentage of claims in this age range decreased from 2013 to 2017, from 77.1% to 59.6% in 2017. Among Beneficiaries with a behavioral health disorder,

[iv] Information provided in an Excel spreadsheet by S. Connolly, NH DHSS, on 5/10/2019, Trend of Using Claims to Attribute v Only Geography, 2016-2018.

claims in this age range also decreased from 43.4% in 2013 to 29.9% in 2017. The percentage of claims for the 65 and older age range remained relatively static (4-5%) for all Beneficiaries, while the percentage increased for ages 18-44 and 45-64.

For all years of data and for both the Beneficiaries with and without behavioral health disorders, there were slightly more claims for female compared to males. Nearly a quarter of the claims data came from IDN 4 from Beneficiaries with a behavioral health disorder (range: 23.7%-25.0%) and Beneficiaries without a behavioral health disorder (range: 23.6%-25.8%). The fewest number of claims came from IDNs 2, 5, and 7. Overall, behavioral health claims were usually more than two times more likely to be dually eligible for Medicaid and Medicare benefits. Diabetes was the most common chronic condition for both Beneficiaries with and without a health disorder. However, cardiovascular disease was the second most common chronic condition for the Beneficiaries without a behavioral health disorder and chronic obstructive pulmonary disease was the second most common for Beneficiaries with a behavioral health disorder. Asthma was the least common chronic condition for both Beneficiaries with and without a behavioral health disorder. The percentage of claims with a substance use disorder as a diagnosis increased over time, from 8.6% in 2013 to 17.8% in 2017. Risk scores were higher among Beneficiaries with a behavioral health disorder, ranging from 1.110 to 1.174. In contrast, risk scores ranged from 0.361 to 0.386 for Beneficiaries without a behavioral health disorder.

4.2.1.5 Data Collection Procedures and Analysis of NH BRFFSS

4.2.1.5.1 BRFSS Survey Design

The Behavioral Risk Factor Surveillance System (BRFSS) is the nation's premier system of health-related telephone surveys that collect state data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services. The NH BRFSS is an annual random-digit-dialed telephone survey of NH adults (18+) conducted by NH DHHS and supported by a grant from the Centers for Disease Control and Prevention (CDC). The primary focus of the survey is on behaviors that are linked with population morbidity and mortality (e.g., diabetes, heart disease, stroke, and injury) and on topics including diet, exercise, weight, tobacco and alcohol use, injuries and preventative medical care. The survey estimates the health status and the prevalence of various risk factors among respondents, including Medicaid Beneficiaries. NH BRFSS data will be used to assess trends in population health measures.

4.2.1.5.2 Data Collection and Validation Procedures

Once the Cutler Institute received data, BRFSS data was cleaned to remove “don’t know/not sure,” “refused” and missing responses from the 2014 and 2017 datasets. A behavioral health flag was created for respondents who replied they had 14 or more poor mental health days per month.

BRFSS data validation activities are conducted by the NH Department of Health and Human Services, Division of Public Health Services.

Survey data validation activities:

1) State Added Questions: NH BRFSS gather data on additional topics related to their specific health priorities through the use of state added questions. All response options of state-added questions are tested and validated by the state BRFSS program prior to inclusion in the questionnaire.
2) Data quality validation: Monthly completed surveys are submitted to CDC and NH BRFSS runs a monthly data validation to check for data completeness and quality assurance.

For the 2017 BRFSS survey methodology and weighting methods can be found in this report: https://www.cdc.gov/brfss/annual_data/annual_2017.html

For the 2014 BRFSS survey methodology and weighting methods can be found in this report: https://www.cdc.gov/brfss/annual_data/annual_2014.html

4.2.1.5.3 Data Analysis

All frequencies were conducted in SAS using PROC SURVEYFREQ. Frequencies were weighted using the standard BRFSS final weight assigned to each respondent for landline and cell phone response data (_LLCPWT). Chi-square was used to determine whether there were significant differences from year to year. The table below outlines the variables, which were used to conduct analyses.

4.2.1.5.4 BRFFS Respondent Characteristics

For both years of BRFSS data, the percent of respondents in the 18-44 and 45-64 age groups were similar and there were slightly more female than male respondents. Nearly a quarter of the responses came from IDN 4 (23.8%, 23.6%) in each year, with the fewest number of responses in IDN 5 for both years. Most respondents had health care coverage in 2014 (88.6%) and 2017 (92.7%). More respondents had Medicaid coverage in 2017 compared to 2014 (7.5% vs. 4.9%). The number of respondents saying they had 14 or more days per month where their mental health status was “not good” slightly increased from 88.6% in 2014 to 92.7% in 2017 (Table 4.2—6).

Table 4.2—6: BRFSS Demographics

	2014		2017	
	Weighted Frequency	Percent	Weighted Frequency	Percent
Age				
18-44	438,626	41.3%	442,376	40.8%
45-64	410,921	38.7%	403,124	37.2%
65 or older	211,940	20.0%	237,910	22.0%
Sex				
Male	519,526	48.9%	530,066	49.0%
Female	541,961	51.1%	551,480	51.0%
IDN				
1	169,129	15.9%	155,726	14.4%
2	103,238	9.7%	112,082	10.3%
3	148,801	14.0%	165,675	15.3%
4	252,438	23.8%	255,733	23.6%
5	83,022	7.8%	86,396	8.0%
6	218,062	20.5%	219,259	20.2%
7	86,798	8.2%	88,538	8.2%
Total	1,061,487		1,083,410	
Health Care Coverage				
Any type of coverage	930,703	88.6%	1,001,562	92.7%
Medicaid coverage	43,650	4.9%	59,692	7.5%
Behavioral Health Flag				
14 or more days per month mental health status “not good”	109,146	10.3%	1,001,562	11.9%

Source: NH BRFSS, 2014 and 2017

5. Methodological Limitations

The DSRIP Demonstration proposes to effect a dynamic change in the health care delivery system for people with behavioral health disorders. Systemic change does not occur quickly and, in this case, will likely take longer than the five years for which the Demonstration has been approved. Therefore, all findings must be interpreted with sensitivity toward the scope of the attempted change in the system and its long-term potential beyond the Demonstration period.

5.1 General Limitations

There are several overarching limitations to the process evaluation and preliminary examination of performance metrics including:

- The CMS-Approved Evaluation Plan (Attachment I) indicated that NH DHHS would procure an independent evaluator by November 1, 2017, and submit an Interim Evaluation Report to CMS for comment on March 31, 2019. New Hampshire procured the Independent Evaluator in October 2018, and the CMS submission date was updated to March 30, 2020. Therefore, many evaluation activities did not occur simultaneously with project implementation as intended in the original evaluation design.
- While the Demonstration officially began in January 2016, the first year and half of the initiative was largely dedicated to executing the planning and infrastructure building activities necessary to implement the Demonstration such as establishing IDNs and creating project plans. The first IDN Project plans were not fully approved by the DHHS until September 1, 2017; as a result, DSRIP implementation only really began at that time. However, this interim evaluation is based on the original CMS approved STC project dates as well as evaluation plan and timeline. Therefore, this evaluation considers Administrative and BRFSS data periods prior to 9/1/17 as the "Demonstration" period.
- Given the high levels of need for expansion and improvement in behavioral health in New Hampshire, especially among Medicaid Beneficiaries, multiple state efforts are currently being implemented to address these shortfalls. The implementation of the Demonstration concurrently with other State efforts makes it difficult to isolate the potential effect of the Demonstration on system transformation efforts.
- On March 13, 2020 Governor Chris Sununu declared a state of emergency in New Hampshire as a result of the Novel Coronavirus. The public health emergency has had a widespread impact on New Hampshire's economy, health system and other infrastructure. It is important to note that, while the impact of the public health emergency is not reflected in the data periods presented in the Interim Report, the data periods in the Final Report will include the period of the public health emergency, which may impact data trends.

5.2 Limitations of the Process Evaluation

There are a number of limitations associated with the data used to inform the implementation and process evaluation. Below is a brief summary of the methodological limitations associated with the summative evaluation of the Demonstrations:

- Changes to the evaluation timeline led to the interim evaluation using a more retrospective lens instead of real-time, which may have increased the misrepresentation of historical knowledge and events and decreased the pool of persons with day-one knowledge of the Demonstration. However, these methodological issues may be partially mitigated by adjustments to the program implementation timeline. Given the natural slow start to a Demonstration of this

size, it could be considered that the interim process evaluation was completed during the late implementation phase.

- All of the data derived from qualitative interviews are subject to the standard interview limitations and biases.
- The majority of the qualitative interviews conducted as part of this evaluation were conducted over the phone. Therefore, it is possible that interviewees moderated their answers based on proximity of others, or their location.
- The Health Information Technology Stakeholder, IDN Administrator, and Provider Surveys were deployed via online software (Snap Survey) and it is possible that some potential respondents did not receive the email link due to spam filters or blocks from servers. The evaluation team did send separate emails from a University of Southern Maine email address in order to mitigate this issue and boost response rates. Additionally, response rates varied by IDN for the Health Information Technology Stakeholder and Provider surveys, so some IDNs may have had more representation than others.
- The evaluation team had planned to offer both face-to-face and telephone interviews for Beneficiaries. After initial outreach, it became clear that the preferred method was telephone, resulting in only two Beneficiary surveys being completed face-to-face. Given that many people currently use mobile phones and those using land lines have access to caller identification services, many recruitment call attempts went unanswered or went directly to a message service. In order to protect Beneficiary confidentiality, research staff did not leave recorded voice messages. It might be assumed that many Beneficiaries chose not to pick up the evaluation team's calls, as they did not recognize the incoming number and out-of-state area code. This resulted in the need to expand the sample and doubled efforts to reach the target goal of 35 completed interviews. This also predicated the decision to have a minimum of four Beneficiaries from each IDN, as some IDNs had a better response rate and the evaluation team did not want to screen out qualified and willing participants while simultaneously conducting outreach, thus some IDNs are slightly over represented.
- All of the participants for the professional staff interviews were derived from lists provided by NH DHHS or IDNs; complete lists may have not been provided. While sampling was conducted within the provider list, there was no random sample of IDN Administrators (all were interviewed) nor the HIT staff. For provider interviews, the evaluation team used a broad list supplied by NH DHHS; however, some IDNs had much smaller samples of providers to contact, comparatively limiting their sampling pool of providers. Furthermore, some providers on the list were determined to be HIT staff or in administrative positions within a health agency.

The evaluation team focused on providers that had direct interactions with patients, further diminishing the total sampling pool, and necessitating the decision to snowball sample if they successfully recruited HIT staff or administrators and asked them to recruit providers in their organization with direct contact with Beneficiaries. Professional staff interview protocols retrospectively focused on the Demonstration, so there is a possibility that those with historical knowledge recalled things incorrectly, and in the same vein, staff turnover may have resulted in an interviewee being unable to provide historical perspective as they were not present at the start of the Demonstration.

- In select cases (Beneficiary interviews, provider surveys) some IDNs may be under or over-represented in the aggregate survey and qualitative data due to varied response rates and sampling pools.
- At the time of the interim report, limited baseline data is available. All surveys and interviews were conducted during the Demonstration period; however, participants were asked to reflect back on changes over time. For the Beneficiary survey, trends over time are not presented, as only one survey wave had been completed at the time of the interim report (2019). Therefore, comparative results between IDNs are limited at this point in time.

5.3 Limitations of the Performance Measures Evaluation

- The DSRIP Demonstration evaluation is limited by the lack of a true comparison group. All Medicaid Beneficiaries are subject to participation in the Demonstration and receive care impacted by the development and implementation of HIT and IDNs across the state. As a result, comparisons can only be made among Beneficiaries subject to the Demonstration. Furthermore, outcomes may improve for all Beneficiaries regardless of the presence of a behavioral health disorder. Therefore, the DSRIP Demonstration evaluation may show improvements in outcomes when compared to baseline but no improvements in comparison to people without behavioral health disorders.
- IDN Project plans were not fully approved by the DHHS until September 1, 2017. As a result, DSRIP implementation began at that time. Therefore, Demonstration data is limited for the interim report. For the performance measures, a three-year pre-Demonstration period (calendar years 2013, 2014, and 2015) and a two-year Demonstration period (calendar years 2016 and 2017) were calculated. Data from calendar year 2015 was considered the “baseline” year for the performance measures. It is important to note that for the purposes of the Interim report, multivariate modelling was limited due to insufficient post data years.

- The evaluation considers BRFSS data prior to 2017 as the baseline data for the interim report. However, 2017 BRFSS data is unlikely to show immediate changes related to the Demonstration.
- A number of confounding factors may influence the data represented in the performance measures. This includes possible interrelations of the DSRIP program with other current initiatives within the state's Medicaid program, as well as interactions with other Medicaid waivers and federal awards that can affect quality of care, service delivery, population heath, and the cost of care for Medicaid Beneficiaries. The Interpretations and Policy Implications section has more details on interactions with other state initiatives.
- For selected measures, the comparison group comprised of New Hampshire Medicaid Beneficiaries without a behavioral health disorder was selected using propensity score matching (PSM). Although the evaluation team intended to use a 2 to 1 match, we found that the pool of Beneficiaries was not large enough to accommodate this approach and instead attempted a 1:1 match. While using only 1:1 match tends to minimize bias, the inability to match 2:1 removed the evaluators' ability to "improve precision without a commensurate increase in bias."[39]
- The evaluation is limited by its reliance on diagnostic codes, eligibility codes for CMHCs, and prescription drug codes to identify the Beneficiary population with behavioral health disorders. These codes may not capture all behavioral health disorders, especially if clinicians do not ascertain them. Reliance on these codes may reduce outcome differences between the Beneficiary populations with and without behavioral health disorders, resulting in misleading findings on the impact of the Demonstration.
- Not all the data available for this evaluation is ideal. It was determined that using EHR/EMR data from New Hampshire DHHS for several measures as recommended in the Evaluation Plan was not feasible due to insufficient data collection, standardization, and/or validation. In some cases, the 'best available' data were selected that address the relevant hypothesis as closely as possible. For example, the evaluation team utilized data from the Behavioral Risk Factor Surveillance System (BRFSS) survey instead of claims data due to long look back periods preceding claims data availability. Ultimately, some measures were dropped due to unavailable or unreliable data, as were three hypotheses that contained only one (deleted) measure. In collaboration with CMS, Cutler Institute and NH DHHS will revisit the feasibility of assessing the hypotheses where measures were removed using other data sources for the final summative report. (See Appendix E for list of deviations from CMS-approved Evaluation Plan.)

- The results of the cost analysis are preliminary and include known gaps in financial data. Corrected and complete financial claims data will be available in the Final Evaluation Report.

6. Demonstration Findings and Conclusions

6.1 Findings from the Process Evaluation

This section of the report provides preliminary findings on the Demonstration implementation process and examines progress towards meeting Demonstration goals. Data presented in this section address the following components of the Demonstration research questions:

Research Question 1: Was the DSRIP Demonstration effective in achieving the goals of better care for individuals with behavioral health disorders?

Research Question 2: To what extent has the DSRIP Demonstration improved integration and coordination between providers? To what extent has the DSRIP Demonstration fostered the bi-directional and integrated delivery of physical health services, behavioral health services, SUD services, transitional care, and alignment of care coordination to serve the whole person?

Research Question 3: To what extent has the DSRIP Demonstration improved the capacity of the state's behavioral health workforce to provide quality, evidence-based, integrated care?

Research Question 4: To what extent has the DSRIP Demonstration enhanced the state's health HIT ecosystem to support delivery system and payment reform? Have changes to the HIT ecosystem brought about by the DSRIP Demonstration specifically enhanced the IDNs in regard to the following four key areas: governance, financing, policy/legal issues and business operations?

Research Question 5: To what extent has the DSRIP Demonstration improved IDNs' readiness to transition to or implement Alternative Payment Models (APMs)?

To ensure a robust and multi-dimensional understanding of the IDNs' implementation strategies and corresponding effect on delivery systems and Beneficiary experience, a comprehensive process evaluation was conducted to systematically examine the Demonstration activities and implementation processes. This interim evaluation report includes a detailed discuss of information gathered through key stakeholder interviews and surveys as well as administrative document review.

This section provides the findings and conclusions from the process evaluation. It starts with an overview of IDN characteristics (6.1.1) well as a high-level summary of implementation processes to provide general context (6.1.2). Interim findings related to the five overarching research questions are summarized by key domains including: infrastructure development (6.1.3), access to care (6.1.4), quality of care (6.1.5), and integration of care (6.1.6). In each section, we discuss progress towards meeting project milestones, successful strategies for facilitating implementation of the Demonstration strategies as well as ongoing challenges.

6.1.1 Overview of Integrated Delivery Network Characteristics

DSRIP's seven IDNs span across the ten counties of New Hampshire and are organized by regional public health network (see Figure 2.3—2). As shown below in Table 6.1—1, nine of New Hampshire's ten counties are designated as a rural area by the Federal Office of Rural Health Policy (FORHP).[40] Coos County (which lies solely in IDN 7) has a further designation of a Level 2 Frontier and Remote (FAR) Area. Frontier and Remote Areas are sparsely populated rural areas where residents are far from necessities such as healthcare. In Level 2 FAR areas, the majority of the population lives 60 minutes or more from an urbanized area.[41] IDN 7 also includes Carroll County, which is 90.2% rural and has been designated as a Medically Underserved Area (MUA) by the Health Resources and Services Administration. Additional MUAs as well as Health Professional Shortage Areas (HSPAs) are listed in Table 6.1—1.[42] Hillsborough County (which spans across IDNs 1-4) is the only county in New Hampshire that is not designated as rural. New Hampshire's most populous cities, Manchester, Nashua, and Concord, include IDNs 4, 3, and 2, respectively.

Table 6.1—1: Characteristics of New Hampshire Counties

County	IDNs Covered	Medically Underserved Area?	HPSA: Primary Care Provider Shortage?	HPSA: Mental Health Provider Shortage?	Percent Rural	FORHP Defined Rural Area?
Coos	IDN 7		•	•	66.2%	Rural AND Frontier and Remote Area
Belknap	IDN 5				66.3%	Rural
Carroll	IDN 7	•	•		90.2%	Rural
Cheshire	IDN 1		•		65%	Rural
Grafton	IDNs 1,5		•	•	68.7%	Rural
Hillsborough	IDNs 1,2,3,4				21.2%	Not Rural
Merrimack	IDNs 1,2,4,5				54.6%	Rural
Rockingham	IDNs 2,4,6	•			25%	Rural
Strafford	IDN 6	•			32.4%	Rural
Sullivan	IDNs 1,2		•		64.2%	Rural

In 2016, the IDNs in New Hampshire served 171,882 Medicaid Beneficiaries, 65,558 of whom had a behavioral health diagnosis. Table 6.1—2 provides the breakdown of Medicaid Beneficiaries by IDN as well as demographic characteristics of that population. As shown in

Table 6.1—2, each IDN serves an overall Medicaid population of between roughly 16,000 to 43,000 Beneficiaries with IDN 5 serving the smallest number and IDN 4 the largest.

Table 6.1—2: Medicaid Beneficiary Characteristics by IDN

	Medicaid Population Count	Percent of Population	Average Age	Percent Female	Percent Dual
	2016				
IDN 1: 25,867 Beneficiaries					
BH	9,769	37.8%	30.9	56.8%	14.4%
No BH	16,098	62.2%	21.3	51.2%	8.2%
IDN 2: 17,248 Beneficiaries					
BH	6,506	37.7%	32.7	56.5%	17.6%
No BH	10,742	62.3%	21.7	52.4%	8.0%
IDN 3: 22,086 Beneficiaries					
BH	8,054	36.5%	32.4	55.7%	14.9%
No BH	14,032	63.5%	21.1	52.4%	7.2%
IDN 4: 43,450 Beneficiaries					
BH	16,282	37.5%	31.8	55.3%	14.7%
No BH	27,168	62.5%	20.8	52.3%	6.9%
IDN 5: 16,106 Beneficiaries					
BH	6,237	38.7%	31.5	56.1%	14.2%
No BH	9,869	61.3%	22.0	50.7%	7.5%
IDN 6: 29,579 Beneficiaries					
BH	11,968	40.5%	33.1	58.7%	15.0%
No BH	17,611	59.5%	21.8	52.2%	8.0%
IDN 7: 17,546 Beneficiaries					
BH	6,742	38.4%	31.3	56.7%	13.2%
No BH	10,804	61.6%	23.3	50.8%	9.2%

Source: Cutler Institute analysis of DSRIP Dataset. Numbers from CY2016 and include attributed Beneficiaries with ≥10 months of enrollment in that year.

Although the total number of Medicaid Beneficiaries varies by IDN, they serve roughly the same amount of Beneficiaries with behavioral health diagnosis. The percentage of Beneficiaries with behavioral health conditions ranges from 36.5% - 40.5% with IDN 6 serving the highest number of individuals with behavioral health disorders. This distribution is consistent with the original design of the Demonstration. The average age of the behavioral health population falls roughly between 31 and 33 across the IDNs and each IDN has a SUD diagnosis rate below 20%. The rate of chronic conditions listed in Table 6.1—3 provides additional context of the implementation environment within each IDN.

Table 6.1—3: Chronic Conditions among Medicaid Beneficiaries by IDN

	Percent with SUD Diagnosis	Percent with 1+ conditions	Percent with 2+ conditions	Percent with 3+ conditions
	2016			
IDN 1: 25,867 Beneficiaries				
BH	15.9%	13.7%	2.6%	0.4%
No BH	0.0%	6.0%	1.3%	0.2%
IDN 2: 17,248 Beneficiaries				
BH	16.4%	15.2%	3.3%	0.5%
No BH	0.0%	6.5%	1.2%	0.1%
IDN 3: 22,086 Beneficiaries				
BH	18.1%	14.8%	2.8%	0.4%
No BH	0.0%	5.9%	1.0%	0.1%
IDN 4: 43,450 Beneficiaries				
BH	17.6%	15.9%	3.5%	0.6%
No BH	0.5%	6.9%	1.2%	0.2%
IDN 5: 16,106 Beneficiaries				
BH	19.0%	15.3%	3.4%	0.4%
No BH	0.0%	6.7%	1.4%	0.2%
IDN 6: 29,579 Beneficiaries				
BH	17.0%	16.3%	3.8%	0.6%
No BH	0.1%	7.1%	1.5%	0.3%
IDN 7: 17,546 Beneficiaries				
BH	13.0%	15.4%	3.6%	0.6%
No BH	0.1%	7.8%	1.8%	0.3%

Source: Cutler Institute analysis of DSRIP Dataset. Numbers from CY2016 and include attributed Beneficiaries with ≥10 months of enrollment in that year.

6.1.2 Implementation Process

Key stakeholder surveys and interviews with IDN Administrators, HIT stakeholders, providers and Beneficiaries offer in-depth insights on the implementation of the Demonstration. The summative evaluation focused on documenting the implementation process as well as barriers and facilitators to enhancing NH capacity to address the complex care needs of Beneficiaries with behavioral health conditions.

6.1.2.1 Strategies for Facilitating Demonstration Implementation

6.1.2.1.1 Partnerships and Collaboration

IDN administrators indicated that collaboration and stakeholder engagement were critical to informing systems of care and establishing the partnerships necessary to establish IDNs and implement Demonstration activities. Administrator interview data indicated a strong theme of collaboration—among partners, and across IDNs. Throughout the early stages of the Demonstration, new partnerships developed, and these relationships were critical to building the infrastructure necessary to execute the activities of this complex Demonstration project. IDN administrators reported that their relationships with partner organizations continued to strengthen over the course of the Demonstration and are largely seen as sustainable relationships that will only continue to help support system transformation efforts.

Several IDN administrators pointed out that the comprehensive governance structure that was implemented as part of the initial roll-out of the Demonstration has helped to solidify these relationships and form committed, sustainable partnerships across medical, behavioral health and social service organizations. Several IDN administrators mentioned that the dedication of their partners has been essential to facilitating the successful execution of project plans, increasing community engagement, and identifying and addressing project implementation challenges.

> *"Areas of our region. . . that traditionally [have had] . . . siloed operations because they don't have a ton of community resources, we've been told by several of the partners that work in the community, this has really strengthened cross-organization communication. They're seeing that it's having a real impact on the deduplication of work and therefore kind of the bandwidth of the case managers to serve the population a little better. [This is] definitely the piece that if I were to hang my hat on something, it would be that, because I think that that doesn't require anything to continue. Those are relationships and a culture shift that has already happened."*
>
> - IDN Administrator

6.1.2.1.1.1 Governance Structure

The creation of governance structures within the IDNs served as a catalyst for the creation of clinical-community linkages; these cross-site and sector relationships are seen by key stakeholders as critical to supporting care transitions. The partnerships formed among key agencies within IDNs have worked to streamline operations leading to greater efficiencies. Administrators also spoke of the increased understanding among community partners, their roles and responsibilities, and new interactions that benefit work flows and patient care.

> *"One of the things that we have done really well- and an early success- was just forming a network that we felt really represented and highlighted all of the kind of different corners of those sub-regions and did a good job of gaining representation across the primary organizations and community support partners."*
>
> - IDN Administrator

The shared governance structure has helped to promote shared decision-making and accountability among IDN partner organizations, which has helped to facilitate key stakeholder buy-in and commitment to the partnership. These findings are consistent with past research that indicates that formalizing relationships between stakeholders, developing mechanisms for shared decision-making, and focusing on the development of a continuum of care with input from a broad range of stakeholders are all necessary elements for developing integrated models of care.[43] For example, the formal agreements established between IDN partners has allowed them to move beyond informal partnership and established formal commitments.

> *"The head of our peer support organization has the same influence over decisions as the CEO of a large corporation or large agency here. And that -- that leveling of the playing field and making sure that we're all seen as having integral and important parts of the treatment spectrum is going to serve this community well forever."*
>
> - IDN Administrator

6.1.2.1.1.2 Resources to Support Demonstration Activities

IDN Administrators indicated that several resources provided as part of the Demonstration have been very or extremely important to contributing to the successful implementation of Demonstration related activities. These resources included: staffing infrastructure, involved and dedicated community networks, leadership within the IDN, financial resources to support Demonstration activities, and HIT enhancements. Many IDN administrators also indicated that leadership from DHHS, physical infrastructure, and improving clinical knowledge were important for successful execution of Demonstration activities.

IDN Administrators were asked to reflect upon their experience to date with the technical assistance activities provided to the IDNs to support the implementation process. The most valuable technical assistance activities identified by Administrators were one-on-one calls with NH DHHS staff as well as the support and guidance they received from the Department.

> *"DHHS staffers have been incredibly supportive in seeking solutions to challenges. The consultants did not seem to have a grasp of the needs of the IDN's so [they] could not [be] translated into meaningful TA. It would have been beneficial to have had a learning collaborative consultant that was NH based."*
>
> - IDN Administrator

A number of administrators acknowledged that this has been a huge undertaking and NH DHHS staff has done a good job managing all the pieces of this complex initiative. Additionally, Administrators felt that the information they received on billing and coding was extremely helpful.

6.1.2.1.1.3 Value of Quality Performance Metrics

One of the key components of the Demonstration implementation process for IDNs was establishing systems to meet the quality performance metrics reporting requirements of the Demonstration. While many respondents acknowledged that the implementation of processes to extract and report performance metrics was cumbersome, there has been value in the reporting process. HIT stakeholders felt that the implementation of reporting processes offered an opportunity for HIT stakeholders to work with IDN administrators, providers and community partners to establish systematic mechanisms for data validation and reporting.

> *"While tedious, having the DSRIP outcome reporting through MAeHC has enabled us to do a 'deep dive' in our data collection and charting workflows. While some of the issue with our outcome scores had to do with how the data is being pulled from the system, it gave us the chance to look at opportunities for education with our clinical staff about how certain interactions with patients should be noted in their chart."*
>
> - HIT Stakeholder

An additional unanticipated benefit to setting up reporting structures has been the relationship building between HIT administrators, IDN leadership, providers and community partners. The planning involved in establishing the infrastructure necessary to meet the Demonstration reporting requirements provided an opportunity for a variety of stakeholders that may not have typically interacted in their daily roles, to understand each other's

reporting challenges and work together to develop solutions that worked for all participating IDN partners.

> *"When we think about the IT and data components - we've really been pushing quite hard, as I'm sure you know and are hearing from everyone, on the measures that we're paid upon. And so I think a lot of that is being aided by some of the technology pieces we put in place and that our partners are feeling more capable of robust data reporting and while it's still a significant lift, I think that we're seeing very positive trends in terms of the accuracy of the data submission."*
>
> - IDN Administrator

In addition, a variety of Demonstration participants, including HIT stakeholders and providers, acknowledged that the reporting requirements have pushed their organizations to establish data collection and monitoring systems that were not previously in place. As a result, some stakeholders mentioned the increased availability of data to monitor population health, improve coordination across partners and promote more patient-centered approaches to care through data mining and sharing.

> *"So this time last year only one partner was reporting. Within six months, we had all of our partners reporting . . . so it was huge. I mean, we went from like basically one to, you know, zero to 60, right?"*
>
> - HIT Stakeholder

6.1.2.1.1.4 Utilization of the Comprehensive Core Standardized Assessment

The Comprehensive Core Standardized Assessment (CCSA), being implemented as part of the Demonstration's Core Competency Project, is a standardized screening process designed to identify medical, behavioral and social needs.[44] As part of the Demonstration implementation, IDNs were tasked with creating systems to integrate the screening into organizational workflows to aid in the identification of Beneficiaries needs, develop individualized care plans, and facilitate referrals to appropriate services.

One of the successes of the CCSA implementation was the broad adoption of the screening by providers. Of the providers expected to complete the CCSA, the majority of providers report completing the screening (92.2%). While providers reported a number of barriers to implementing the CCSA (See Section 6.1.2.2.1.4), once organizations worked through the implementation process and streamlined workflows there has been an acknowledgement by some providers that the tool was useful for promoting comprehensive care planning. In addition, providers noted that the ability to screen for not only physical and behavioral

health care need but also examining social needs has allowed for a more holistic, patient-centered approach to care.

> *"Where before, we would be working in silos and . . . hoping. . . each provider is doing what they need to do. And so I just think that . . .wraparound care for some of these clients has been incredibly helpful. Just being able to screen for social determinants of health has been huge, I think, and then being able to have a conversation with the medical providers about what they're also seeing."*
>
> – Provider

6.1.2.2 Challenges to Demonstration Implementation

6.1.2.2.1 Program Implementation Challenges

The majority of IDN Administrators reported that this was an extremely difficult project to implement due to a number of factors including: financial challenges being a significant barrier to securing the commitment of community partners; reporting requirements; insufficient start up time to organize the system and interpret the STCs. Many partners chose not to participate, as they knew they could not meet all the requirements.

6.1.2.2.1.1 Challenges to Implementing Quality Performance Metrics

Implementing processes to meet the Demonstration quality reporting requirements has been a major challenge for IDN Administrators, partner organizations, and providers. The two largest reporting challenges have been the amount of work to report the data including the staff time to manually extract measures and assure accuracy along with the challenge of not receiving data reports in return for what was submitted. Data reporting has required IDN partners to provide staff time for data entry to report on metrics as well as a strong reliance on information technology staff to help with data reporting. In addition, providers mentioned the need to focus on data reporting required the use of a lot of resources which could have been used to address higher priority infrastructure and clinical needs.

> *"It takes a lot of different people, from . . . business admin staff to try to pull reports . . . [to] going through each individual client's file to make sure we reported out the correct data."*
>
> - HIT Stakeholder

> *". . . we've spent an exorbitant amount of time trying to meet measures for funding rather than putting the attention, you know, that was needed towards behavioral health integration, substance use services . . . I don't feel there was enough clinical input early in the planning to get into the specifics around a lot of the metrics that ultimately are tied to funding."*
>
> - Provider

Other concerns included the accuracy of data reporting, data collection challenges and issues with timely feedback on quality reporting. It was noted that sometimes the data pulled and submitted to DHHS was not reflective of what providers were seeing in their data.

Another provider mentioned the challenges of having to use multiple methods of data collection, such as needing resources to support manual data entry as well as EMR extraction. Moreover, providers expressed frustration about long wait times to receive feedback on their data, which often left them not knowing where they stood in terms of their organization's metrics and expected goals.

> *". . . we have metrics that we're currently reporting on that we still haven't been given a baseline number for . . . never mind a goal for . . . we're being asked to pay attention to something that we have no awareness of where it is that we are and where it is that we need to be. So it feels like a pretty fruitless endeavor."*
>
> - Provider

6.1.2.2.1.2 Workforce Shortages

Workforce shortages in the State have created difficulties in an already challenging project implementation process. During interviews, IDN providers noted that it was often hard to get everyone together for project meetings and participating in the Demonstration was a "big time" commitment. Given the known deficits in NH's provider workforce, having the time to attend meetings and allocate the staff resources necessary to execute the various aspects of the Demonstration has been a large barrier to implementation.

> *"I have one person for 16,000 patients that is experienced in population health and guides data mining. That is not enough. She also does quality improvement and risk management. So, that's another barrier. And I'm one of the fortunate people that has somebody that's that experienced."*
>
> - Provider

Some providers expressed that their primary responsibility was seeing patients or running a business, which left them with limited time for other responsibilities. Providers expressed difficulties striking a balance between their health center's responsibilities and the needs of DSRIP Demonstration.

6.1.2.2.1.3 HIT Infrastructure

HIT stakeholders reported legal issues and privacy concerns as one of the biggest barriers to implementing HIT software designed to enhance data sharing to promote care integration and transitions. Specifically, respondents mentioned the Code of Federal Regulations (CFR) 42 Part 2 (referred to as Part 2), which governs the use of health records for individuals with substance use disorders. Part 2 prohibits unauthorized disclosures of patient records except in very limited circumstances and almost always requires patient consent in order to share information.[45] Given the Demonstrations emphasis on integration, collaboration, and promoting care transitions for Beneficiaries, IDN's faced challenges in establishing the infrastructure necessary to support communication and coordination of care across IDN partner organizations while at the same time ensuring they are compliant with CFR 42 Part 2 regulations.

In addition, Health Insurance Portability and Accountability Act (HIPAA) regulations were reported to make data sharing difficult. For example, larger health organizations were very cautious about sharing information with non-HIPAA entities such as community-based organizations. Due to the complex nature of HIPAA and Part 2, many respondents expressed fear and confusion around what information could be shared. The fear of violating policies and regulations caused substantial delays in reaching the DSRIP Demonstration HIT goals.

> *"I think people are scared of sharing something accidentally that they're not sure they should be sharing."*
>
> -HIT Stakeholder

It was reported that working through privacy concerns was a lengthy process. In some cases, it took IDNs a year or more to determine what information was private and what data was allowed to be shared, while others reported spending several months developing consent forms, data sharing agreements, and business associate agreements.

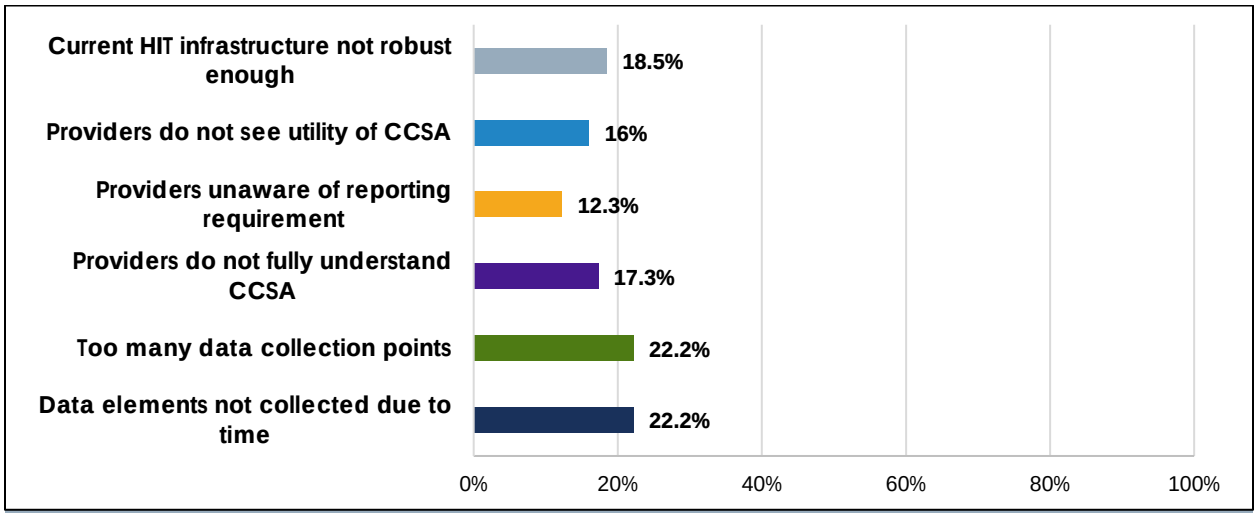
> *"It's the authorization for confidentiality and all of that but it encompasses HIPAA and CFR 42 Part 2 and we developed one form and asked our partners to use it instead of what they had been using and that would allow for everyone to share patient care information amongst themselves . . . that makes the most sense, but you have numerous partners that have numerous boards and others that say no, we're going to use what we've always used, and/or don't necessarily trust that your legal advice is, you know, fully vetted even though it was over and over and over again."*
>
> – IDN Administrator

Additional challenges to implementation included various levels of engagement from different partner organizations. HIT stakeholders shared that leadership buy-in was often a hurdle, especially for larger health systems that needed approval from Boards of Directors. HIT Administrators also spoke of the difficulties of competing priorities within partner organizations such as mergers, EMR conversions, or internal structural changes that delayed DSRIP efforts.

6.1.2.2.1.4 CCSA Implementation Challenges

One of the goals of the Demonstration is to implement comprehensive screening, through the CCSA, to identify and address the needs at risk populations within the Medicaid population. Although some organizations have been able to successfully integrate the CCSA into their organizational workflows, many providers reported barriers to implementing the screening tool. Of the providers expected to complete the CCSA as part of the Demonstration, 57.1% reported having difficulty completing the CCSA. The most frequently cited challenges were: having the time during patient visits to complete the screening; a lack of understanding of the CCSA; no HIT infrastructure to support integrating the CCSA into electronic platforms; and, a lack of provider buy-in (Figure 6.1—1).

Figure 6.1—1: Provider Reported Challenges Completing CCSA



Both providers and HIT stakeholders also indicated that they are currently only able to check if partner organizations have completed the CCSA but cannot use the assessment to monitor population health or identify high priority needs among the Beneficiaries in the service area because of data sharing issues. HIT stakeholders further indicated that they are not collecting the data elements within the CCSA (44.7%) for various reasons including:

- current HIT infrastructure is not robust enough to support the collection of the data points needed (38.3%);
- the CCSA has too many data collection points making it time consuming and difficult to administer (36.2%); and,
- providers do not fully understand the CCSA measures so they are not administering the assessment (23.4%).

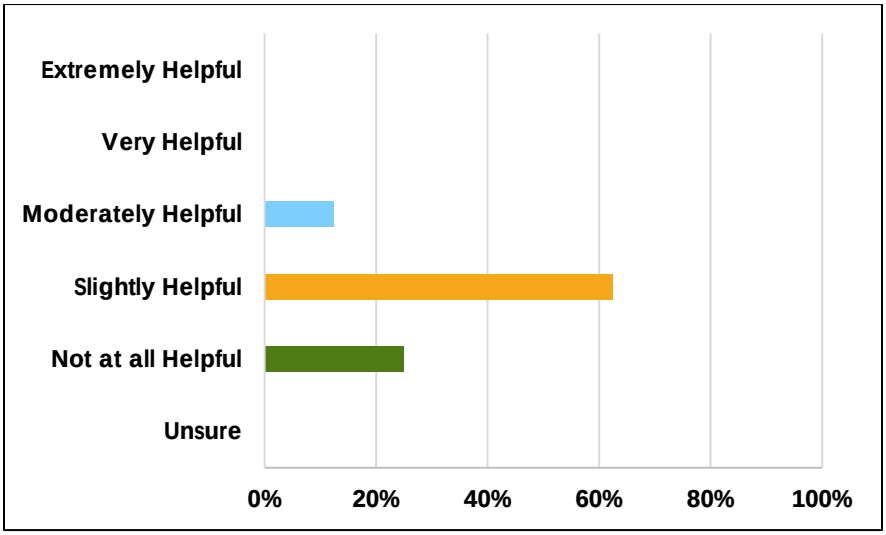
A final challenge to implementing the CCSA, noted by both HIT stakeholders and providers, is that some providers were uncomfortable asking the questions in the assessment because, if there was a positive screen, they did not have adequate resources or thought they could not find an appropriate referral organization to address the individual's needs.

> *"until we have . . . resources in place with the clinical social workers and . . . enough people to help with kind of finding the resources, there's . . . some hesitation to do all the screening . . .if we don't have the capacity to react to those positive screens"*
>
> -Provider

6.1.2.2.1.5 Technical Assistance

The Statewide Learning Collaborative was seen as the least effective form of technical assistance provided during the implementation process (Figure 6.1—2). In addition, respondents reported that the technical assistance activities provided by consultants would have been more beneficial to them if they had been more proactive in nature.

Figure 6.1—2: Helpfulness of the DSRIP Statewide Learning Collaborative as Reported by IDN Administrator Survey Respondents (n=8)



Some of the issues with the learning collaborative identified through interviews with administrators included the relevancy and timeliness of topics; alignment of the content with the target audience; and, the varying levels of expertise among participants meant that topics may have been repetitive or irrelevant.

> *"My feeling about the learning collaborative is it always feels like it's too little too late. It's like when there's an emerging issue, it's six months later that we even talk about having something come together or resources that can help us. So, like, we've already done the work by the time we're learning how we might want to do it. I've always felt like okay, so they're reacting to what we just did, not what we need."*
>
> - IDN Administrator

Delays in getting the learning collaborative underway during program start up resulted in Demonstration stakeholders forming their own informal learning collaborative, which they found to be a very helpful platform for working through issues. Through this informal learning network, IDNs coordinated shared trainings, regularly engaged in meetings, shared their data relatively transparently; and, passed along information they found valuable to push the implementation forward such as workflows, policies and legal guidance.

> *"We've ... coordinated to offer shared trainings, we invite our partners -- our IDN colleague partners to our all-partner meetings in (our IDN), we share our data relatively transparently. I think we're really kind of the mindset and we're one part of a kind of greater whole and that anything that I can share or pass along that I've found to be valuable is something I'm going to choose to do because I think ultimately that helps us all."*
>
> - IDN Administrator

6.1.3 Infrastructure Development

6.1.3.1 HIT Infrastructure Development

Research indicates that HIT plays a significant role in facilitating care coordination and transitions of care.[43] Enhancing HIT ecosystems to allow for greater communication and information sharing across organizations and providers can increase efficiency and improve patient access and outcomes.[46] Consequently, one of the primary goals of the Demonstration is to enhance the HIT ecosystem in NH. As part of the Demonstration, each IDN is participating in a statewide project aimed at developing health information technology to support care integration.

All IDN Administrators agreed that HIT enhancements were critical to the success of the Demonstration with the majority (63%) seeing the HIT infrastructure being extremely important to achieving the goals of the Demonstration. IDN Administrators perceived the sustainability of the HIT infrastructure, created under the Demonstration, as moderately (50%) to very likely (50%). Much of the critical work in developing and enhancing the IDNs technology capacity was carried out by the HIT stakeholders who participated in the statewide project.

During the initial stages of implementation, the majority of HIT stakeholders reported regular engagement in the statewide HIT workgroup meetings and planning sessions (Figure 6.1—4 and Figure 6.1—3). Demonstration HIT related activities largely focused on capturing, managing, sharing, and storing patient data within the DSRIP IDNs including: involvement in implementation of systems (53.2%); planning system infrastructure changes (48.9%); providing support for HIT related systems; (51.1%); and, building HIT infrastructure (29.8%). In addition to undertaking a comprehensive planning process, the IDNs also held regular training sessions. The majority of respondents reported participating in HIT training monthly (35.6%) or annually (20%).

Figure 6.1—3: Engagement with HIT Planning Sessions as Reported by HIT Stakeholder Survey Respondents

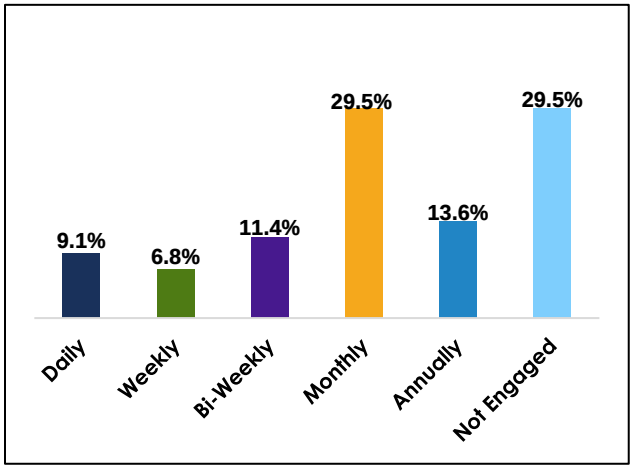
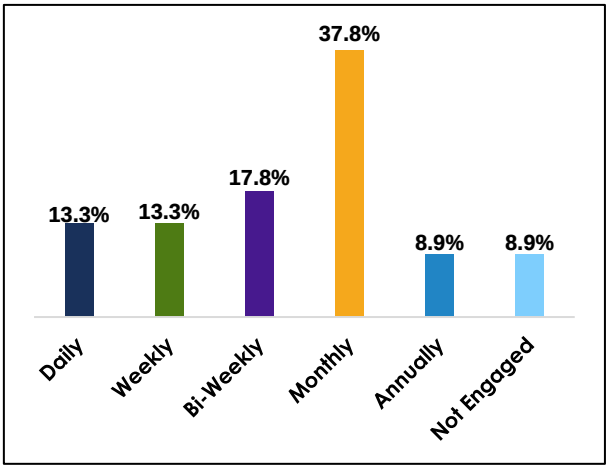


Figure 6.1—4: Engagement with HIT Meetings as Reported by HIT Stakeholder Survey Respondents

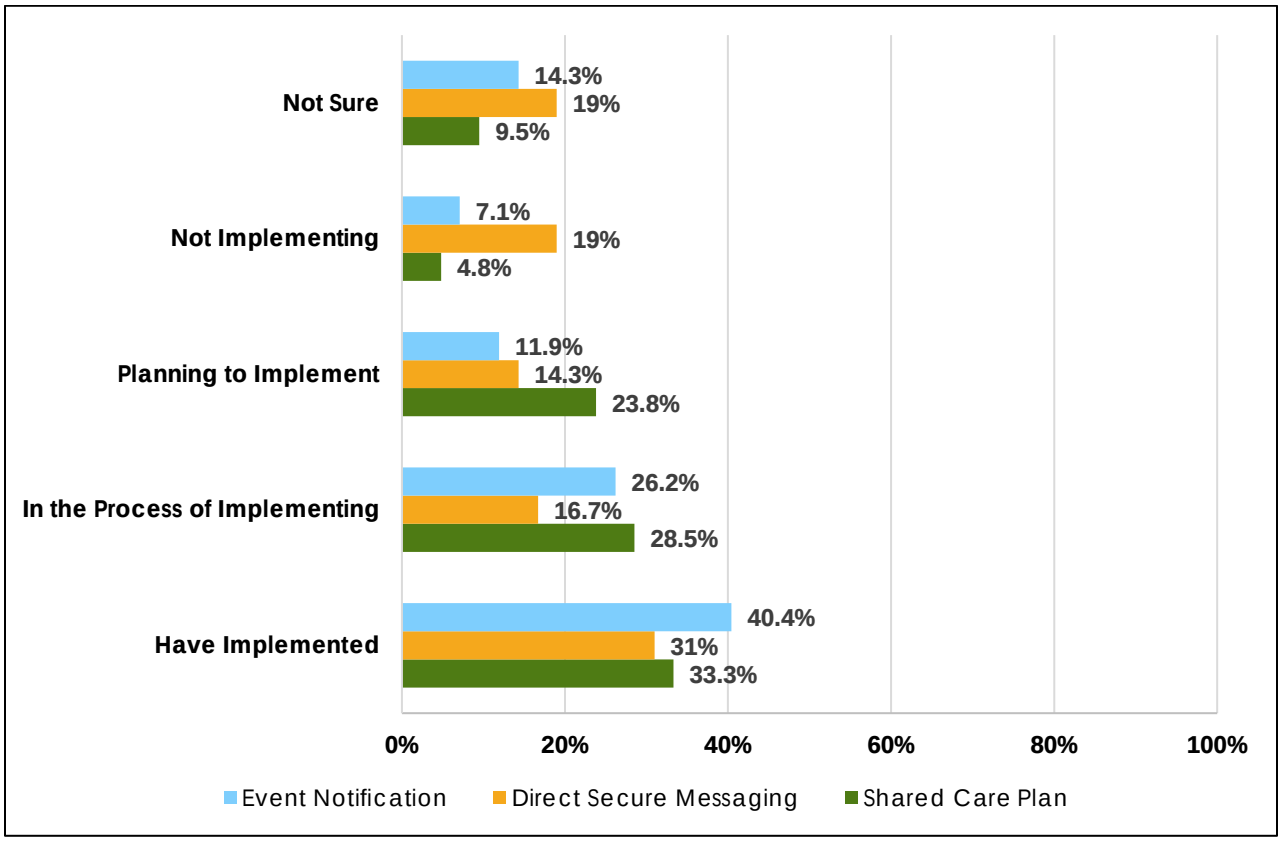


6.1.3.1.1 Software Implementation and Usage

As part of the statewide HIT project, IDNs were tasked with implementing: Events Notification, Shared Care Plan, Direct Secure Messaging and Quality Data Reporting software. IDNs are at various stages of implementing software with the majority of HIT stakeholders indicating that software packages have been implemented or are in the process of being implemented at their IDNs.

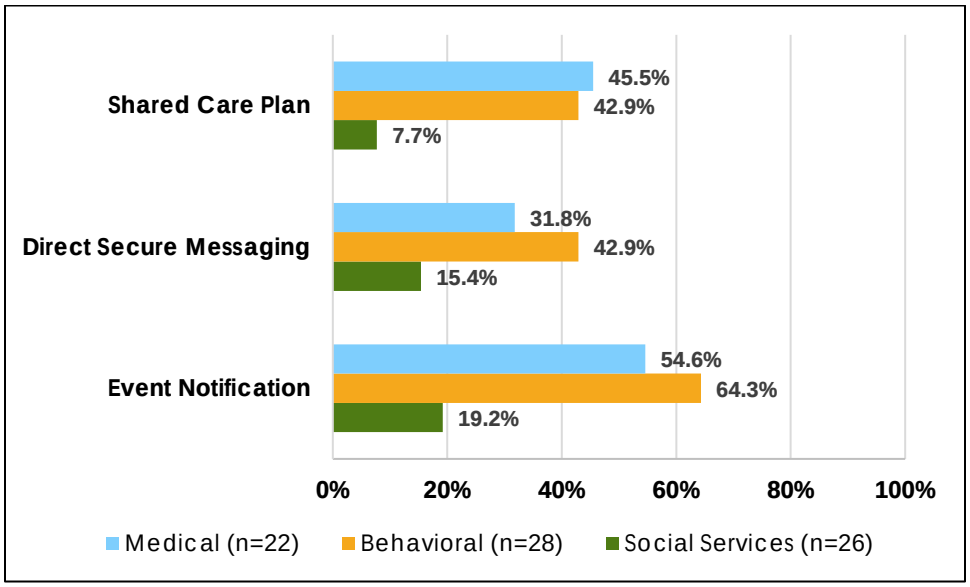
IDNs reported significant progress in implementing Event Notification Software, Shared Care Plan and Direct Secure Messaging software (Figure 6.1—5). HIT staff reported the most difficulty implementing the Shared Care Plan Software with 29.7% reporting it was difficult or very difficult. These respondents reported the least difficulty with implementing the Event Notification Services Software, with only 5.9% of respondents reporting it was either difficult or very difficult.

Figure 6.1–5: Implementation Status of Software Options as Reported by HIT Stakeholder Survey Respondents



Utilization of software varied by provider type (Figure 6.1–6). Behavioral health providers had higher rates of utilization of notification and direct messaging software. Medical providers were more likely to report the integration of notification and shared care plan software into their clinical practice than direct messaging applications. Social service providers were the least likely to report using any type of Demonstration software, which is not surprising given that these organizations often lack technical platforms, HIT infrastructure and the resources to integrate data from different sources such as EMRs.[47]

Figure 6.1—6: Provider Survey Respondents by Type Using Demonstration Software

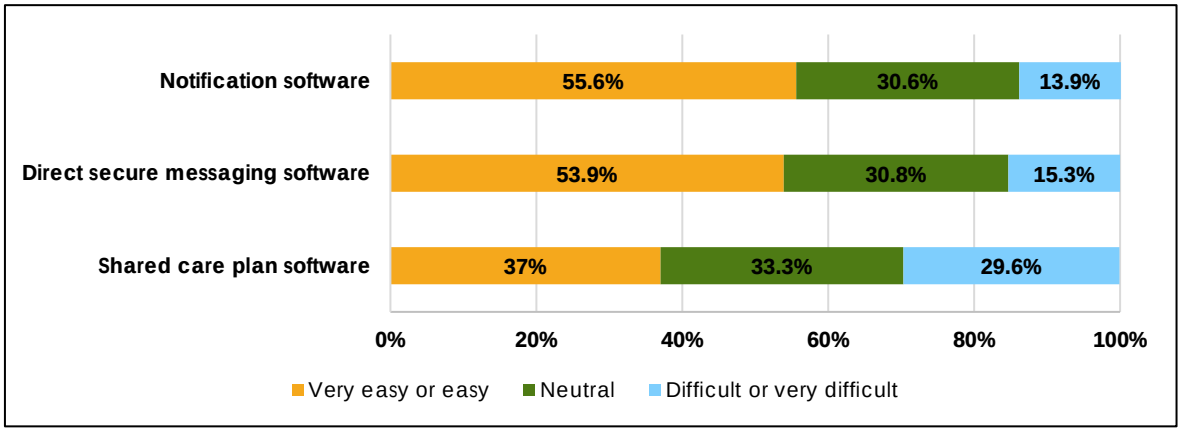


Providers also expressed varying levels of comfort utilizing the Demonstration software packages (Figure 6.1—7). Overall, 44% of providers reported using notification software under the DSRIP Demonstration and 55.6% of utilizers reported that this software was easy or very easy to use. Shared care plan software has not been implemented as widely as direct messaging and notification software, most likely due to it is perceived as more challenging to use with 29.6% of providers reporting that the software was difficult or very difficult to use. At the provider level, physical health providers had an easier time adopting the shared care plan than behavioral health providers. Behavioral health providers reported the need for better workflows, increased training for staff, and buy-in at all levels to be able to fully incorporate the shared care plan into their practices. In addition, many viewed the Shared Care Plan as the toughest software to implement due to legal issues and information sharing concerns, which caused lengthy delays in deploying the software.

> *"One of the issues with the waiver to begin with was a lack of understanding at the state level when the waiver program was designed and developed on the legal issues involved with sharing."*
>
> - HIT Administrator

Although direct secure messaging (29.6%) is the least used by IDN partner organizations, the majority of providers who have implemented it into their clinical practice (53.9%), report it easy to use and excellent for facilitating information sharing.

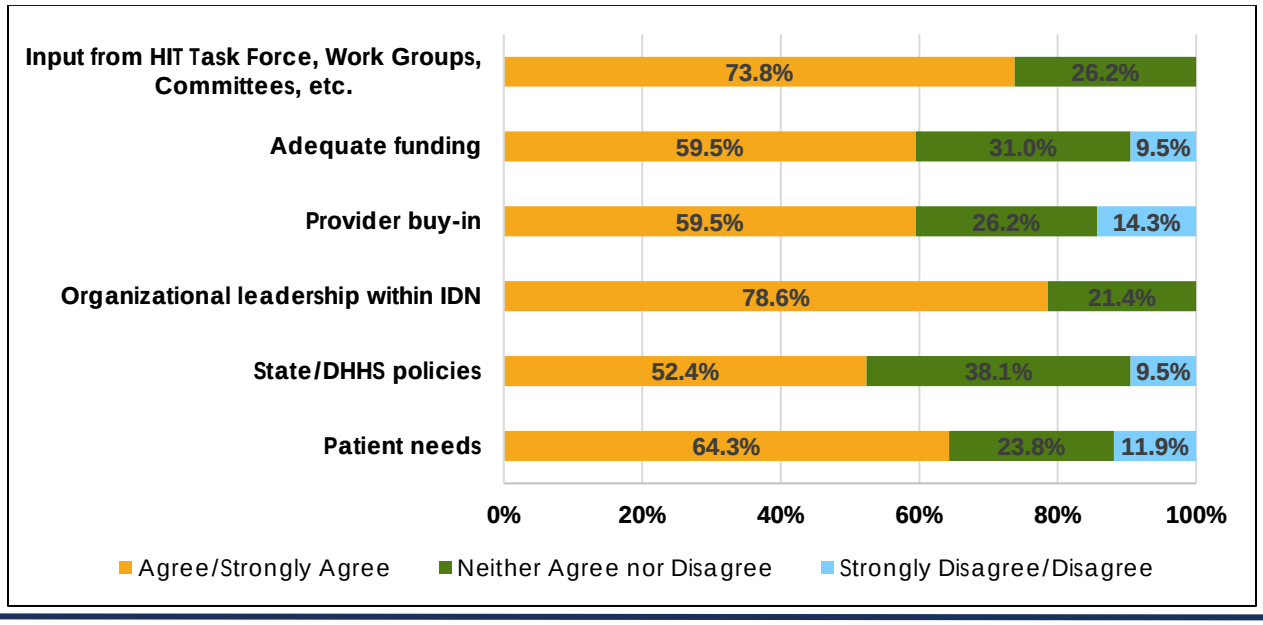
Figure 6.1—7: Ease of Software Utilization as Reported by Provider Survey Respondents



6.1.3.1.1.1 Successful Implementation and Utilization of HIT Software

Despite some noted challenges, the implementation of event notification systems and the enhanced capacity for data sharing through software applications were the most frequently cited successes of the Demonstration's HIT Project by both survey respondents and interviewees. HIT stakeholders were most in agreement that organizational leadership within the IDN (78.6%) and input from HIT Task Force, Work Groups, Committees, and similar initiatives (73.8%) had a direct influence on the successful implementation of DSRIP HIT strategies (Figure 6.1—8).

Figure 6.1—8: The Following Factors Have Directly Influenced the Successful Implementation of DSRIP HIT Strategies, as Reported by HIT Stakeholder Survey Respondents



When HIT stakeholders were asked to identify the greatest successes in DSRIP-related HIT infrastructure development, the most frequently mentioned were data sharing and reporting; implementing event notification systems for real-time data sharing in support of critical time intervention and community care team initiatives; working to streamline CCSA workflow; and, the collaborative relationships with partners and providers that were established during the Demonstration HIT project.

Providers also cited the implementation of event notification systems as a successful enhancement to the HIT infrastructure. Other HIT stakeholders mentioned that the HIT work in the state has had a significant positive impact on their practice and improved the lives of the Beneficiaries that they serve in their region. HIT stakeholders indicated that the Collective Medical Technology software, such as the shared care plan and event notification, are excellent tools to better manage Beneficiaries' care, particularly by the multidisciplinary care teams and, where applicable, Community Care Teams.

> *"We are very happy with the HIT movement in the state. These systems already have shown to be a benefit for our patients. Our ability to have access to quick and clear information about our patients allows us to be better care providers. The efficiency of these systems helps us reach a greater number of people and develop stronger relationships between partners. We support the need for meaningful data and understand the power this holds. It does not seem these measures/data have been fine-tuned to be the most appropriate and meaningful at this time."*
>
> - HIT Stakeholder

Providers echoed the sentiments of HIT stakeholders, indicating that once workflows were established and HIT software implemented, these applications facilitated effective communication, enhanced care coordination, and improved Beneficiary outcomes. Among the providers who offered feedback through interviews, just under half reported using shared care plan software. Positive feedback about the software included that it has helped improve the frequency of communication and has helped bridge information sharing between primary care and behavioral health services.

> *". . . one of our shared care plan clients who's just done incredible work since having I think everybody on the same page and is doing a lot better clinically and addressing both his mental health and his substance use."*
>
> - Provider

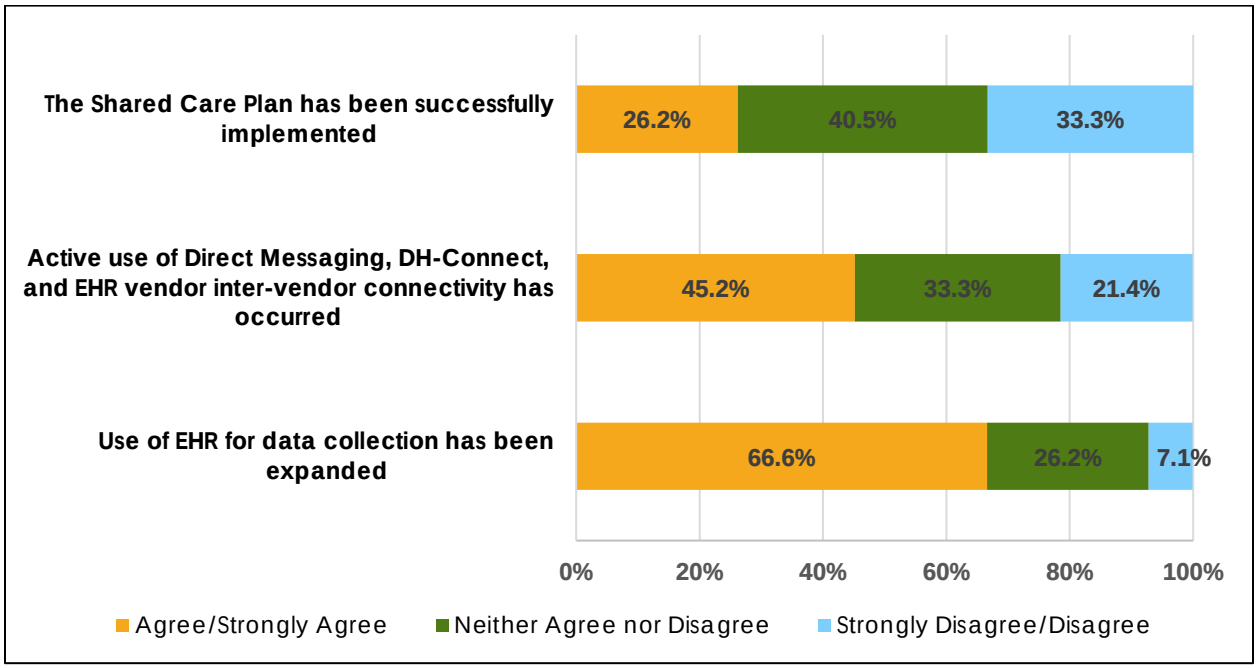
Providers also offered positive feedback on event notification software, which has enhanced their ability to get real-time information on patients, facilitating more rapid follow-up with patients.

> *"Event notification has made a strong difference because where we're meeting -- we're meeting the needs of people in real time instead of waiting five days for a discharge summary to head to someone in your network and never get to somebody outside of your network. So that made a big difference."*
>
> - Provider

6.1.3.1.1.2 Challenges with HIT Software Implementation and Utilization

Although the Demonstration has made significant progress in improving the State's infrastructure, challenges remain. While the majority of HIT stakeholders agreed that software enhancements have expanded the use of EHRs for data collection, concerns remain regarding the implementation of the Shared Care Plan, the extent to which direct messaging applications are being used, and challenges related to inter-vender connectivity of messaging software (Figure 6.1—9)

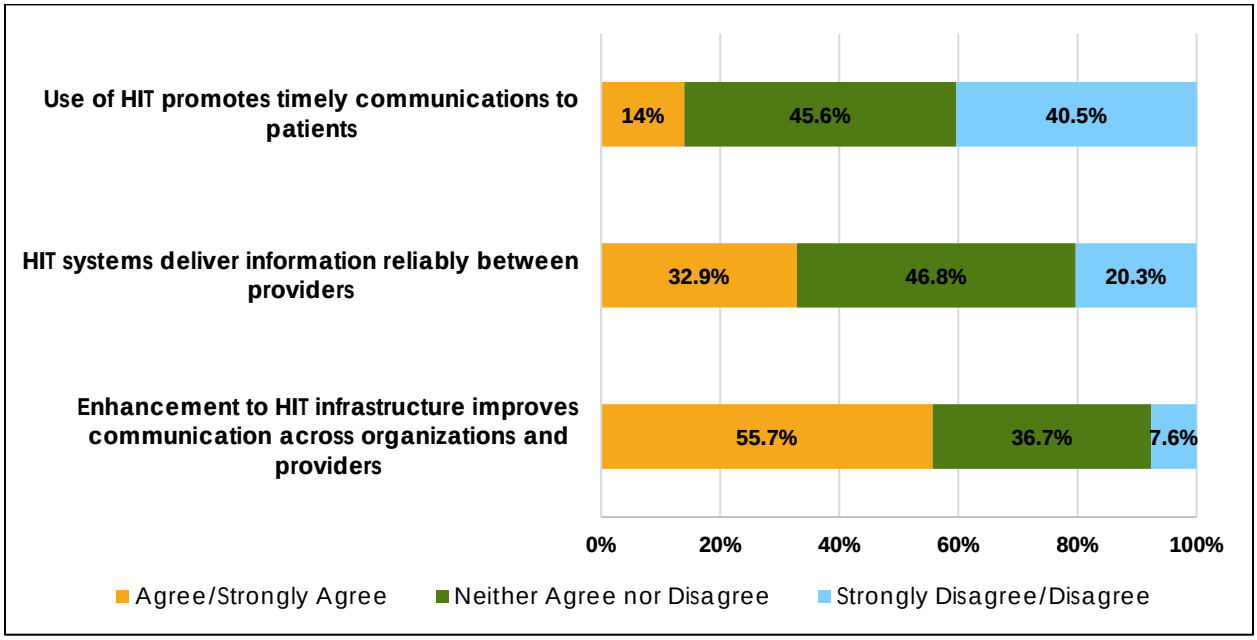
Figure 6.1—9: Beliefs about Implementation of Strategies to Enhance HIT Infrastructure as Reported by HIT Stakeholder Survey Respondents



While there are benefits to the technology systems put in place, there continues to be a number of challenges in adoption and use across providers. Providers also had mixed responses regarding the level of successful software implementation and integration into practice. While the majority of providers agreed that enhancements to the HIT infrastructure have facilitated communication across organization and provider, there were mixed

responses on the reliability of HIT systems to deliver information between providers and promote timely communications to patients (Figure 6.1—10).

Figure 6.1—10: Perceptions of HIT Enhancement Utility as Reported by Provider Survey Respondents



Not all organizations and providers have implemented the software packages; among the providers who participated in key informant interview approximately half reported using direct secure messaging or event notification software and few reported using shared care plan applications. Among the individuals who discussed using shared care plan applications, many mentioned they were not able to take full advantage of the HIT enhancements because their clinical and community partners currently did not have these HIT capabilities. Both HIT stakeholders and providers indicated that variations not only exist among different partners and their technology capabilities, but there were also variations across the IDNs. Individual IDNs were using different vendors and applications for similar tasks, which made communication between providers across IDNs difficult. This was further complicated by EMR interoperability, which was another frequently cited barrier to utilizing software for notifications, messaging, and data sharing.

In addition to variations in HIT implementation and utilization across organization and providers, key informant interviewees also discussed other infrastructure elements such as financial resources, staffing to support notification software, and competing HIT priorities such as using resources to support updates to EMR as challenges to the adoption, maintenance and

> *". . . we do the best we can with what we've got, but there's certainly room to have done a whole lot more, but that requires staffing and funding."*
>
> - Provider

sustainability of the software implemented as part of the Demonstration. IDN and HIT stakeholders spoke to closed-loop referrals as a facet of integration in variable stages of implementation among partners. These stakeholders also noted that the HIT software expansion has been key in supporting the closed-loop referral system, but that partners in earlier stages of implementation are not yet fully participating. Finally, barriers to using the enhanced HIT systems were not just affected by limited financial resources, but have also been hampered by staff change fatigue. Learning something new and making time for additional training is difficult for busy providers who are already overburdened with multiple organizational and clinical priorities. Change fatigue was discussed as having a potential influence on the utilization of new HIT capabilities; with limited time and resources, providers noted they were often resistant to changes in their systems and workflows.

> *". . . we still are challenged and were challenged back then that many organizations didn't have the capacity [for direct secure messaging] or, if they did, they weren't willing to receive things from us."*
>
> - Provider

6.1.3.1.2 Information and Data Sharing

6.1.3.1.2.1 Successful Strategies for Promoting Information and Data Sharing

When asked to identify the greatest success(es) in DSRIP-related HIT infrastructure development related to data sharing and reporting, HIT stakeholders most frequently mentioned: implementing event notification systems for real-time data sharing; working to streamline CCSA workflow; and the collaborative relationships with partners and providers that were established during the Demonstration HIT project.

> *"Being able to, especially with a shared care plan client, being able to have goals that we both are aware of and both working towards, and that when we do have some of these complex cases that meet the need for that that we are essentially wrapping around the clients."*
>
> - Provider

In addition, IDNs used education and training on CFR42 Part 2 as a mechanism to help facilitate the implementation of structures to facilitate data sharing. For example, the IDNs organized legal clinics with the University of New Hampshire law school for stakeholders to attend. While these clinics did not fully assuage fears, HIT Administrators noted that these clinics helped to provide valuable insights and clarity, which was extremely useful for stakeholders as they identified possible strategies and mechanisms to implement systems for data sharing.

> *"Once it was known that this was not going to land anybody in jail – to be able to move forward and share information – it's been hugely helpful."*
>
> - Provider

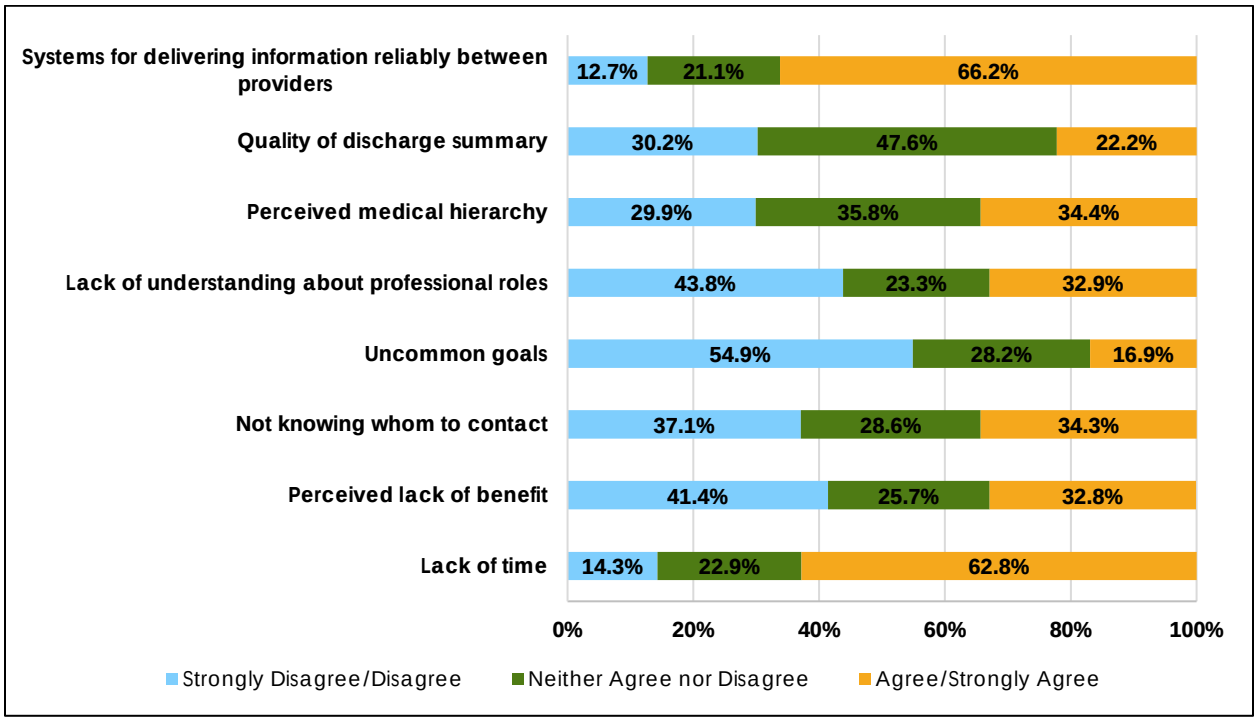
HIT stakeholders reported that each partner organization took a different approach to establishing systems for data sharing as partners had different level of comfort and risk around information sharing. Some organizations created specific consent forms, some created universal forms, and some IDNs took the approach of establishing provisions for organizations to opt in or out of HIT technologies.

6.1.3.1.2.2 Ongoing Challenges Related to Information and Data Sharing

Although the majority of respondents reported that they agreed that EMR data collection was expanded, there was less agreement on whether vendor, inter-vendor connectivity and other communication through HIT platforms had occurred and whether or not the Shared Care Plan had been successfully implemented.

The majority of providers surveyed agreed that, despite enhancements to the States HIT infrastructure, there remained challenges to sharing information across organizations and providers (Figure 6.1—11). More than half of providers agreed or strongly agreed that lack of time (62.8%) and systems for delivering information reliably between providers (66.2%) are significant barriers to information sharing. Providers also agreed or strongly agreed that perceived medical hierarchy (34.4.%), not knowing who to contact/share the information with (34.3%), lack of understanding of professional roles (32.9%) and perceived lack of benefit to sharing information as a challenge.

Figure 6.1—11: Barriers to Information Sharing as Reported by Provider Survey Respondents



IDN providers further identified varying interpretations of CFR42 Part 2; workforce capacity and its impact on software use; variation in the implementation and use of information sharing software among organizations; and, gaps in HIT infrastructure including a lack of closed-loop referrals and inconsistent EMR interoperability as barriers to information sharing.

The fear of inadvertently sharing protected information substantially influenced data sharing among organizations. Several HIT Administrators reported that partner organizations did not share information due to concerns about privacy issues. Most survey respondents reported a need for more education and/or consultation services regarding CFR42 Part 2, and one key informant interview summed up the challenge as a lack of legal precedence.

Varying levels of HIT capacity at partner organizations also impacted data sharing. Many smaller places still used paper-based systems and did not have the infrastructure or resources to execute high level HIT initiatives. For those organizations, HIT stakeholders reported success in bringing them up to speed and improving the HIT infrastructure through software, in particular direct secure messaging.

> *"We have an opportunity that we haven't totally solved yet in that clinically, communication between the community mental health centers and the rest of the universe is black hole. We don't have a perfect technology solution for that because we don't have great human capital solutions for that."*
>
> - HIT Stakeholder

The HIT software itself also presented additional hurdles to information sharing. HIT stakeholders shared that Collective Medical Technologies, the vendor for both the Shared Care Plan and the Events Notification software, did not initially have a way to show if a patient was subject to Part 2. This prevented many organizations, especially SUD community-based organizations, from initially sharing behavioral health information. However, key informant interviewees shared that they were eventually able to customize the Collective Medical Technologies software to show if Part 2 applied and if a release had been completed. HIT survey respondents also commented that progress was made in obtaining consent and addressing privacy concerns, but that this did not occur for all IDN partners.

HIT stakeholders also noted the difficulty of sharing information without clear guidance from the State.

> *"One of the issues with the waiver to begin with was a lack of understanding at the state level when the waiver program was designed and developed on the legal issues involved with sharing."*
>
> - HIT Stakeholder

6.1.3.2 Workforce Development

6.1.3.2.1 Successes of Demonstration Workforce Capacity Building Efforts

Key stakeholders overwhelmingly indicated that, thus far, the greatest success related to increasing behavioral health workforce capacity as part of the Demonstration has been their ability to use project funds to hire additional staff to support the work undertaken within their IDNs. Numerous providers noted they had received funding to support additional FTEs or hire staff such as clinical social workers, community care coordinators, and resource specialists. Increased staff capacity has helped IDNs be more responsive to the behavioral health care needs of Beneficiaries while at the same time increasing their capacity to address social determinants of health. New staff has been used to increase care capacity and create innovative mechanisms for addressing Beneficiary needs such as having a coordinator in the emergency department to help address Beneficiary needs that are non-emergent in nature; creating mechanisms to assist youth in transition; and implementing outreach activities to help educate people about care integration. Other staff, made possible through DSRIP funding, helped to improve warm hand offs, make connections to community supports, and enhanced capacity for outreach activities.

Providers also noted positive experiences with the trainings offered by IDNs. Many providers remarked that the trainings and resources offered through the Demonstration were particularly helpful because it was often difficult to find funds to support workforce development. Other providers mentioned that making it easier to get a license to practice in New Hampshire has assisted IDNs with provider recruitment and retention.

> *"My experience has been phenomenal. As a small nonprofit, the ability to align with larger organizations and the resources around training and scholarship and workforce development assets are something that I could never offer to my organization. But in terms of retention and the ability to provide a workforce that can keep people engaged and provide them with the training and information and education they need to do the really hard work, the IDN has allowed us to really access amazing trainings and really keep people highly engaged."*
>
> - Provider

Participation in a clinical advisory team supported by the IDNs has been instrumental assisting partner organizations with structural issues, such as implementing shared care plans and clinical assessments, strategizing on how to address staffing needs, and improving communications across partners.

6.1.3.2.2 Challenges to Expanding Workforce Capacity

While behavioral health workforce capacity has increased due to Demonstration resources and activities, there remains significant capacity issues. Nearly all providers interviewed also noted the significant challenge of the lack of behavioral health providers in the state. An additional barrier to increasing workforce capacity has been finding staff with the appropriate skill set to fill needed positions, especially in regions where there is low unemployment and high competition rates. Moreover, while many practitioners indicated that the support for behavioral health services has improved because of the Demonstration, many primary care providers continue to struggle to manage care for those with complicated behavioral health needs.

> *"I guess sort of the biggest challenge that was present beforehand, and quite honestly, it's still there . . . has been the dearth of behavioral health providers in the State of New Hampshire."*
>
> - Provider

Providers spoke of the difficulties in recruiting and retaining behavioral health staff; the need for more clinicians and counselors to address behavioral health issues; and, a lack of people to whom they could refer patients for more advanced psychiatric care. Several

providers noted the impact of the behavioral health workforce shortage on Beneficiaries. Limited provider capacity has caused long wait lists and in some cases limited access to much needed behavioral health services.

Many primary care providers spoke of the need for additional support for patients with complex care needs. Specifically, a majority of interviewees felt the lack of behavioral health providers created a burden on primary care. In addition to the shortage of behavioral health providers, the limited number of locations for behavioral health treatment in the state means that patients are increasingly seeking care for behavioral health issues in primary care settings, leaving practitioners to managed care for complex cases for which they did not feel they had the resources. Even providers who reported having behavioral health staff integrated within their practice indicated they frequently have issues meeting the needs of Beneficiaries who require a higher level of care or psychiatric services because there are so few places to refer these individuals.

> *"So although the integrated behavioral health allows us to take care of much more than we had been able to in the past, within primary care, we can't take care of everybody adequately when people have . . . complex psychiatric problems. And it is—it is still really tough getting people in for that kind of care."*
>
> - Provider

Providers also discussed the growing challenges associated with managing patients with SUDs. Many providers reported they could get Beneficiaries into medication-assisted treatment programs (MAT), especially in the more populated areas of the state. However, Beneficiaries with co-occurring SUD and behavioral health conditions often require a level of care and ongoing management that is beyond the scope of what MAT programs or providers in their service area could handle. Again, as discussed above, many providers expressed that they are often left managing the care of patients with co-occurring disorders whom they did not feel fully equipped to manage appropriately.

> *"And so primary care has been faced more and more with having to manage patients that they're not at a level of comfort managing, but don't have any other options."*
>
> - Provider

6.1.3.3 Alternative Payment Models

6.1.3.3.1 Early Benefits of Transition to APMs

The DSRIP Demonstration has provided an opportunity to support a new model for supporting service delivery for individuals with behavioral health disorders. IDN Administrators see the transition to APMs as an opportunity to provide leadership and build trust with their community partners.

> *"The IDN is not the one transitioning to APMs, it's the partner organizations. The IDN is best suited to provide a trusted entity to help the partners, especially the smaller and CBO's. Data literacy is going to be crucial as well as the change in culture and working relationships between and among the partners."*
>
> - IDN Administrator via Survey

Under the Demonstration, positions not normally funded in a fee-for-service model have been added and have helped to improve the delivery of services and care coordination. The majority of interviewees reported they saw benefits to transitioning to APMs. For example, providers see the potential for APM to offer greater flexibility to distribute resources in a manner that better supports organizational needs and workflow.

> *"So it provided flexibility for the funding to support the workflow the way that it should be done as opposed to the way it's constrained . . . by a fee-for-service model."*
>
> - Provider

Administrators noted that incentives in a pay-for-performance model offered the potential to promote integrated care.

> *"Pay for performance is better than fee-for-service as it can incentivize certain types of provider behavior e.g., integrated care. However, rates must be adequate to support basic operations and incentives should be above that necessary base funding."*
>
> - IDN Administrator

6.1.3.3.2 Challenges to Transitioning to APMs

While IDN Administrators and providers see the potential benefits to transitioning to APMs, the transition has proved to be a challenge. The transition to alternative payment models was the most frequently cited barrier encountered as part of the DSRIP Demonstration implementation process. Eighty-seven percent (87%) of IDN Administrators reported experiencing challenges implementing the APMs and 40% of providers reported that, thus far, transitioning to APMs has not been very successful. Administrators indicated that there has not been enough guidance from the State or a clear roadmap for successfully transitioning to APMs. Several IDN Administrators also indicated they were unclear as to how the transition would be implemented and who would be in charge or direct the effort. In addition, some IDN administrators mentioned that there was a lack of clarity around if or how the MCO management care model would overlap with the transition to APMs.

> *"We have invested resources to inform and educate network partners in APMs, however there remains great uncertainty about risk. It is difficult to allay concerns until actual models that could be implemented are presented."*
>
> - IDN Administrator

Administrators reported that ongoing uncertainty regarding funding has raised concerns among their partner organizations, partially due to the shift to full, at-risk funding driven by metrics - especially given the modifications to targets, delays in reporting and sampling, as well as analytic concerns.

6.1.3.3.3 Sustainability

Although IDN stakeholders have reported on the value of the Demonstration's initiatives, there is a need for ongoing efforts to support activities that will allow IDNs to sustain them. Financial resources to support infrastructure and systems, workforce development and HIT support were the primary needs identified by Administrators and providers.

IDN Administrators emphasize that financial support is crucial to maintain IDN leadership, regional care models, and to continue workforce development.

> *"Yes, funding is critical. Without even having money to fund an IDN position for oversight, the IDN will go away and therefore the leadership and convening specialist will no longer exist. If this should be available, then training dollars are always critical for our partners to grow their workforce."*
>
> - IDN Administrator

Administrators also indicated a need for ongoing training, HIT resources for system maintenance, and a strong, reformed payment model that incentivizes strategies that encourage the advancement of care integration. Uncertainties around APMs pose a challenge to administrators who are trying to plan for a sustainable IDN infrastructure, mainly in regards to the staffing of partner organizations.

> *"I think that's been one of the biggest challenges that will really face any sort of sustainability for this project. It is, quite honestly, the ability to recruit and retain behavioral health staff."*
>
> - IDN Administrator

HIT stakeholders expressed similar thoughts about the sustainability of the Demonstration's software enhancements. Stakeholders expressed that provider utilization makes the HIT software more valuable as an integration tool. Therefore, the sustainability of HIT software

enhancements hinges on providers finding the tools user friendly and valuable to their clinical practice.

Providers also offered feedback on the sustainability of the IDN structure and services implemented as part of the Demonstration. Providers indicated that the training opportunities funded by IDNs have added to provider knowledge and enhanced their ability to manage the care needs of Beneficiaries, which will have a lasting impact on the State's behavioral health workforce capacity. In addition, providers mentioned that the cultivation of professional relationships across sectors established as part of the Demonstration, have improved Beneficiaries' access to and coordination of care as well as improved efficiency. However, providers overwhelmingly indicated that in order to sustain the integrated models of care established as part of the Demonstration, the State, IDNs and their partner organizations will need to continue to expand both behavioral health service and workforce capacity; this includes identifying mechanisms to sustain key staffing roles that support care integration after the end of the Demonstration.

6.1.4 Access to Care

The demand for behavioral health services is growing with nearly 10 million Americans with unmet behavioral health care needs yet, many individuals face significant barriers to accessing care.[48] Recent research indicates that the majority of Americans (74%) do not believe such services are accessible for everyone and almost half (47%) believe options are limited.[49] Barriers to accessing behavioral health services include: high costs and insufficient insurance coverage; limited options and long wait times; long travel distances to available providers; and, social stigma. One of the primary goals of the DSRIP Demonstration is to help reduce these barriers and improve access to care for Beneficiaries with behavioral health disorders.

6.1.4.1 Beneficiary Experience Survey

Some items (i.e., questions) from the 2019 Beneficiary experience survey examined access to care and were utilized to calculate CAHPS composite scores. These composites include: receipt of necessary care (2 items) and timely receipt of necessary care (2 items). Results from each composite are shown below, with comparisons to aggregated national 2019 CAHPS data when available.[50]

6.1.4.1.1 Receipt of Necessary Care Composite

The 2019 results for the Receipt of Necessary Care composite were similar to the national aggregated results (Table 6.1—4). For NH, there were no significant differences between IDNs and the overall adjusted mean (3.28) (Figure 6.1—12). Although the interim report only includes data from one year, results within the Receipt of Necessary Care composite indicate the majority of Beneficiaries are able to access care when they need it.

Figure 6.1—12: Receipt of Necessary Care Composite (1-4 scale)

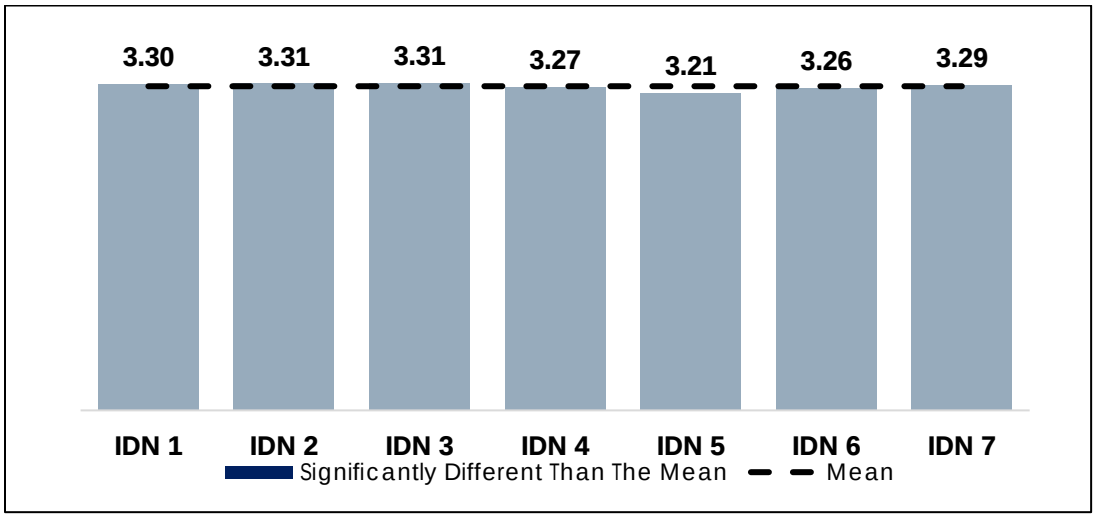


Table 6.1—4: CAHPS Composite – Receipt of Necessary Care

Receipt of Necessary Care Composite	Always/Usually NH (National)	Sometimes/Never NH (National)
How often was it easy to get the care, tests, or treatment you needed N=3,227	83% (86%)	17% (14%)
How often did you get an appointment to see a specialist as soon as you needed N=1,948	78% (81%)	22% (19%)

6.1.4.1.2 Timely Receipt of Necessary Care Composite

The 2019 results for the Timely Receipt of Necessary Care composite were similar to the national aggregated results (Table 6.1—5). There were no significant differences between IDNs or the overall adjusted mean (3.37) (Figure 6.1—13). Although the interim report only includes data from one year, results within the Timely Receipt of Necessary Care composite indicate the majority of Beneficiaries are able to access care as soon as they need it.

Figure 6.1—13: Timely Receipt of Necessary Care Composite (1-4 scale)

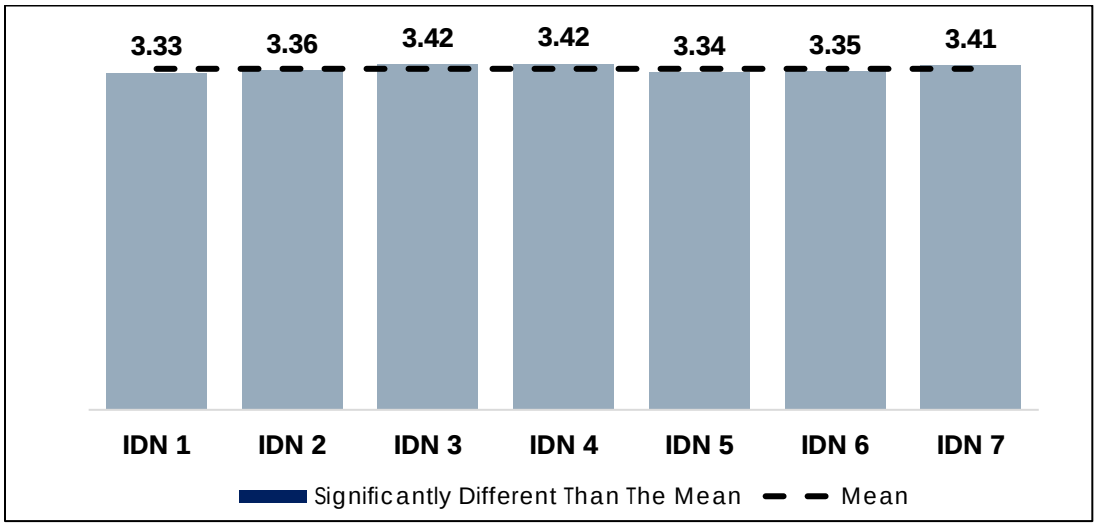


Table 6.1—5: CAHPS Composite – Timely Receipt of Necessary Care

Timely Receipt of Necessary Care Composite	Always/Usually NH (National)	Sometimes/Never NH (National)
Got urgent care for illness, injury or condition as soon as needed N=2,116	83% (85%)	17% (15%)
Got routine appointment at doctor's office or clinic as soon as needed N=3,137	83% (80%)	17% (20%)

6.1.4.2 Successful Strategies for Facilitating Beneficiaries Access to Care

6.1.4.2.1 Care Integration

Providers indicated that the DSRIP Demonstration has facilitated the integration of behavioral health clinicians into primary care practices where they can readily consult with patients who are in need of behavioral health services. Many providers reported that, despite the challenges associated with implementing integrated models of care, they welcomed greater coordination of physical, behavioral health and community supports.

> *"I think from a primary care perspective, the goal of greater integration between primary care and community-based mental health makes complete sense because the patients are high utilizers in both of those settings."*
>
> - Provider

The DSRIP Demonstration has helped to increase access to services for individuals with behavioral health care needs by facilitating collaboration across partner organizations, which has helped to increase provider awareness of the resources available in their region. They now have mechanisms in place to engage patients with available resources more efficiently. Some providers also suggested that the integration of behavioral health care providers into medical settings increases access to services by minimizing or avoiding the stigma some Beneficiaries feel around seeking behavioral health treatment.

> *"It helps to reduce some of the stigma of . . . I don't want to be seen walking into the behavioral health place across town."*
>
> - Provider

6.1.4.2.2 HIT

HIT stakeholders, as well as providers, reported the use of HIT applications to improve communication and care coordination across organizations and providers instrumental in helping connect Beneficiaries with appropriate services. Access-related successes included same-day appointments as a result of events notifications and connections between providers and organizations that created additional appointments availability. For example, a provider spoke of the hospital emergency department sending a notice that their patient was presenting in the ER with a non-emergency and the provider offered an immediate appointment for them.

> *"One of the changes I am hearing about more than seeing is that in some of the areas there really is better integration of care . . . and it's kind of closing the gaps in communication through the work of the IDN and the notifications and information sharing . . .For instance, one of the areas in our region has our psychiatrist sitting on a care team meeting to discuss patients in common that show up in the emergency room or that we're treating or that are being treated by the PCP."*
>
> - Provider

Among the Beneficiaries who did report using some form of HIT, most mentioned using a web portal to get lab results then following up with the provider over the phone to review next steps. Other Beneficiaries who use a portal do so in a more robust way by using it for medication refills, asking questions of the provider, scheduling of appointments, and accessing their full medical record. The number of Beneficiaries interviewed that took advantage of the full functionality of a portal is very low. Some indicated an interest or curiosity around using a portal, but had a bad initial experience and would not try again or felt intimidated with trying in the first place. A few Beneficiaries reported using text or email to communicate as they felt it was easier for them to communicate and "touch base."

6.1.4.3 Challenges to Enhancing Beneficiary Access to Care

6.1.4.3.1 Workforce

As described above (Section 6.1.3.2) the Demonstration has provided resources to increase the capacity of the behavioral health care workforce. Both IDN Administrators and providers acknowledged that workforce shortages in the state remain a significant barrier to behavioral healthcare access. This concern is shared among providers in both rural and urban communities in the state. Providers noted that it is particularly difficult to find care for people with complex psychiatric problems because of a lack of referral resources. In this case, the streamlined function of the integrated model is not able to overcome limitations of the workforce infrastructure.

> *"Within primary care, we can't take care of everybody adequately when people have complex psychiatric problems. It is still really tough getting people in for that kind of care."*
>
> - Provider

Workforce issues also lead to limited available providers, fewer treatment options and locations as well as long wait times for services, all of which have an impact on Beneficiaries access to care. Beneficiaries were divided in terms of their perception of access to behavioral health providers. For those who encountered less than favorable access, wait time to be seen (intake) was the most prevalent complaint. Some Beneficiaries mentioned waiting a year or more for behavioral health service. Many Beneficiaries noted that treatment services were simply not available in their community or they experience a lot of turnover in their provider care team.

> *"As far as getting an appointment with the mental health, and when you're telling them that you need to see somebody, taking weeks is not a good thing."*
>
> - Medicaid Beneficiary

6.1.4.3.2 Financial Barriers to Access

Consistent with the existing research, Beneficiaries frequently cited financial barriers as obstacles to accessing care. Insurance coverage and out-of-pocket costs, such as losing pay at work for appointments and transportation costs, were the most common topics mentioned by the interviewees. They also noted the complexity of their insurance coverage through Medicaid and Medicare, and expressed frustration with trying to navigate the benefit packages in order to pay for their medications or find behavioral health providers that would see them.

> *"The doctor's office will tell you they can't schedule it because they gotta get preapproval. Well, then you talk to the secondary insurance and the secondary insurance says that's not so, they don't need preapproval. So, again, it's the left hand doesn't know what the right hand's doing and that gets frustrating sometimes."*
>
> - Medicaid Beneficiary

6.1.4.3.3 HIT

While the HIT approaches were intended to ultimately improve the access to care, implementing these approaches has been a challenge for providers—one that has been hard to overcome when they view their primary responsibility was seeing patients or running their organization. Providers expressed the tough balance between meeting the demands of their organizational responsibilities and those of the Demonstration. Additionally, providers and HIT stakeholders noted the duplication of work created by some of the HIT requirements and change fatigue resulting from multiple initiatives. While one provider mentioned the software was user-friendly, other providers recommended changes including having fewer "clicks" to access the data. Comments also included the challenge of dual documentation with the electronic medical records which can limit the utility of the technology. For example, an HIT stakeholder shared that even if a provider had covered information with a patient and it was clearly in their chart, they still have to click an extra box to show that they had discussed it to meet the reporting needs of DSRIP.

> *"I kind of prefer the phone, just because it's very instant"*
>
> - Medicaid Beneficiary

In addition to discussing the impact of HIT strategies on access to care with providers, we also discussed the impact of the use of HIT enhancements such as web portals, tele-medicine, texting and email to communicate with Beneficiaries. While it is not a specific goal of the Demonstration to use HIT platforms to help facilitate access to care, given the increased use of technologies for scheduling and viewing test results, we wanted to understand Beneficiaries perspectives on HIT.

Very few Beneficiaries reported using HIT options provided by their care team to enhance their access to services. Most reported feeling most comfortable using the phone to try to identify available services and providers, as well as schedule appointments. Reasons that Beneficiaries gave for not using HIT include: not having access to the technology such as a computer or smart phone, fear of their medical information being hacked or compromised through a portal, lack of internet access or Wi-Fi access, and inability to access a specific technology due to living with a disability.

> *"I didn't even know that was a thing, but I don't even give my email address out very often because I only have my phone, I don't have a computer, and with the seizure disorder, looking at the little tiny, tiny print on the thing isn't good for me. It makes me feel weird."*
>
> - Medicaid Beneficiary

6.1.4.3.4 Other Barriers to Access

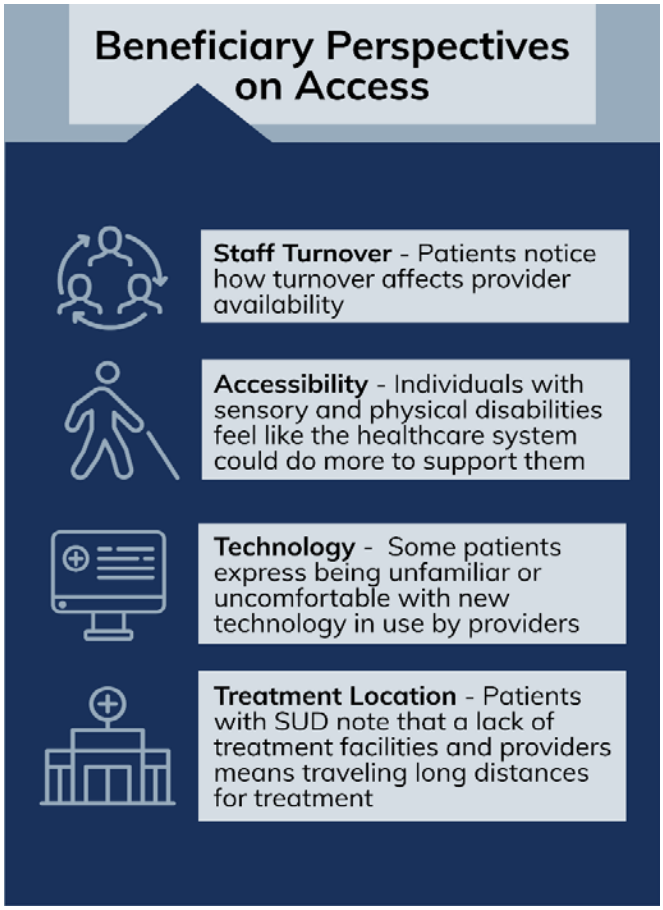
Both Beneficiaries and providers reported that transportation remains a major obstacle to treatment initiation and engagement. It is well documented that in many rural areas transportation can be a barrier to accessing medical and/or behavioral health services.

In addition, Beneficiaries reported that physical and sensory disabilities can make a visit to a provider very challenging or impossible. Second floor or hard to reach offices, incompatible technology for individuals with a hearing impairment can make receiving services difficult. Finally, Beneficiaries mentioned other challenges to accessing behavioral health services such as a lack of knowledge of available resources in their area; stigma related to SUD; having to make connections for behavioral health directly without assistance; difficulty communicating or making contact with providers; insufficient time with providers; and poor communication related to changes to office hours or appointments.

> *"The communication with the providers for, I mean, you're just like leaving messages and no one calls back and it just is terrible."*
>
> - Medicaid Beneficiary

Figure 6.1—14, below, summarizes the primary ways in which Beneficiaries acknowledged systemic factors impeding their healthcare access, including, but not limited to, HIT software. To better understand the integration process, interviews addressed Beneficiary behavioral healthcare and physical healthcare. Beneficiaries articulated diverse sets of challenges affecting their access to care across different sectors.

Figure 6.1—14



6.1.5 Quality of Care

Quality in healthcare means providing patients with the care they need in an affordable, safe and effective manner. In addition, high quality care involves using patient-centered approaches to engage patients so that they are working collaboratively with their health care provider to make decisions about their care. Quality of care is also a key component in reducing morbidity and mortality, which is why it is one of the principal goals of the DSRIP Demonstration.

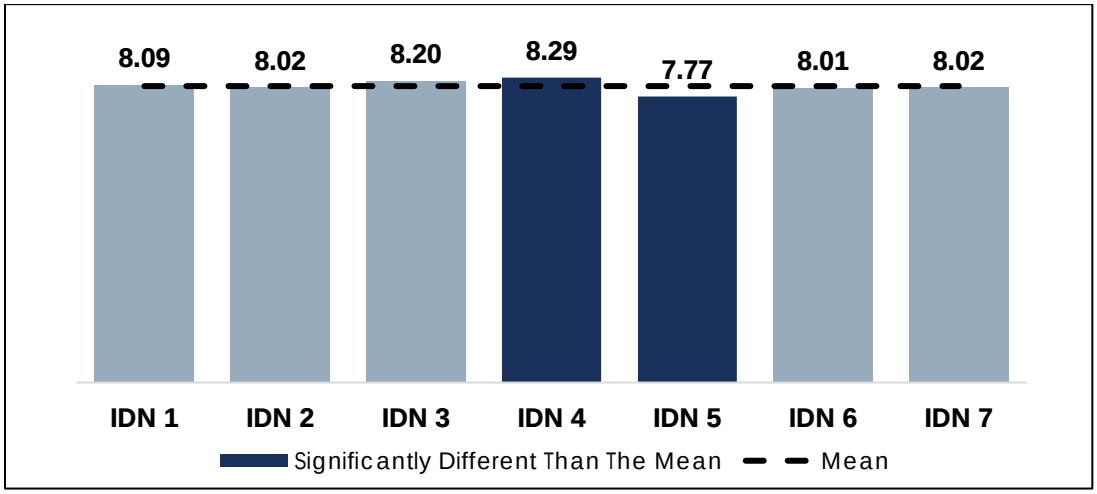
6.1.5.1 Beneficiary Experience Survey: Health Care Rating

As part of the 2019 Beneficiary experience survey, members were asked to give an overall rating of their health care. For the overall composite (overall rating of health care on a scale of one to ten), the mean was 8.03 for the state. IDN 4 was significantly higher than the mean and IDN 5 was significantly lower ($p<0.05$) (Figure 6.1—15).

While top box scores (rating of nine or ten) are not shown below, NH is lower than the national mean (45% versus 54%). Although the interim report only includes data from one

year, the overall composite rating indicates the majority of Beneficiaries rate their health care positively.

Figure 6.1—15: Overall Composite Rating (0-10 scale)



6.1.5.2 Beneficiary Reflections on Quality of Care

Beneficiaries' satisfaction with the quality of the health care service they receive seems to hinge on being treated with respect by providers, having those that provide care take their time during appointments and having a provider with the communication skills to effectively listen, hear, and empathize with them while they are under their care. Of the Beneficiaries with behavioral health or substance use disorders, most affirmed that their PCP was aware of these disorders. Many thought that there was communication of some sort between their PCP and the behavioral health providers, but were not exactly sure how that occurred. The PCP often was the primary person who managed the Beneficiaries' medications for behavioral health issues.

We asked Beneficiaries if, over the last 12 months, they had noticed any changes or improvements in the way they received services. We specifically probed for any changes with their medical care as well as with behavioral health care, including referrals to new providers or whether someone helped them organize their health care. Beneficiaries spoke about working with a wide variety of providers including caseworkers, social workers, nutritionists, and life coaches. A few of the Beneficiaries experienced changes in social workers, vocational counselors, or case managers, but this could be due, in part, to staff turnover mentioned previously. For the most part, any changes in the integration or delivery of services were not transparent to the Beneficiary. However, a few Beneficiaries were noticing changes in the way their care was being handled.

"Well, I think I'm getting better care now . . .and better answers instead of beating around the bush. I feel like it's better because they can link me with those services and things that I need to do. My memory is horrible, I actually don't remember dates, times, things like that, so they help me remember everything, like every day. Like, my job manager lady will call me every day and remind me what I need to do and stuff and check in with me and I really appreciate that."

- Medicaid Beneficiary

6.1.6 Integration of Care

Care integration is vital to addressing the healthcare needs of individuals with behavioral health conditions. Fragmentation of the health care system can lead to disjointed care and can result in increased health care costs.[51] In addition, fragmented systems of care are inadequate for maintaining continuity of care and facilitating care transitions, thereby impairing patient quality of life and potentially contributing to the high health care costs.[46] Given the prevalence of behavioral health disorders in the Medicaid population, the high levels of Medicaid spending on behavioral health care, and the adverse impact that uncoordinated care can have on the physical health of people with behavioral health conditions, it is not surprising that one of the primary goals of the DSRIP Demonstration is to utilize the IDNs developed as part of the Demonstration to promote community-driven models for care integration.[51]

6.1.6.1 Beneficiary Experience Survey

Some items (i.e., questions) from the 2019 Beneficiary experience survey were utilized to calculate CAHPS composite scores, which examined various aspects of care integration. These composites included: an overall rating of health and mental health, care coordination (6 items), and behavioral health (3 items). Results from each composite are shown below, with comparisons to aggregated national 2019 CAHPS data when available.[50]

6.1.6.1.1 Overall Health Ratings

Beneficiaries in New Hampshire reported lower than the national average in rating their overall health and mental or emotional health (Figure 6.1—16, Figure 6.1—17). For rating of overall health, IDNs 1 and 7 were significantly higher than overall state mean for "Excellent or Very Good." No IDNs deviated significantly from the statewide mean when reporting on their mental or emotional health (data not shown).

Figure 6.1—16: Rating of Overall health (N=3,406)

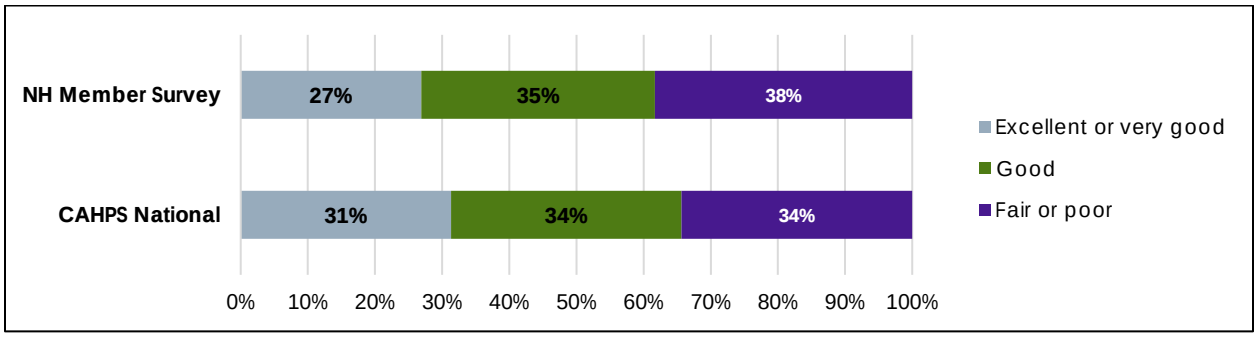
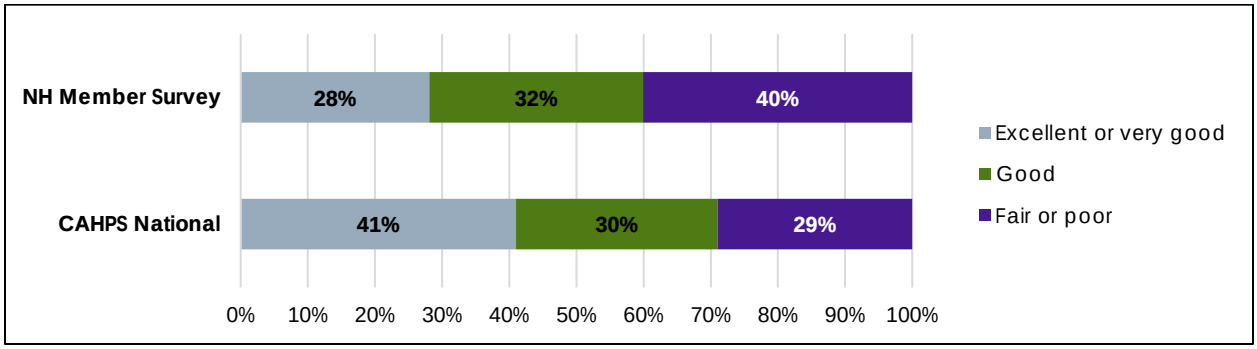


Figure 6.1—17: Rating of Overall Mental Health (N=3,405)



6.1.6.1.2 Care Coordination Composite

For the 2019 Care Coordination composite, the adjusted mean of IDN 2 was significantly higher than the overall mean and the adjusted mean of IDN 5 was significantly lower than the overall mean of 3.45 (Figure 6.1—18). Significant differences between IDNs for each item are shown in Table 6.1—6. Although the Interim Report only includes data from one year, the Care Coordination composite for 2019 shows that overall Beneficiaries felt more positively about care coordination compared to accessing care (overall and in a timely manner).

Figure 6.1—18: Care Coordination Composite (1-4 scale)

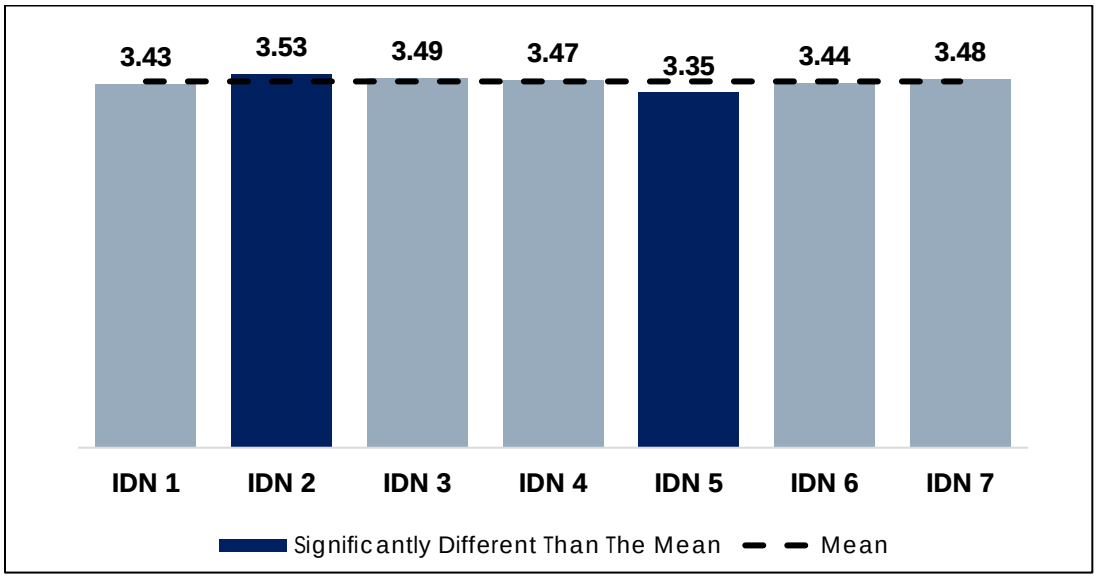


Table 6.1—6: CAHPS Composite – Care Coordination

Care Coordination Composite	Significant Differences by IDN (p<0.05) – Always/Usually
How often did personal doctor have medical records or other information about your care N=3,002	• IDN 5 significantly lower than total composite score
How often did personal doctor's office follow up to give blood test, x-ray, or other test results N=2,464	• IDN 5 significantly lower than total composite score and IDNs 2, 3, 4, 6, 7
Got blood test, x-ray, or other test results as soon as needed N=2,320	• IDN 6 significantly higher than total composite score and IDNs 1, 5
How often did personal doctor seem informed and up-to-date about the care from specialists N=1,974	• IDN 3 significantly higher and IDN 5 significantly lower
How often did someone from personal doctor's office talk about all the prescription medicines being taken N=2,786	• IDN 5 significantly lower than total composite score and IDNs 3, 4, 7
Got the help needed from your personal doctor's office to manage care among different providers and services N=724	• IDN 5 significantly lower than total composite score and IDNs 2, 3, 6 • IDN 2 significantly higher than total composite score and IDNs 4, 5

6.1.6.1.3 Behavioral Health Composite

The Behavioral Health composite, consisting of three items, scored the highest among the composites (71% responding yes). The adjusted mean of IDN 3 was significantly higher than the overall mean and the adjusted mean of IDN 5 significantly lower than the overall mean (Figure 6.1—19). Although the interim report only includes data from one year, items within the Behavioral Health composite show great variability in results when comparing IDNs. Significant differences between IDNs for each item are shown in in Table 6.1—7.

Figure 6.1—19: Behavioral Health Composite (0-1 scale)

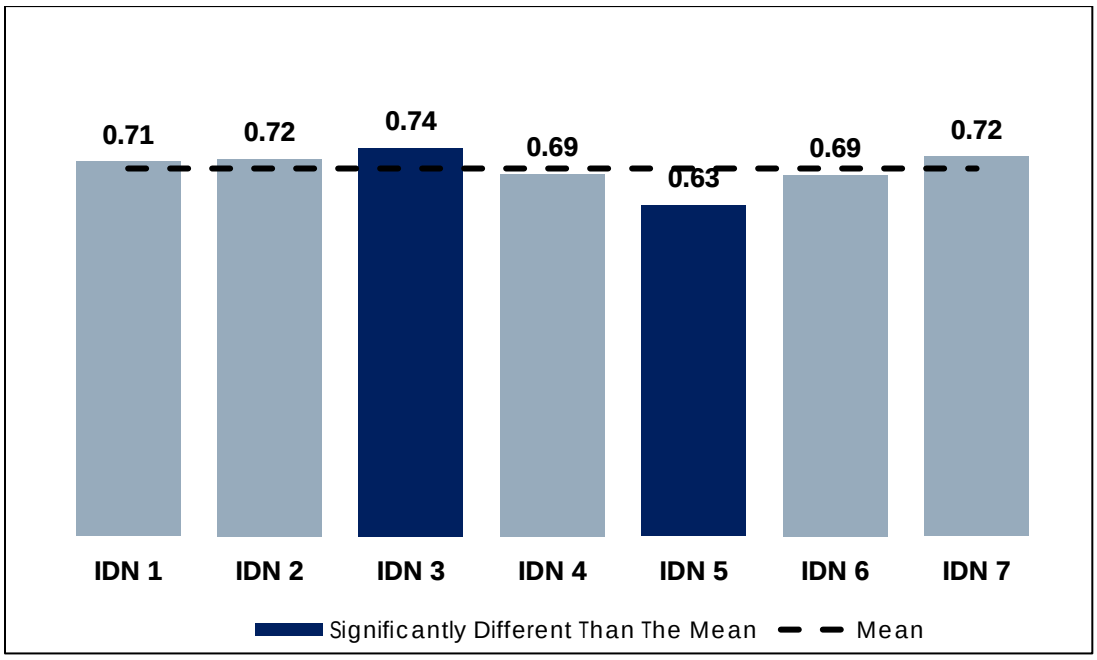


Table 6.1—7: CAHPS Composite– Behavioral Health

Behavioral Health Composite	Significant Differences by IDN (p<0.05) - Yes
Doctor's office asked if there was a period of time when respondent felt sad, empty or depressed N=2,980	• IDN 5 was significantly lower than total composite score and IDNs 1, 2, 3, 7 • IDN 1 was significantly higher than 4, 5, 6 • IDN 3 was significantly higher than total composite score and IDNs 4, 5, 6
Doctor's office talked with respondent about things causing worry or stress N=2,979	• IDN 5 significantly lower than total composite score and IDN 2, 3, 6, 7 • IDN 2 significantly higher than total composite score and IDN 5
Doctor's office talked about a personal problem, family problem, alcohol use, drug use, or a mental or emotional illness with respondent N=2,974	• IDN 5 significantly lower than total composite score and IDNs 1, 2, 7

6.1.6.1.4 Beneficiary Experience Survey: Non-Composite Items

The Beneficiary Experience Survey also included several items related to the Integration of Care domain, which were not part of the composite scores. Comparisons to aggregated national 2019 CAHPS data are presented in Table 6.1—8 when available.[50]

Findings by IDN included:

- IDN 6 Beneficiaries reported having a personal doctor at a frequency significantly higher than the statewide mean and IDNs 4, 5, 7($p < 0.05$)
- IDN 3 Beneficiaries reported needing help from someone in their doctor's office to manage care among services at a frequency significantly higher than IDN 7

Compared to the National results, NH Beneficiaries were more likely to have a personal doctor. Additional information from the non-composite items related to the Integration of Care domain will be gleaned when additional data is available.

Table 6.1—8: Beneficiary Experience Survey Results

Item	Yes NH (National 2019)*	No NH (National 2019)*	Significant Differences by IDN ($p<0.05$) - Yes
Has a personal doctor N=3,461	93% (83%)	7% (17%)	IDN 6 higher than statewide mean and IDNs 4, 5, 7
Received care from more than one kind of health care provider or service N=2,991	63%	37%	None
Needed help from someone in their doctor's office to manage care among services N=1,823	40%	60%	IDN 3 higher than IDN 7

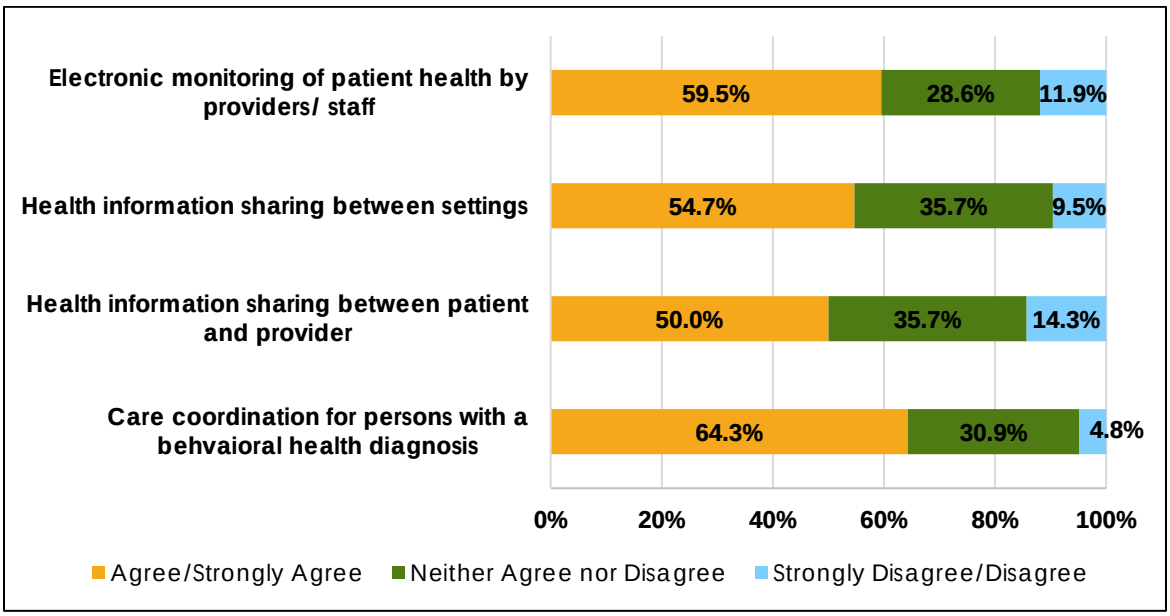
6.1.6.2 Successful Strategies for Promoting Care Integration

Key informant surveys with HIT stakeholders and IDN providers indicated that a number of strategies implemented as part of the Demonstration have been successful at promoting care integration and transitions. One key tenet of the Demonstration is the use of multidisciplinary care teams (MDCTs), as part of the B1 Core Competency Project required by all IDNs, as well as the optional community-driven C1, Core Transitions Project. A MDCT is typically comprised of primary care providers, behavioral health providers, care managers and/or community health workers, and consulting psychiatrist(s). Several IDNs follow the Community Care Team model, so depending on patient needs, social service providers are

often added to the multidisciplinary care team meetings. A notable theme within the qualitative data is the fact that all administrators and several providers were encouraged by the integration progress made by MDCTs, and the hope that this aspect of the Demonstration continues in the future.

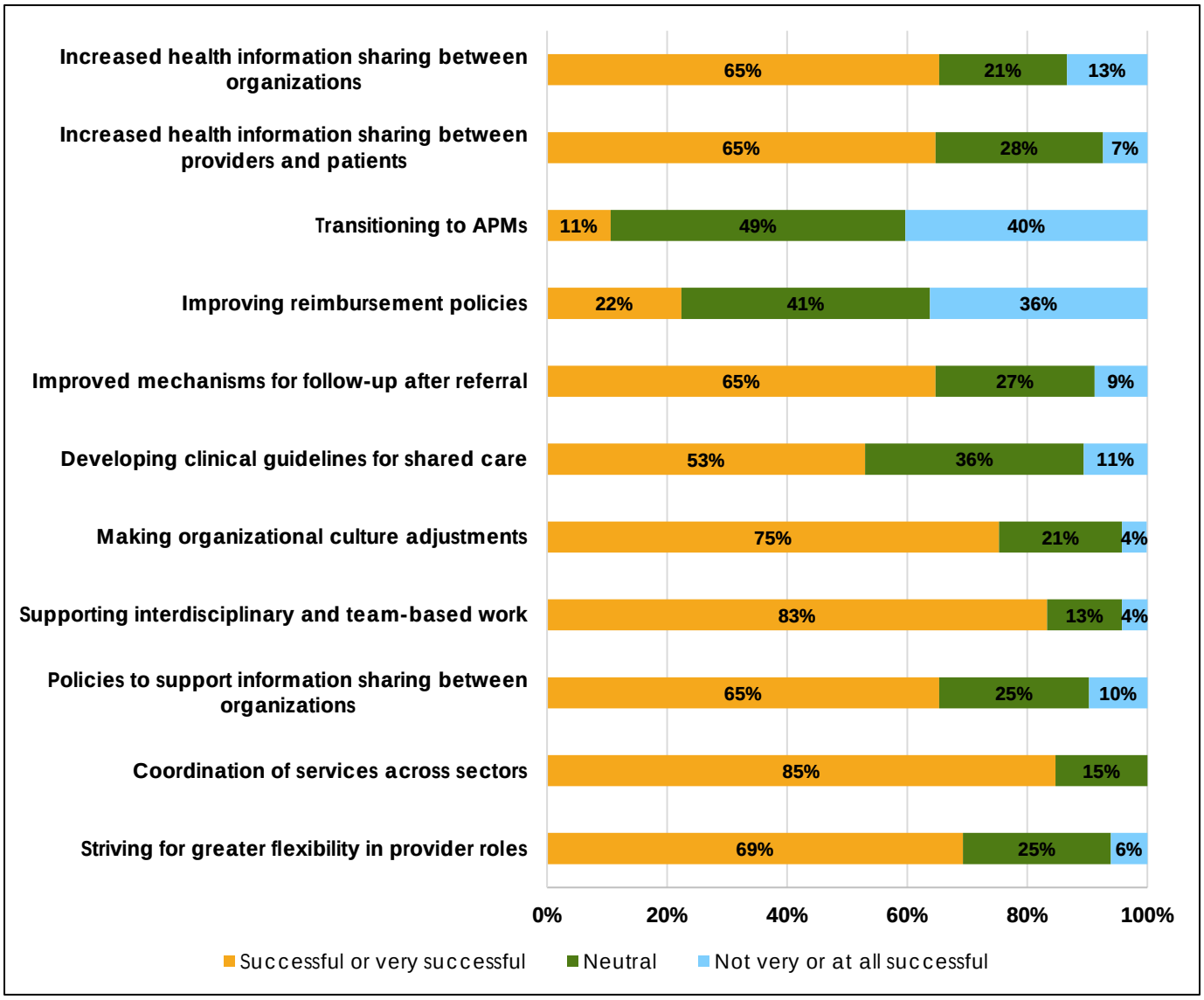
Overall, the HIT stakeholders perceived the enhancements to the State's HIT infrastructure put in place under the Demonstration as having a positive impact on clinical workflows and care integration (Figure 6.1—20). The expanded infrastructure has helped promote information sharing across settings and between providers leading to perceived improvements in care coordination for Beneficiaries with behavioral health disorders.

Figure 6.1—20: HIT Stakeholder Survey Respondents Report That Advances in HIT related to the IDNs have a Positive, Direct Impact on…



Coordination across disciplines and team-based work rated as the most successful strategies for facilitating integration. Information sharing strategies such as developing and implementing clinical guidelines for shared care; developing policies to support information sharing and increased communication across providers and settings; and, making organizational adjustments to culture were identified as useful strategies to promoting care integration.

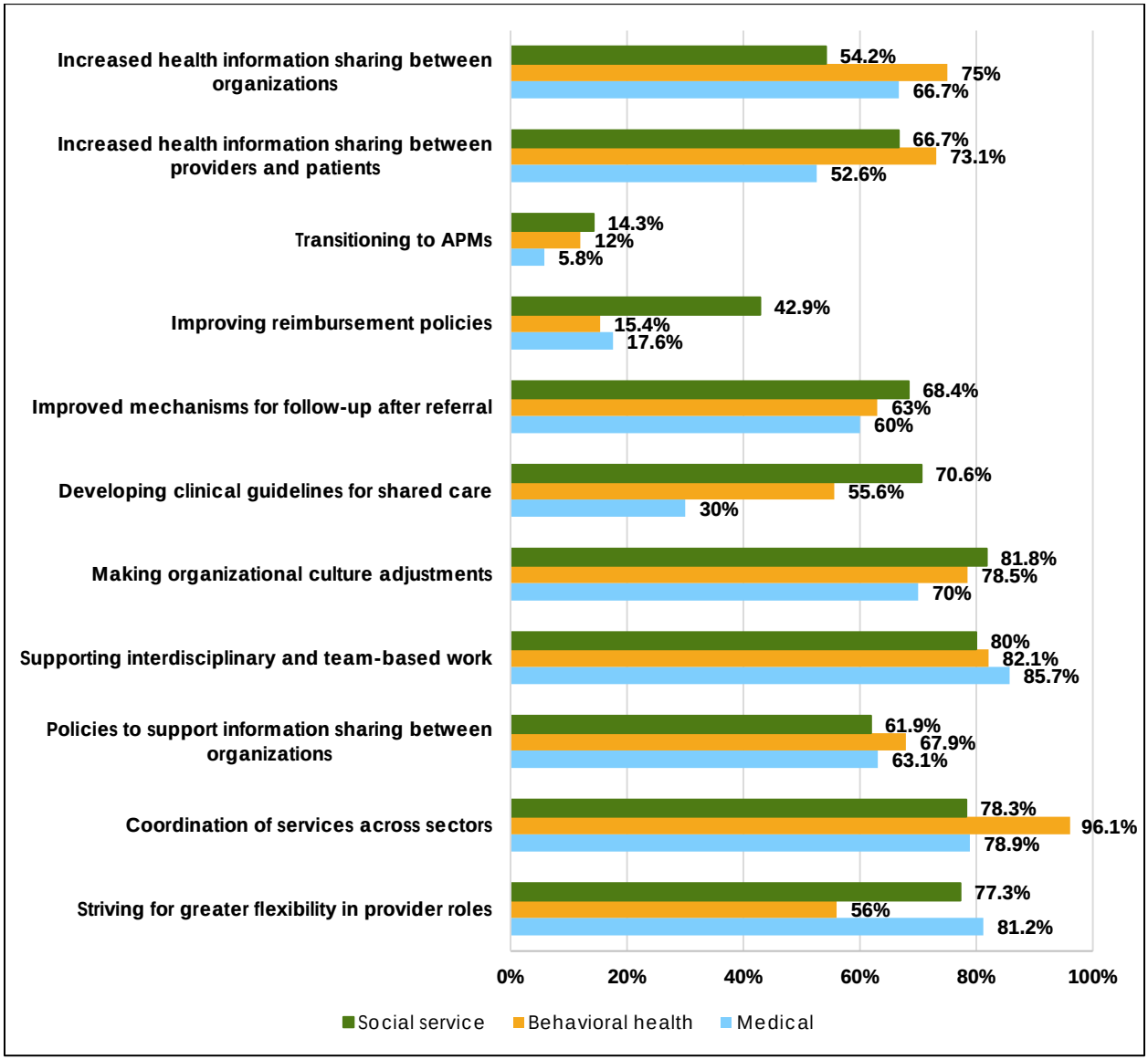
Figure 6.1—21: Perceptions of Successful Integration Strategies as Reported by Provider Survey Respondents



IDN providers reported different levels of success with strategies to integrate care (see Figure 6.1—21). Social services providers listed improving reimbursement policies higher than did other types of providers. Stakeholders in behavioral healthcare attributed more success to Demonstration activities that facilitate coordination of services across sectors, shift organizational cultures, and promote health information sharing. Medical providers placed more value on strategies that promoted interdisciplinary team-based work and greater flexibility in provider roles. Interestingly, most providers were neutral (49.1%) on whether or not the transition to APMs would facilitate care integration. Just under 11% of providers reported that they saw the transition as a valuable tool for facilitating integration

efforts with social service and behavioral health providers being more likely to view the transition as a facilitator to integration.

Figure 6.1–22: Facilitators to Care Integration as Reported by Provider Type



The events notification software has aided in care integration and transitions as it provides stakeholders with real-time information allowing for more efficient patient follow-up. The events notification software has options for varying levels of notification and most IDNs reported sharing information on emergency room visits. HIT stakeholders reported anecdotes of patients using the ER less as a benefit of the events notification system. Integration initiatives, such as Community Care Teams and multidisciplinary care teams have anecdotally leveraged information-sharing software to improve Beneficiaries' quality of

care by more fully addressing their social determinants of health, such as safe housing stability or legal supports.

> *"Event notification has made a strong difference because we're meeting the needs of people in real time instead of waiting five days for a discharge summary to head to someone in your network and never get to someday outside of your network. So that made a big difference."*
>
> - Provider

Another HIT stakeholder spoke of patients visiting multiple ER locations and that the shared care plan helped to create a connection between the providers at those locations. Providers noted that while there has been progress with the implementation of the shared care plan, to fully integrate and adopt shared care planning into workflows would be a large task to undertake.

Providers offered detailed information on other facilitators of integration. They identified collaboration between organizations and providers; organizational culture and involvement that allows providers to invest time into care integration; sustainable payment reform; project funding for care management; the use of HIT for information sharing; and IDN leadership as the most successful strategies for expanding care integration under the DSRIP Demonstration. IDN providers' average rating of care integration within their IDN was **6.44**, with 1 being "totally uncoordinated" care and 10 being "perfectly coordinated care."

> *"So it was a connection that would not have happened without a shared care plan and my hope is that that continues and we continue to see that crop up more. . . "*
>
> - Provider

Providers' ratings of integration were further substantiated by information gathered through interviews with IDN administrators, HIT stakeholders and IDN providers. These key informants overwhelmingly reported that DSRIP is changing the way that care is delivered to NH Medicaid Beneficiaries with behavioral health disorders. Two primary themes emerged around the successes related to system transformation: (1) there is an increased awareness, understanding, and adoption of comprehensive patient-centered care; and, (2) the formation of inter-organizational relationships has been critical to supporting integrated models of care.

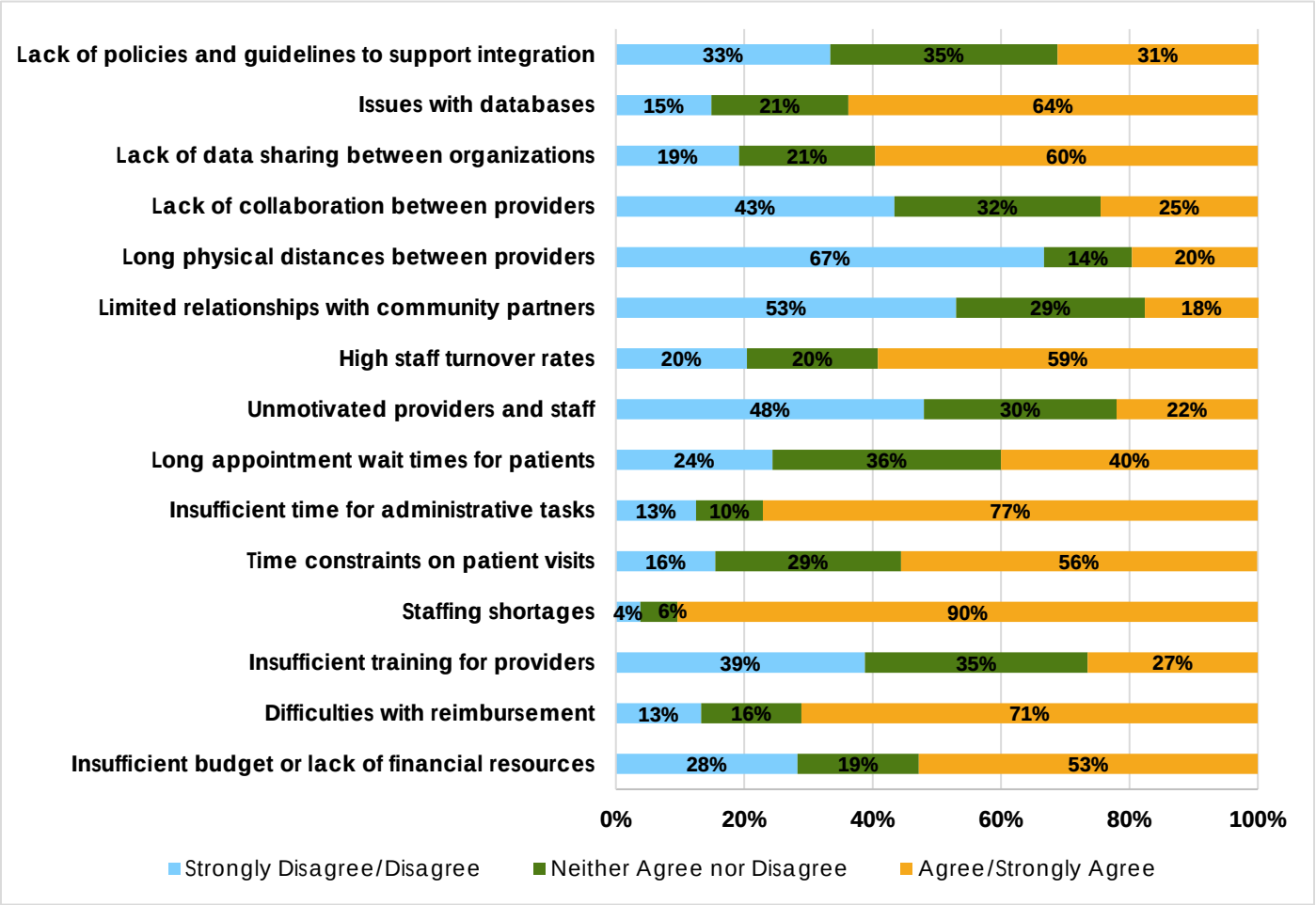
Finally, as previously described, some providers have found the CCSA to be helpful in promoting care integration, particularly for individuals who have complex care and social needs. The comprehensive nature of the screening allows providers to get a full picture of a Beneficiary's physical and behavioral health care needs while at the same time assessing social determinants of health. Some providers stated that CCSA allowed them to work with other providers to implement initial comprehensive care plans. Also mentioned was that the

CCSA has helped to facilitate conversations with providers from multiple organizations leading to a higher level of care integration.

6.1.6.3 Challenges to Promoting Care Integration

Providers overwhelmingly agreed that staff shortages, insufficient time for administrative tasks, low reimbursement rates as well as difficulties identifying mechanisms for reimbursement are the greatest challenges they face in expanding integrated care (Figure 6.1—23). The majority of providers also agreed or strongly agreed that issues with databases, lack of data sharing between organizations, high staff turnover, time constraints and limited financial resources can be significant barriers to promoting integrated models of care. Furthermore, while all professional stakeholders saw great value in and by the progress made by the MDCTs, there was frustration with the mandate requiring a psychiatrist on each team. The overall theme was this requirement only highlighted the lack of available behavioral health providers, took valuable time away from psychiatrists (many contracted per diem) providing direct care, and in some cases, forced non-compliance with this requirement due to lack of psychiatrists in the region.

Figure 6.1—23: Barriers to Care Integration as Reported by Provider Survey Respondents



Providers further elaborated on the challeges related to promoting care integration with the most frequently mentioned barrier being HIT. Electronic Medical Records (EMR) database issues, such as the lack of interoperability, make information sharing cumbersome.

Respondents indicated that some of the burden associated with implementing integrated systems of care is related to the necessity for larger practice transformation efforts that involve shifting provider cultures and workflows to support models of integration. Finally, providers identified reimbursement strategies for integrated care as a significant barrier, particularly around reimbursement rates for case management.

6.2 Findings from the NH DSRIP Evaluation of Performance Measures

This section of the report provides preliminary findings on Demonstration goals. Data presented in this section addresses the following ideas in **Research Question 1:**

Was the DSRIP Demonstration effective in achieving the goals of better care for individuals (including access to care, quality of care), or lower cost through improvement? Was there variation between IDNs/market areas?

This Interim Report includes detailed quantitative analysis of performance measures included in the Evaluation Plan Design.[v] In the context of this report, there are discussions of changes in measure values between the pre and post periods. Outcome measures are expressed as: percent, rate, dollars, or days. Multivariate analysis were run on selected measures to detect change between the pre to post periods after controlling for differences in patient risk. For this interim report, we did not run the multivariate analysis on all of the measures as we do not yet have sufficient number of data years in the Demonstration period and in some cases the measure definition changed or did not have sufficient observations for analysis. Additional information related to measure definition and calculation methodology are provided in Appendix A. The findings presented in this Interim Report include three years of pre-Demonstration data on performance measures (2013-2015) and the currently available years of Demonstration data (2016-2017).

Summary results of unadjusted bivariate analysis are presented in a table under each domain. These tables show trends and report significant differences between each year as compared to the base year (2015).

Results of multivariate analyses are included in tables that present model statistics for each of the control variables as well as for the rate of change over time. Narrative will focus only on the rate of change in the outcome measure as that is the variable of interest. Age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program, and acuity (ACG risk score) are included in the models for the purpose of adjusting for patient risk and, therefore, will not be discussed in the narrative. Additionally, graphs and charts are shown for most measures.

6.2.1 Access to Care

The DSRIP Demonstration is hypothesized to provide better access to both medical and behavioral health services. This section examines eight measures of access to primary care, behavioral health, and prevention services. When appropriate, multivariate analyses were

[v] Deviations from the CMS approved evaluation plan listed in Appendix E.

performed on the propensity matched sample of Beneficiaries without behavioral health disorders.

Within the Access to Care domain, data analyzed thus far indicates improvements in breast cancer screening rates and substance use treatment services. Rates of adolescent well-care, annual primary care (adults), and behavioral health visits are declining. Among Beneficiaries with a behavioral health disorder, annual primary care visits (ages 12-19) are improving, while the rate is worsening for those without a behavioral health disorder.

Table 6.2—1: Overview of Measures in Access to Care Domain

Access to Care	Range	Trend	Status	Statistical Test (s)	Years Significantly Different from 2015 (p<0.05)
Measure 1.1.13: Breast Cancer Screening*					
With BH Disorder	37.6% - 46.1%	▲	Improving	Chi-Square, Logistic Regression	2016, 2017
Without BH Disorder	27.8% - 37.1%	▲	Improving	Chi-Square, Logistic Regression	2016, 2017
Measure 1.1.16: Adolescent Well-care Visit (ages 12-21)*					
With BH Disorder	52.5% - 54.8%	▼	Worsening	Chi-Square, Logistic Regression, Difference-in-Difference	2013, 2014
Without BH Disorder	47.0% - 51.7%	▼	Worsening	Chi-Square, Logistic Regression, Difference-in-Difference	2013, 2014
Measure 1.2.3: Annual Primary Care Visit*					
With BH Disorder	93.1% - 96.5%	▼	Worsening	Chi-Square, Logistic Regression, Difference-in-Difference	2013, 2014, 2016, 2017
Without BH Disorder	69.5% - 81.7%	▼	Worsening	Chi-Square, Logistic Regression, Difference-in-Difference	2013, 2014, 2016, 2017
Measure 1.2.3: Annual Primary Care Visit (ages 12-19)*					
With BH Disorder	94.3% - 95.4%	▲	Improving	Chi-Square, Logistic Regression, Difference-in-Difference	None
Without BH Disorder	87.6% - 89.3%	▼	Worsening	Chi-Square, Logistic Regression, Difference-in-Difference	2016, 2017

Access to Care	Range	Trend	Status	Statistical Test (s)	Years Significantly Different from 2015 (p<0.05)
Measure 1.2.4: Behavioral Health Care Visits					
One or more visits with a BH Provider in past 12 months	79.4% - 84.7%	▼	Worsening	Chi-Square, Logistic Regression, Difference-in-Difference	2013, 2014, 2016, 2017
Measure 1.2.5: Substance Use Treatment Services*					
Received AOD treatment services in past 12 months	16.8% - 24.2%	▲	Improving	Chi-Square, Logistic Regression	2013, 2014, 2016, 2017

* HEDIS MY 2013-2017 – Unaudited Health Plan HEDIS Rate

6.2.1.1 Cervical Cancer Screening

The U.S. Preventive Services Task Force (USPSTF)[52] recommends screening for cervical cancer every three years for women ages 21 to 29 years. For women between the ages of 30 and 65, the recommendation is every 5 years. The Behavioral Health Risk Factor Surveillance System (BRFSS) data was utilized to look at cervical cancer screening rates. Only data for 2014 was available for this interim report, thus changes over time could not be reported.

Of respondents with a behavioral health flag (14 or more days of poor mental health days in the past 30 days), 84% had a Pap test in the past three years (ages 21-65) and 82% had a Pap test in the past 5 years (ages 30-65). Respondents ages 21-65 with a behavioral health flag were significantly less likely to not have had a Pap test in the past three years ($p<0.05$).

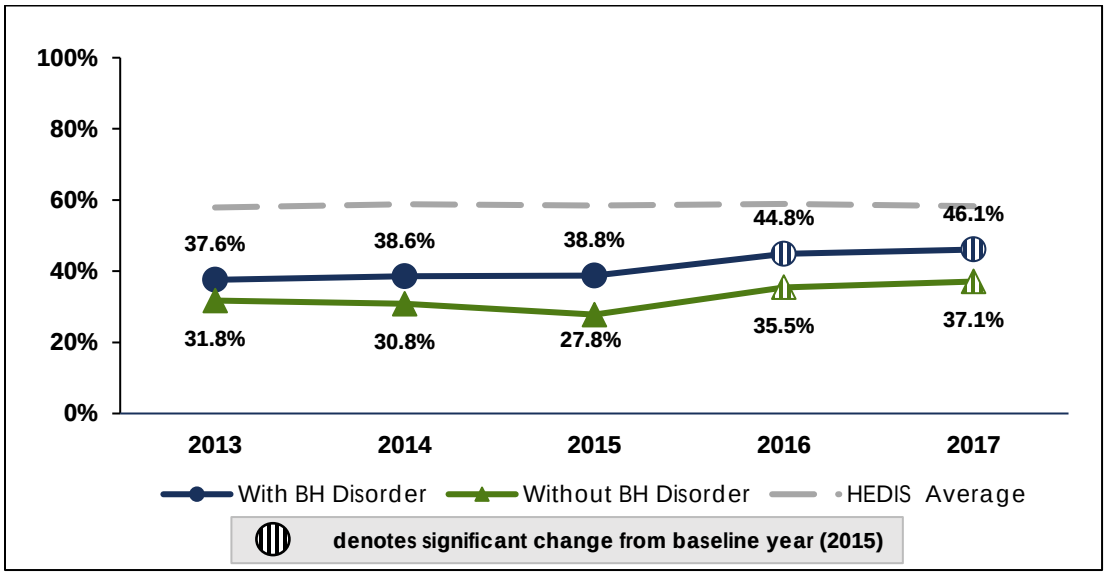
For all respondents ages 21-65, 85% had a Pap test in the past 3 years which is higher than the national results for 2014 (83%).[53] For all respondents ages 30-65, 89% had a Pap test in the past 5 years.

6.2.1.2 Breast Cancer Screening

The U.S. Preventive Services Task Force (USPSTF)[54] and American College of Physicians (ACP)[55] recommend women age 50-74 have biennial mammograms for breast cancer screening. This measure calculates the percentage of women 50-74 years of age that had a biennial mammogram screening for breast cancer.

Women Beneficiaries with behavioral health disorders had a higher percentage of screenings than women without behavioral health disorders throughout the study period. The trend in the pre-Demonstration period was stable for those with a behavioral health diagnosis, but was declining for those without a behavioral health diagnosis. Both populations exhibited a higher rate of screening in 2016 and 2017 when compared to 2015. However, rates for both populations of Beneficiaries are consistently below national average HEDIS® benchmarks.

Figure 6.2—1: Prevalence of Breast Cancer Screening



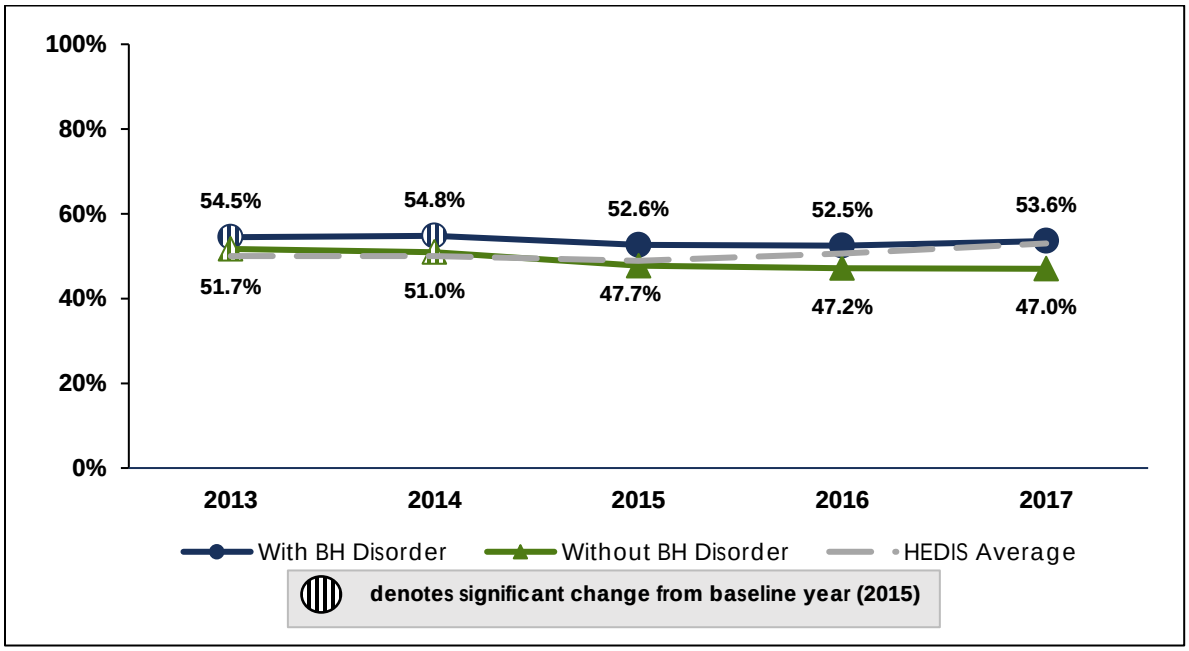
Note: HEDIS MY 2013-2017 Breast Cancer Screening - Unaudited Health Plan HEDIS Rate

6.2.1.3 Adolescent Well-Care Visit

Comprehensive annual check-ups are recommend for adolescents (12-21 years of age). New Hampshire Medicaid promotes children and adolescent preventive health through the American Academy of Pediatrics (AAP), Bright Futures guidelines.[56] Annual check-ups are a key part of well-care.

Similar to national trends, approximately half of NH Medicaid adolescent Beneficiaries had a well-care visit. Adolescents with behavioral health disorders had a slightly higher frequency of well-child visits than adolescents without behavioral health disorders. Well-child visits declined over the study period for both groups—from 54.8% (2014) to 53.6% in 2017 for adolescents with behavioral health disorders and from 51.7% in 2013 to 47% in 2017 for adolescents without behavioral health disorder.

Figure 6.2—2: Prevalence of Adolescent Well Care Visits (Ages 12-21)



Note: HEDIS MY 2013-2017 Adolescent Well Care - Unaudited Health Plan HEDIS Rate

Likewise, results from the propensity matched regression model (Table 6.2—2) shows that adolescent well-child visits decreased for both groups of adolescents, but the decline was greater for adolescents without behavioral health disorders. Adolescents without behavioral health disorders had a 6% greater decline in well-child visits in the post study period.

Table 6.2—2: Generalized Linear Models Estimating Adolescent Well-Child Visits – Propensity Matched Sample

Propensity Matched Sample (N=119,938)					
Parameter	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-value
Pre Period (BH to Non-BH)	1.0725	0.0170	1.0397	1.1064	<.0001
Post Period (BH to Non-BH)	1.1356	0.0202	1.0967	1.1759	<.0001
Change Pre/Post BH sample	0.8859	0.0136	0.8596	0.9130	<.0001
Change Pre/Post Non-BH sample	0.8366	0.0134	0.8109	0.8632	<.0001
BH Time Interaction	1.0588	0.0236	1.0135	1.1062	0.0105

Regression results in the non-matched behavioral health group did not show a significant change over time when controlling for age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program, and patient acuity (ACG risk score) (Table 6.2—3). This population was less likely to have an adolescent well-child visit (range of 32.5 to 46.2), yet consists mainly of beneficiaries with very high health risk- for whom there were no matches in the comparison pool.

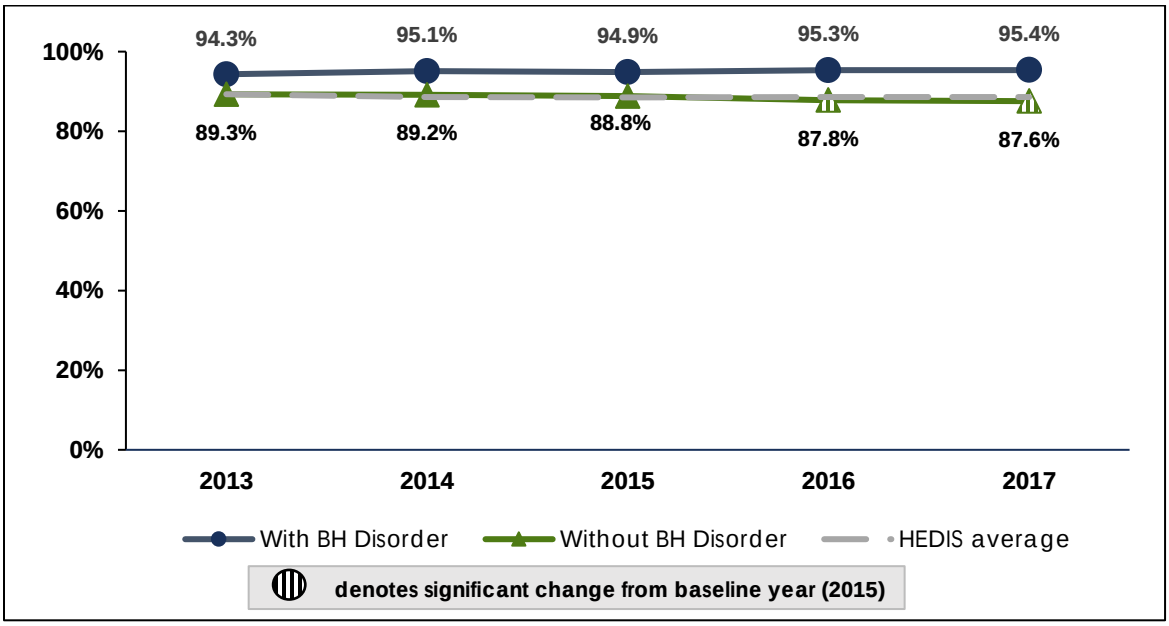
Table 6.2—3: Generalized Linear Models Estimating Adolescent Well-Child Visits – Unmatched Behavioral Health Group

Parameter	Estimate	Standard Error	95% Confidence Limits		P-value
Intercept	2.8038	0.4969	1.8300	3.7776	<.0001
Post	-0.0014	0.1389	-0.2736	0.2708	0.9920
Age	-0.1812	0.0284	-0.2368	-0.1256	<.0001
Female	0.2366	0.1152	0.0109	0.4623	0.0400
Dual Eligible	0.6036	0.5000	-0.3764	1.5837	0.2274
Expansion Population	-0.1197	0.1566	-0.4267	0.1873	0.4448
ACG Risk Score	0.0037	0.0204	-0.0364	0.0438	0.8567
	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-value
BH post vs pre	0.9986	0.1387	0.05	0.7606	0.9920

6.2.1.4 Primary Care Visits - 12 to 19 years of age

Approximately 95% of adolescents with a behavioral health disorder had a primary care visit during the year. Slightly less (88% to 89%) access to primary care was observed in adolescents without a behavioral health disorder. National average HEDIS® benchmarks are not broken out by populations with or without behavioral health disorders. During this timeframe, the national HEDIS® benchmark was approximately 89%, thus adolescents with a behavioral health disorder had a slightly better rate than the overall national average. Bivariate analysis shows that primary care visits for behavioral health beneficiaries remained stable throughout the pre and post intervention years included in this interim analysis, but visits for the non-behavioral health population declined in the post intervention period. With primary care access already over 95%, there is little room for improved access.

Figure 6.2–3: Prevalence of Primary Care Visits (ages 12-19)



Note: HEDIS MY 2013-2017 Adolescents' Access to Primary Care Practitioners - Unaudited Health Plan HEDIS Rate

Regression analysis on the propensity matched sample showed similar results to the bivariate analysis. The increased likelihood of 4.1% of a primary care visit for adolescents with behavioral health disorders between the pre and post Demonstration periods was not significant, while the decline in odds of a visit for an adolescent without a behavioral health disorder by 13.4% was significant. The difference in the rate of change between the two populations is significant.

Table 6.2–4: Generalized Linear Models Estimating Adolescent (12-19) Access to Primary Care– Propensity Matched Sample

Propensity Matched Sample (N=96,500)					
Parameter	Estimate	Standard Error	95% Confidence Limits		P-value
Pre Period (BH to Non-BH)	1.5546	0.0555	1.4495	1.6673	<.0001
Post Period (BH to Non-BH)	1.8709	0.0721	1.7347	2.0177	<.0001
Change Pre/Post BH sample	1.0413	0.0388	0.968	1.1201	0.2773
Change Pre/Post Non-BH sample	0.8652	0.0266	0.8147	0.9189	<.0001
BH Time Interaction	1.2034	0.0576	1.0956	1.3219	0.0001

There is no difference in the odds of a primary care visit over time for the unmatched Beneficiaries 12 to 19 with a behavioral health disorder after controlling for age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program, and acuity (ACG risk score) (Table 6.2—5). As with the matched behavioral health population, over 95% of the unmatched behavioral health population had a visit.

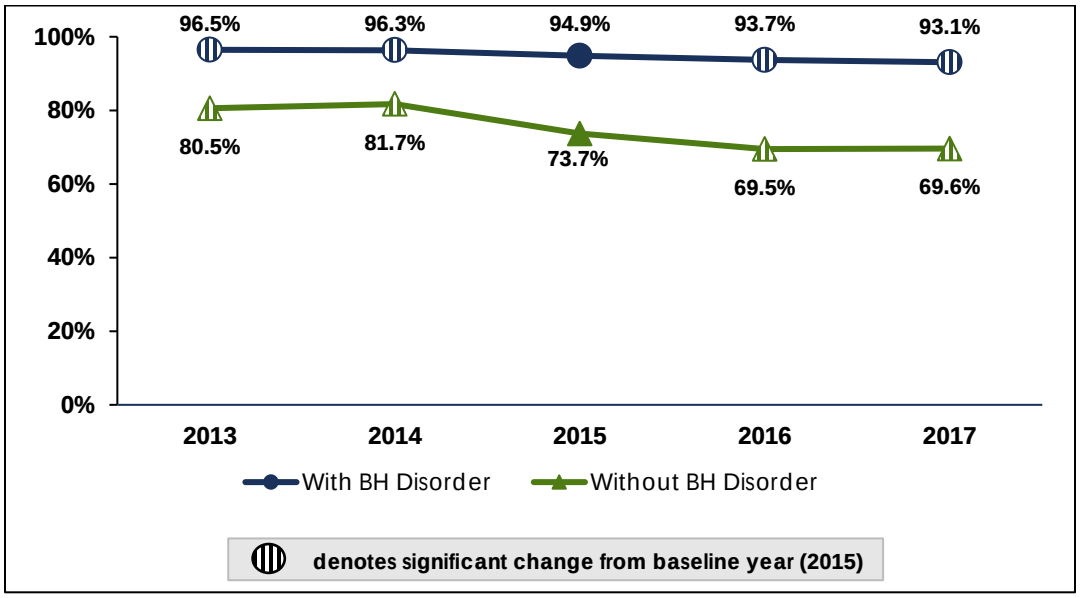
Table 6.2—5: Generalized Linear Models Estimating Adolescent (12-19) Access to Primary Care – Unmatched Behavioral Health Group

Unmatched Behavioral Health Group (N= 1,496)					
Parameter	Estimate	Standard Error	95% Confidence Limits		P-Value
Intercept	2.8038	0.4969	1.8300	3.7776	<.0001
Post	-0.0014	0.1389	-0.2736	0.2708	0.9920
Age	-0.1812	0.0284	-0.2368	-0.1256	<.0001
Female	0.2366	0.1152	0.0109	0.4623	0.0400
Dual Eligible	0.6036	0.5000	-0.3764	1.5837	0.2274
Expansion Population	-0.1197	0.1566	-0.4267	0.1873	0.4448
ACG Risk Score	0.0037	0.0204	-0.0364	0.0438	0.8567
	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-value
BH post vs pre	0.9986	0.1387	0.7606	1.3111	0.9920

6.2.1.5 Primary Care Visits for Adult Beneficiaries

Like adolescent access to primary care, this measure identified the percentage of adults' (21 and older) use of primary and ambulatory care. A significantly higher proportion of adults with behavioral health disorders access primary care than those without. While both groups access declined post Demonstration, (Figure 6.2—4)—96.5% to 93.1% for adults with behavioral health disorders; and 81.7% to 69.6% for adults without behavioral health disorders—this trend appears to start in 2015. There are no national HEDIS® benchmarks for this measure.

Figure 6.2—4: Annual Access to Primary Care Visits (Adults)



Note: HEDIS MY 2013-2017 Adult Access to Preventative/Ambulatory Healthy Services - Unaudited Health Plan HEDIS Rate

Results of the propensity matched model (Table 6.2—6) also showed that primary care visits decreased for all adults; however, unlike the unmatched bivariate analysis, the decrease in odds over time for adults with a behavioral health disorder was greater than the decrease in primary care visits for adults without a behavioral health disorder. Unmatched behavioral health Beneficiaries possibly contribute to the inconsistent results between the bivariate analysis of the full population and the analysis of risk adjusted matched samples. The decrease in odds for behavioral health population was 11% greater than the decrease for the non-behavioral health population (OR=0.8914, p<.0001).

Table 6.2—6: Generalized Linear Models Estimating Adult Access to Primary Care– Propensity Matched Sample

Propensity Matched Sample (N=244,280)					
Parameter	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-value
Pre Period (BH to Non-BH)	4.4309	0.0824	4.2724	4.5953	<.0001
Post Period (BH to Non-BH)	3.9497	0.0664	3.8217	4.0820	<.0001
Change Pre/Post BH sample	0.7599	0.0139	0.7331	0.7877	<.0001
Change Pre/Post Non-BH sample	0.8525	0.0100	0.8332	0.8723	<.0001
BH Time Interaction	0.8914	0.0194	0.8542	0.9302	<.0001

The small decrease in primary care visits for the unmatched adults with behavioral health disorders became insignificant after controlling for age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program, and acuity (ACG risk score) (Table 6.2—7).

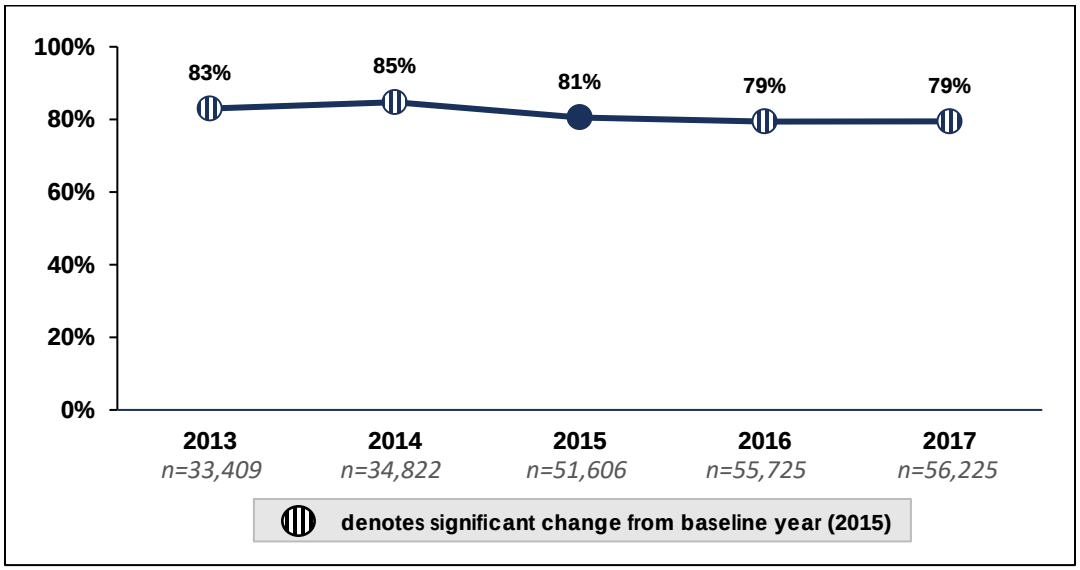
Table 6.2—7: Generalized Linear Models Estimating Adult Access to Primary Care – Unmatched Behavioral Health Group

Unmatched Behavioral Health Group (N= 28,464)					
Parameter	Estimate	Standard Error	95% Confidence Limits		P-Value
Intercept	1.2977	0.1669	0.9706	1.6248	<.0001
Post	-0.1277	0.0976	-0.3189	0.0635	0.1906
Age	0.0366	0.0037	0.0293	0.0439	<.0001
Female	1.0457	0.0849	0.8793	1.2121	<.0001
Dual Eligible	0.6015	0.1519	0.3039	0.8991	<.0001
Expansion Population	-0.5607	0.0965	-0.7498	-0.3716	<.0001
ACG Risk Score	0.1855	0.0276	0.1313	0.2397	<.0001
	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
BH post vs pre	0.8801	0.0859	0.7270	1.0656	0.1906

6.2.1.6 Behavioral Health Care Visits

The DSRIP Demonstration should result in improved access to behavioral health care. This measure looks at access to behavioral health services for Beneficiaries age 12 and over with a behavioral health disorder. Approximately four out of five Beneficiaries with a behavioral health disorder received behavioral health care services over the study period. A significant decrease in service use was observed from a high of 85% in 2014 to 79% in 2017 ($p<.0001$). The decline in service use starts prior to the DSRIP Demonstration. There are no national HEDIS® benchmarks for this measure.

Figure 6.2–5: Use of Behavioral Health Care Visits



When controlling for age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program and patient acuity (ACG risk score), the observed decrease in access to behavioral health services over time becomes insignificant.

Table 6.2–8: Logistic Model Use of Behavioral Health Care Services

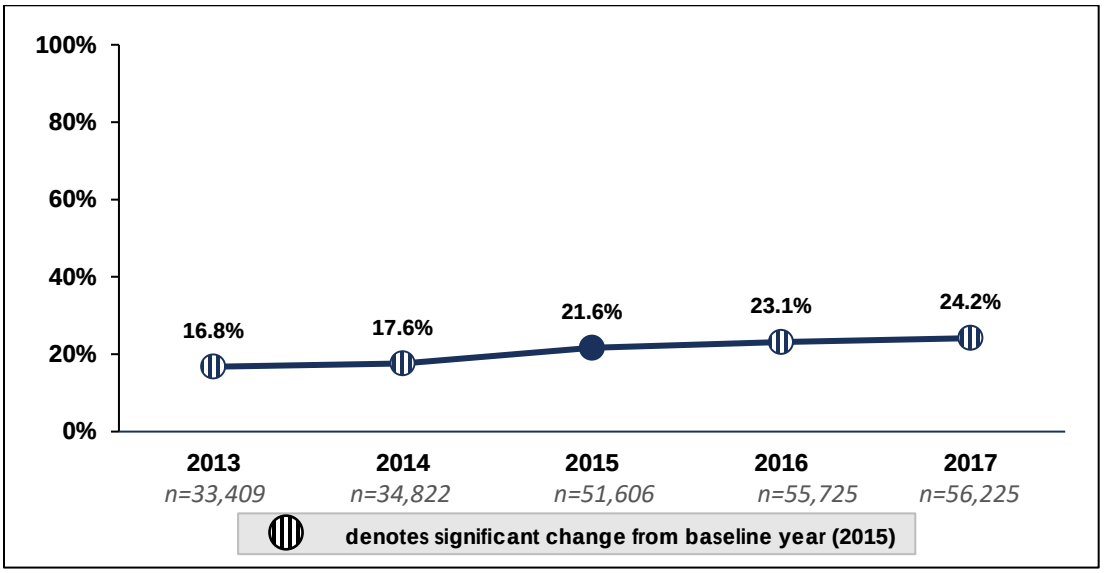
Behavioral Health Population (N=279,977)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits	P-Value	Parameter
Post	0.986	0.964	1.009	0.2279
Age	0.970	0.969	0.971	<.0001
Female	0.886	0.867	0.906	<.0001
Dual Eligible	6.327	6.060	6.605	<.0001
Expansion Population	0.808	0.788	0.827	<.0001
ACG Risk Score	1.093	1.086	1.099	<.0001

6.2.1.7 Use of Substance Use Treatment Services

In September of 2014, NH Medicaid began to cover alcohol and other drug (AOD) treatment services for the NH Expansion population. Prior to this time, contractors delivered services that were paid through the Substance Abuse and Mental Health Administration (SAMHSA) grant. In July 2017, AOD services were covered for the regular Medicaid population.

Because of this policy change, early examination of trend over time is not related to the implementation of the DSRIP Demonstration and is provided for baseline reference. There are no national HEDIS® benchmarks for this measure.

Figure 6.2–6: Use of Substance Use Treatment Services



Note: HEDIS MY 2013-2017 Identification of Alcohol and Other Drug Services (IAD)- Unaudited Health Plan HEDIS Rate

While a 3% increase in the likelihood of using AOD related treatment services is observed after controlling for age, gender, dual eligibility, whether or not the Beneficiary was enrolled in the expansion program, and acuity (ACG risk score) in the post period, this is most likely due to the impact of the policy change in service coverage.

Table 6.2–9: Logistic Model Use of Alcohol and Drug Related Treatment Services

Behavioral Health Population (N=279,977)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits		P-Value
Post	1.030	1.008	1.053	0.0069
Age	1.000	0.999	1.001	0.7259
Female	0.677	0.663	0.692	<.0001
Dual Eligible	0.944	0.913	0.976	0.0006
Expansion Population	2.561	2.500	2.624	<.0001
ACG Risk Score	1.178	1.173	1.183	<.0001

6.2.1.8 Colorectal Cancer Screening

The U.S. Preventive Services Task Force (USPSTF)[57] recommends screening for colorectal cancer starting at age 50 until age 75. The Behavioral Health Risk Factor Surveillance System (BRFSS) data was utilized to look at colorectal cancer screening via sigmoidoscopy or colonoscopy within the past three years. Only data for 2014 was available for this interim report, thus changes over time could not be reported.

Of respondents ages 50-74 with a behavioral health flag (14 or more days of poor mental health days in the past 30 days), 53% had a screening in the past 3 years. The overall population was not significantly different, with 52% of respondents having a screening in the past 3 years. This is similar to the national BRFSS results, which show 55% of respondents had a screening in the past 3 years.[53]

6.2.1.9 Summary of Access to Care Trends

Increased access to primary care, behavioral health care, and preventive care for the behavioral health population study group is an important objective of the Demonstration. Analyses of access to care measures indicate that results thus far are varied. The following trends were noted:

- Increase in the percentage of women with breast cancer screening (p<.0001) *(section 6.2.1.2)*.
- Decrease in the percentage of adolescents with well-care visits (<.0001) *(section 6.2.1.3)* and in the percentage of adults with primary care visits (<.0001) *(section 6.2.1.5)*.
- After adjusting for risk in access measures without a comparison group, use of substance use treatment services increased significantly (p=.0069) *(section 6.2.1.7)*.
- There was no statistically significant change over time in behavioral health care visits *(section 6.2.1.6)* or in primary care for Beneficiaries aged 12 to 19 *(section 6.2.1.4)*.

As noted above, the upward trend of substance use treatment services may be partially due to Medicaid policy changes within the state coinciding with the Demonstration, notably the expansion of the population eligible to participate in the Medicaid program in 2014 (to include coverage of SUD services to that group), and the extension of coverage of SUD services for all Beneficiaries fully implemented in 2017.

When comparing the behavioral health group with the non-behavioral health population, the following trends were observed:

- The behavioral health population had more access to all measured services than the non-behavioral health population in both the pre and post periods.
- The propensity matched behavioral health and non-behavioral health populations both experienced a significant decline (p<.0001) in Adolescent well-child visits;

however the behavioral health population experienced a significantly smaller decline than the non-behavioral health population (p=.0105).

- Primary Care visits for 12 to 19 year olds in the propensity matched behavioral health population trended upward while the non-behavioral health population trended down, contributing to a significant difference in slope between the two populations (p = 0.0001).
- The behavioral health population had a more sizable downward trend in access to adult primary care than the non-behavioral health population (p = 0.0001).

6.2.2 Quality of Care

These 11 measures in the Quality of Care domain examine a variety of behavioral health quality metrics that address the integration of behavioral and physical health care, with a specific focus on addressing medication management. Due to the lack of prescription drug information, Beneficiaries who are eligible for both Medicare and Medicaid (dually eligible) could not be included in measures that required the use of prescription drug information.

Within the Quality of Care domain, there have been improvements for treatment and engagement of alcohol and other drug dependence treatment, as well as metabolic monitoring for children and adolescents on antipsychotics (ages 1-17). Antidepressant medication management (at 3 months) and diabetes monitoring for people with diabetes and schizophrenia has not improved. For the remainder of the measures, trends are unclear at this point during the Demonstration.

Table 6.2–10: Overview of Measures in Quality of Care Domain

Quality of Care	Range	Trend	Status	Statistical Test(s)	Years Significantly Different from 2015
Measure 1.1.2: Antidepressant Medication Management*					
Acute-phase trial of medications (3 months)	53.4% - 57.2%	▼	Worsening	Chi-Square, Logistic Regression	2017
Continuous medication treatment (6 months)	33.9% - 38.0%	--	Unclear	Chi-Square, Logistic Regression	None
Measure 1.1.3: Follow-Up After Hospitalization for Mental Illness*					
Within 7 days after discharge	48.3% - 55.9%	--	Unclear	Chi-Square (non-parametric/NPAR1 WAY), Generalized Linear Model (GENMOD)	2013, 2016
Within 30 days after discharge	66.7% - 73.7%	--	Unclear	Chi-Square (non-parametric/NPAR1 WAY), Generalized Linear Model (GENMOD)	2014
Measure 1.1.4: Initiation and Engagement of AOD Dependence Treatment*					

Quality of Care	Range	Trend	Status	Statistical Test(s)	Years Significantly Different from 2015
Treatment initiation within 14 days of the diagnosis (ages 13-17)	20.2% - 25.7%	▲	Improving	Chi-Square, Logistic Regression	None
Two or more AOD services 30 days post treatment initiation (ages 13-17)	5.8% - 10.1%	▲	Improving	Chi-Square, Logistic Regression	None
Treatment initiation within 14 days of the diagnosis (ages 18 and older)	34.8% - 39.2%	▲	Improving	Chi-Square, Logistic Regression	2014
Two or more AOD services 30 days post treatment initiation (ages 18 and older)	14.1% - 19.1%	▲	Improving	Chi-Square, Logistic Regression	2014, 2016, 2017
Measure 1.1.5: Adherence to Antipsychotic Medications for Individuals with Schizophrenia*					
Continuous medication treatment for at least 80% of treatment period	70.3% - 79.7%	--	Unclear	Chi-Square, Logistic Regression	2013
Measure 1.1.6: Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications*					
Antipsychotic medication dispensed and had a diabetes test	79.0% - 81.4%	--	Unclear	Chi-Square, Logistic Regression	None
Measure 1.1.7: Diabetes Monitoring for People with Diabetes and Schizophrenia*					
Had an LDL-C and HbA1c test	64.4% - 70.0%	▼	Worsening	Chi-Square, Logistic Regression	None
Measure 1.1.8: Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia*					
Had an LDL-C test	12.0% - 50.0%	--	Unclear	Chi-Square, Logistic Regression	None
Measure 1.1.9: Follow-up Care for Children Prescribed ADHD Medication*					
Initiation Phase: Follow up visit within 30 days (With BH disorder)	32.1% - 38.1%	--	Unclear	Chi-Square, Logistic Regression	None
Continuation and Management Phase: Remain on medication for 210 days, initial visit within 30 days, and 2 additional visits within 270 days of the first visit (With BH disorder)	33.9% - 40.2%	--	Unclear	Chi-Square, Logistic Regression	None
Measure 1.1.10: Metabolic Monitoring for Children and Adolescents on Antipsychotics (ages 1-17)*					
Two or more antipsychotic	26.7% - 30.2%	▲	Improving	Chi-Square, Logistic Regression	None

Quality of Care	Range	Trend	Status	Statistical Test(s)	Years Significantly Different from 2015
prescriptions and metabolic monitoring					
Measure 1.1.11: Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics (ages 1 - 17)*					
New prescription for an antipsychotic medication and psychosocial care at first-line treatment	73.4% - 79.2%	--	Unclear	Chi-Square, Logistic Regression	None
Measure 1.1.20: Use of Opioids at High Dosage*					
Percent Beneficiaries who receive prescription opioids for 15 or more days at high dosage (With BH disorder)	8.7% - 12.1%	▲	Unclear	Chi-Square, Logistic Regression	2013, 2014
Percent Beneficiaries who receive prescription opioids for 15 or more days at high dosage (Without BH disorder)	6.8% - 10.2%	--	Unclear	Chi-Square, Logistic Regression	2013, 2014, 2016, 2017

*Note: HEDIS MY 2013-2017 – Unaudited Health Plan HEDIS Rate

6.2.2.1 Antidepressant Medication Management

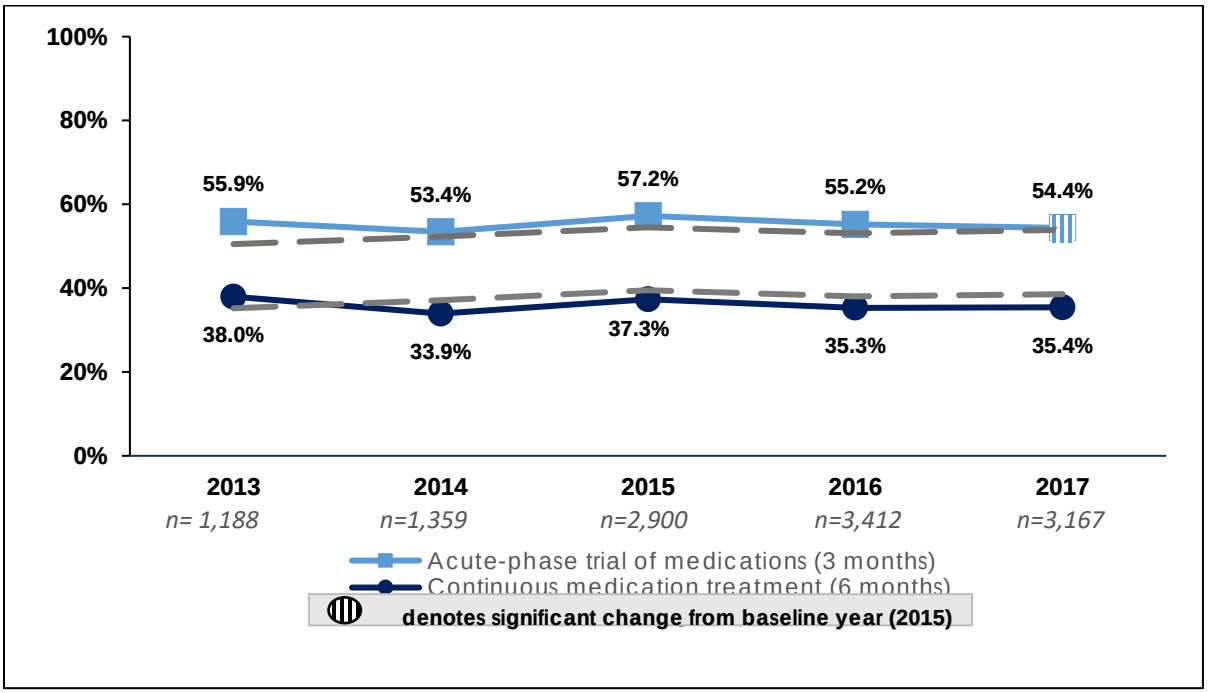
Initiation of antidepressant medication treatment must be closely monitored to assess improvement in symptoms of depression. An acute (first 3 months) and continuation phase (continuous 6 months) are examined in this measure. During the acute phase, reduced symptoms of depression should be observed, followed by a six- month period of continued relief of symptoms. Careful monitoring by providers is required.

Bivariate analysis of 2013 through 2017 data indicated that the percent of Beneficiaries taking antidepressant medications that also received acute phase medication management ranged between 53.4% and 57.2% with a downward trend in the first two Demonstration years. In 2017, 54.4% of these Beneficiaries received acute phase medication management, a significant decline from 57.2% in 2015.

Fewer Beneficiaries on antidepressant medications received adequate continuous medication management with a range of 33.9% to 38% between 2013 and 2017 with no clear trend observed.

The unadjusted rates are comparable to the national HEDIS® benchmarks for both measures.

Figure 6.2—7: Acute and Continuation Antidepressant Medication Monitoring – Unadjusted



Note: HEDIS MY 2013-2017 Antidepressant Medication Management (AMM)- Unaudited Health Plan HEDIS Rate

Table 6.2—11 and Table 6.2—12 present the logistic regression results for the acute and continuation phases of antidepressant medication monitoring. When controlling for age, gender, ACG risk score and whether the Beneficiary was enrolled in the expansion program, the odds of receiving acute phase medication management declined by nearly 12% (1-0.885) and, as in the bivariate analysis, this downward trend is significant (p = 0.0020).

Although there was no significant change in the continuation phase of medication management in the unadjusted analysis, there was a significant decline of nearly 12% when controlling for age, gender, ACG risk score and whether the Beneficiary was enrolled in the expansion program (p = 0.0033).

Table 6.2—11: Logistic Model Acute Antidepressant Medication Monitoring

Behavioral Health Population (N=12,026)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits		P-Value
Post	0.885	0.818	0.956	0.0020
Age	1.024	1.021	1.027	<.0001
Female	1.201	1.107	1.302	<.0001
Expansion Population	1.291	1.194	1.397	<.0001
ACG Risk Score	0.976	0.962	0.990	0.0010

Table 6.2—12: Logistic Model Continuation Antidepressant Medication Monitoring Over Time

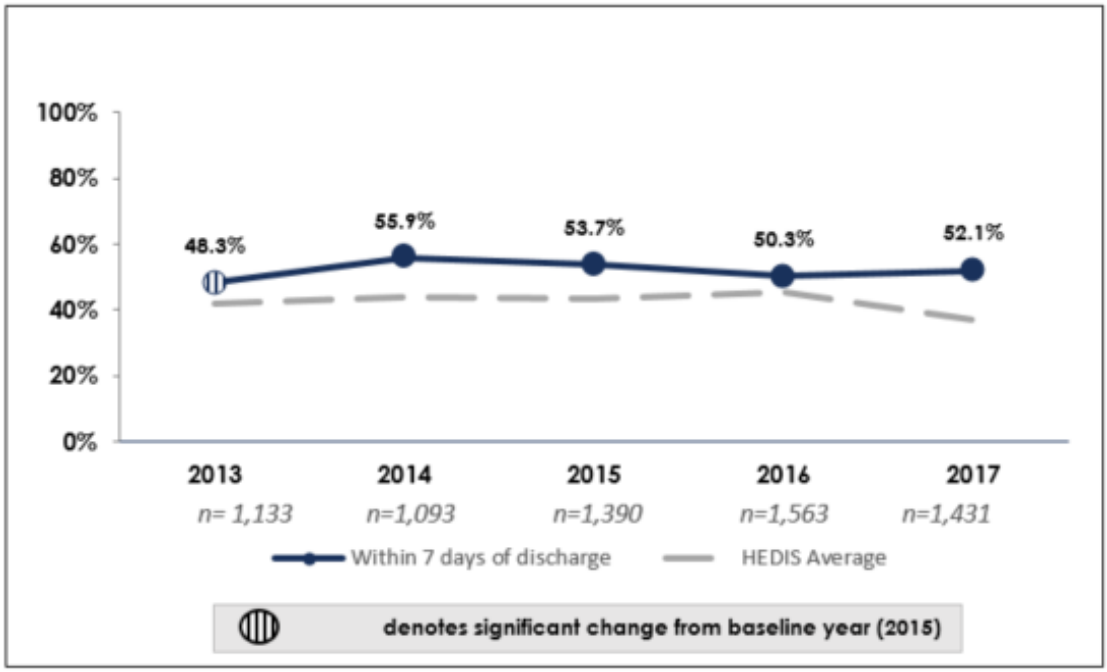
Behavioral Health Population (N=12,026)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits		P-Value
Post	0.885	0.816	0.960	0.0033
Age	1.033	1.030	1.036	<.0001
Female	1.238	1.137	1.348	<.0001
Expansion Population	1.282	1.181	1.392	<.0001
ACG Risk Score	0.985	0.970	1.000	0.0465

6.2.2.2 Follow-Up after Hospitalization for Mental Illness (7 days)

Follow-up after mental health hospitalization is another measure of continuity of care for Beneficiaries (aged 6 and over) with mental health disorders or intentional self-harm. Regular follow-up with a mental health provider assures transitions back to the community and monitors reaction to medications. In all years, half of all discharges for a behavioral health disorder had a follow-up visit within 7 days of discharge. Simple generalized linear model regression found only 2013 to be significantly lower than the referent year of 2015.

NH DSRIP seven-day follow-up rate was higher than the Medicaid national average over the study period. The national average HEDIS® benchmark over the study period for the 7-day follow-up visits was approximately 40% with a range from 37% (2017) to 46% (2016).

Figure 6.2—8: Percentage of Discharges for a Mental Health Hospitalization Follow-Up Visit within Seven Days



Note: HEDIS MY 2013-2017 Follow-Up after Hospitalization for Mental Illness (FUH)- Unaudited Health Plan HEDIS Rate

Multivariate analysis using generalized linear model with a Poisson distribution and clustering for Beneficiary found a significantly higher (5.6%) likelihood of a 7-day follow-up visit following hospitalization in the post period when controlling for age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program, and patient acuity (ACG risk score). This increased likelihood was significant (p=0.0110).

Table 6.2—13: Generalized Linear Models Discharges for a Mental Health Hospitalization Follow-Up Visit

Mental Health Hospitalizations (N=6,610)					
Parameter	Estimate	Standard Error	95% Confidence Limits		P-Value
Intercept	-0.6870	0.0302	-0.7461	-0.6279	<.0001
Post	0.0544	0.0214	0.0124	0.0963	0.0110
Age	-0.0013	0.0009	-0.0030	0.0004	0.1255
Female	0.0800	0.0238	0.0333	0.1267	0.0008
Dual Eligible	0.2716	0.0303	0.2123	0.3310	<.0001
Expansion Population	-0.1748	0.0339	-0.2413	-0.1084	<.0001
ACG Risk Score	0.0010	0.0032	-0.0052	0.0073	0.7445

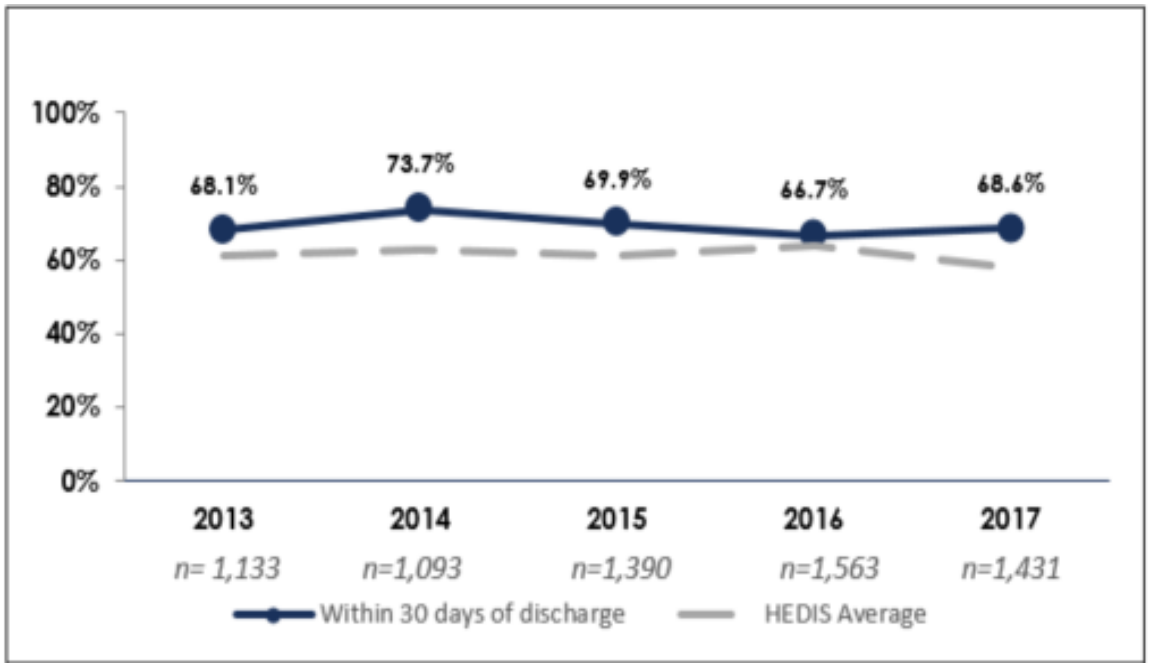
	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
BH post vs pre	1.0559	0.0226	1.0125	1.1011	0.0110

6.2.2.3 Follow-Up after Hospitalization for Mental Illness (30 days)

In all study years, approximately 70% of hospitalizations for a behavioral health disorder had a follow up visit within 30 days of the discharge. There was no significant difference in this rate over the study period.

NH DSRIP 30-day follow-up rate was higher than the Medicaid national average over the study period. The national average HEDIS® benchmark for the 7-day follow-up visits was approximately 60% with a range from 58% (2017) to 64% (2016).

Figure 6.2—9: Percentage of Discharges for a Mental Health Hospitalization Follow-Up Visit within Thirty Days



Note: HEDIS MY 2013-2017 Follow-Up after Hospitalization for Mental Illness (FUH)- Unaudited Health Plan HEDIS Rate

Multivariate analysis controlling for patient characteristics, using generalized linear model with a Poisson distribution and clustering for Beneficiary showed a small increase in the likelihood of a 30-day follow-up visit following hospitalization in the post period; however this finding was not statistically significant.

Table 6.2—14: Generalized Linear Models Discharges for a Mental Health Hospitalization Follow-Up Visit within Thirty Days

Mental Health Hospitalizations (N=6,610)					
Parameter	Estimate	Standard Error	95% Confidence Limits		P-Value
Intercept	-0.3613	0.0206	-0.4017	-0.3210	<.0001
Post	0.0234	0.0140	-0.0040	0.0507	0.0940
Age	-0.0018	0.0006	-0.0029	-0.0006	0.0026
Female	0.0656	0.0162	0.0338	0.0974	<.0001
Dual Eligible	0.2006	0.0200	0.1613	0.2398	<.0001
Expansion Population	-0.1148	0.0230	-0.1598	-0.0698	<.0001
ACG Risk Score	0.0042	0.0020	0.0003	0.0081	0.0351
	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
BH post vs pre	1.0236	0.0143	0.9960	1.0520	0.0940

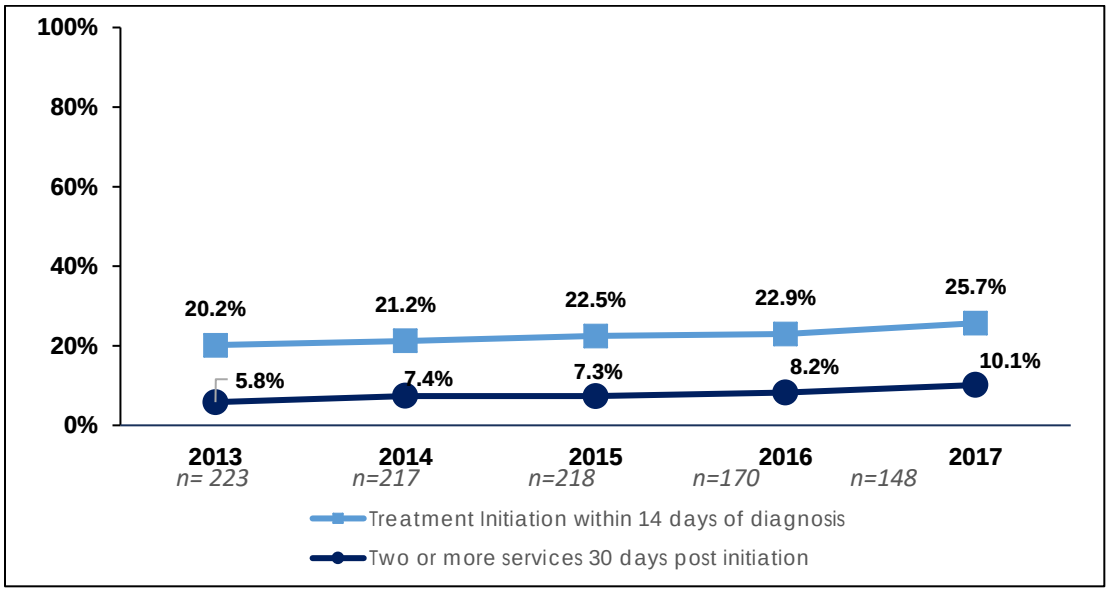
6.2.2.4 Initiation and Engagement of Alcohol and Other Drug Dependence Treatment (ages 13-17)

Similar to national trends, NH has experienced an increase prevalence of substance use disorders (SUD), particularly related to opioid use. New Hampshire is one of the top five states with the highest rate of opioid deaths—an age-adjusted rate of 34.0 deaths per 100,000 persons.[8] Since 2012, the number of drug overdose deaths has increased 200%, claiming the lives of over 1,900 NH residents. The Governor's Commission on Alcohol and Other Drugs recently released a three year strategic plan to reduce alcohol and drug problems in the state.[58] In 2016, SUD treatment service coverage was expanded to cover all Medicaid Beneficiaries. The DSRIP Demonstration seeks to improve access to and effective use of SUD services.

Initiation and continued engagement in SUD treatment services generally improved outcomes as compared to people who do not engage.[59-62] Initiation in SUD services included inpatient, partial hospitalizations, intensive outpatient (IOP) and other outpatient SUD service use. Engagement was measured with two or more additional services within 30 days.

Adolescents (Beneficiaries ages 13-17) use of SUD services is examined in Figure 6.2—10. Unadjusted rates of both initiation and engagement in SUD treatment increased over time, though this trend was not statistically significant. Due to the change in policy to expand coverage of these services, multivariate analysis was not included in this interim report.

Figure 6.2—10: Initiation and Engagement of Alcohol and Other Drug Dependence Treatment (ages 13-17) – Unadjusted

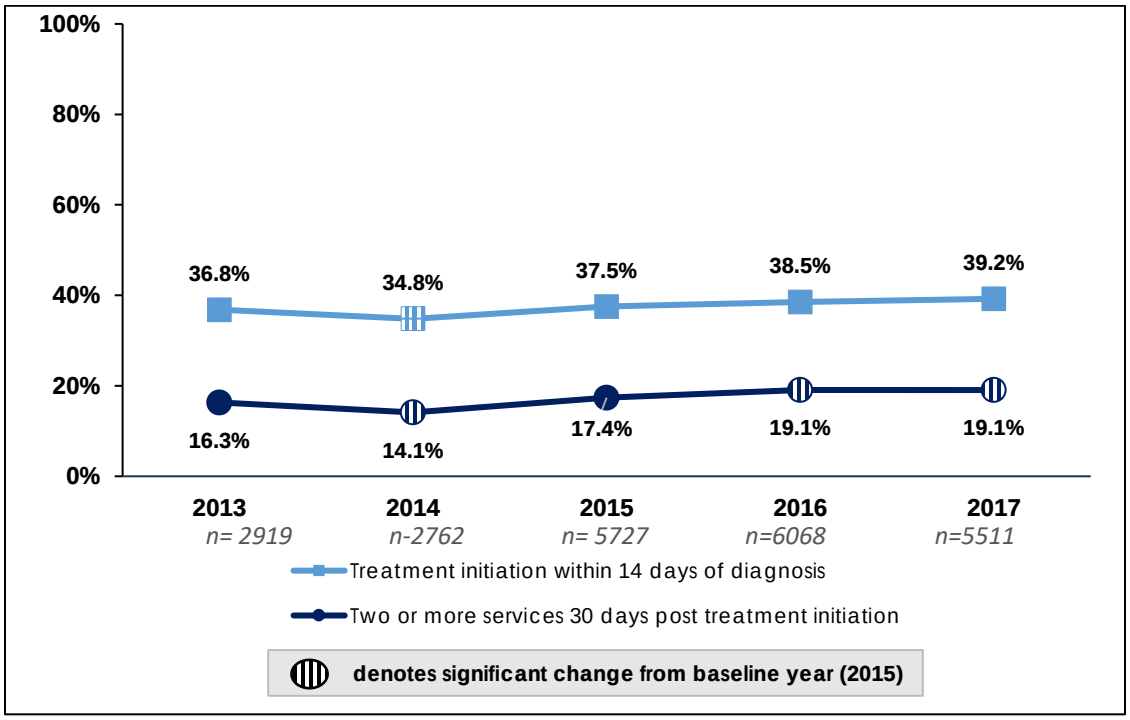


Note: HEDIS MY 2013-2017 Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment (IET)-Unaudited Health Plan HEDIS Rate

6.2.2.5 Initiation and Engagement of AOD Dependence Treatment (ages 18 and over) – Unadjusted

Adults' use of SUD services is examined in Figure 6.2—11. Unadjusted rates of both initiation and engagement in SUD treatment increased over time. The upward trend for engagement in AOD treatment was statistically significant due to the change in policy to expand coverage of these services, multivariate analysis was not included in this interim report.

Figure 6.2–11: Initiation and Engagement of Alcohol and Other Drug Dependence Treatment (ages 18 and over) – Unadjusted



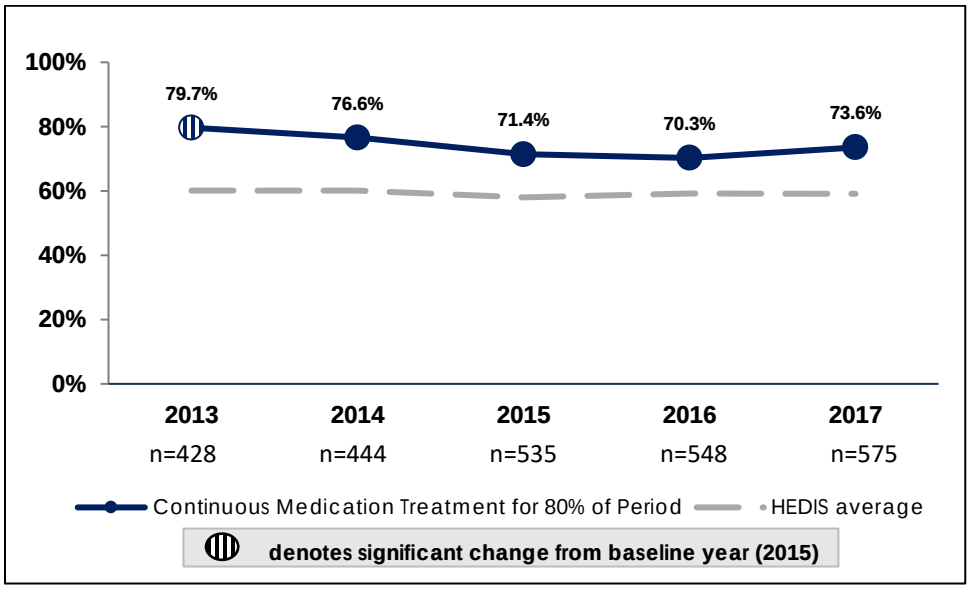
Note: HEDIS MY 2013-2017 Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment (IET)-Unaudited Health Plan HEDIS Rate

6.2.2.6 Adherence to Antipsychotic Medications for Individuals with Schizophrenia

Relief of acute symptoms of schizophrenia through antipsychotic medication should continue for at least a year and can substantially reduce the risk of relapse once in the stable phase of the illness.[63,64] Adherence to antipsychotic medication for people with schizophrenia can reduce hospitalizations and improve effectiveness of care interventions.

Beneficiaries adhering to their prescription regimen for at least 80% of their treatment periods ranged from a high of 79.7% in 2013 to 71.4% for the 2015 pre-Demonstration baseline, and then increased to 73.6% for the most recently completed year (2017). NH Medicaid is well above the HEDIS® National Medicaid benchmark on adherence to antipsychotic medications.

Figure 6.2—12: Adherence to Antipsychotic Medications for Individuals with Schizophrenia (age 19-64) – Unadjusted



Note: HEDIS MY 2013-2017 Adherence to Antipsychotic Medications for Individuals with Schizophrenia (SAA) - Unaudited Health Plan HEDIS Rate

When controlling for age, gender, whether the Beneficiary was enrolled in the expansion program and patient acuity (ACG risk score), no significant trend in adherence to antipsychotic medications was detected between the pre and post Demonstration periods. (Table 6.2—15).

Table 6.2—15: Logistic Model Antipsychotic Medication Adherence for People with Schizophrenia over Time

People with Schizophrenia (N=2,530)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits		P-Value
Post	1.015	0.840	1.226	0.8784
Age	1.021	1.013	1.028	<.0001
Female	1.115	0.921	1.349	0.2642
Expansion Population	0.445	0.356	0.555	<.0001
ACG Risk Score	0.949	0.918	0.981	0.0021

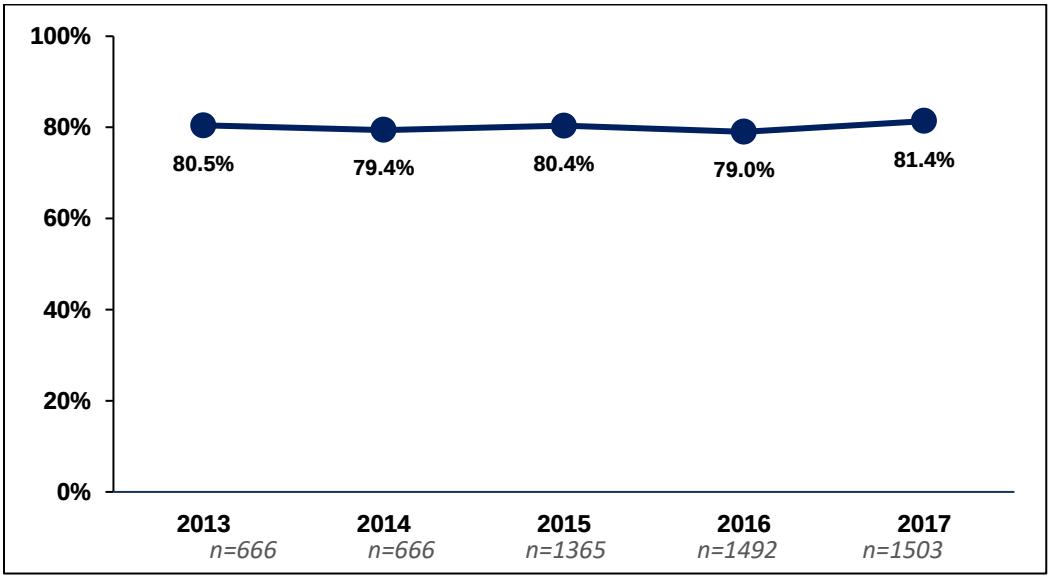
6.2.2.7 Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications

Use of psychiatric medications, such as antipsychotics and certain antidepressants, can cause weight gain and worsen cardiovascular health. Having a mental illness makes

management of chronic disease more challenging and requires appropriate care coordination.[65,66] Adherence to appropriate treatment, having a usual source of care, and collaborative care management are frequently cited as necessary components to improving the health of those with chronic disease and mental illness.[66-70] Diabetes care, for example, requires self-management by patients and ongoing monitoring by clinicians to prevent acute complications.[71,72] An estimated 3% of the U.S. population suffers from more severe and disabling mental illness, such as schizophrenia, depression, or bipolar disorder. Additionally, comorbid chronic medical diseases, such as diabetes, cardiovascular disease, asthma and arthritis, are more common among patients with mental illness.

Screening for diabetes through either a glucose test or HbA1c test in people with schizophrenia or bipolar disorder can lead to early detection and treatment. Approximately 80% of Medicaid Beneficiaries with schizophrenia or bipolar disorder were screened for diabetes during the study period.

Figure 6.2—13: Diabetes Screening for People with Schizophrenia or Bipolar who are Using Antipsychotic Medication – Unadjusted



Note: HEDIS MY 2013-2017 Diabetes Screening for People with Schizophrenia, Schizoaffective Disorder or Bipolar Disorder Who Were Dispensed Antipsychotic Medications and had a Diabetes Screening (SSD)- Unaudited Health Plan HEDIS Rate

As with bivariate analysis, multivariate logistic modeling did not identify a significant difference (Table 6.2—16) in diabetes screening for people with schizophrenia or bipolar disease between the pre and post study periods when controlling for age, gender, whether the Beneficiary was enrolled in the expansion program, and patient acuity (ACG risk score).

Table 6.2—16: Logistic Model Diabetes Screening for People with Schizophrenia or Bipolar who are Using Antipsychotic Medication

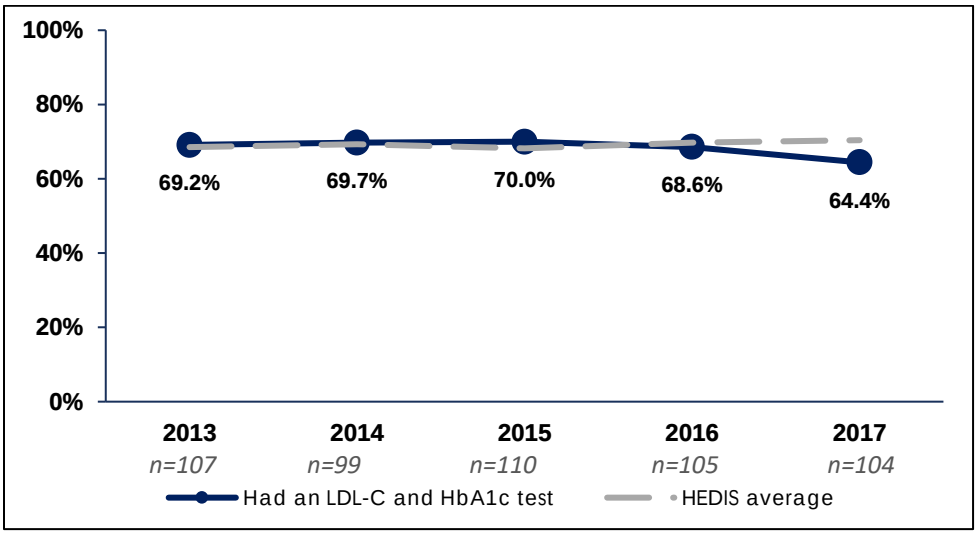
People with Schizophrenia (N=5,692)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits		P-Value
Post	0.900	0.780	1.038	0.1480
Age	1.017	1.011	1.023	<.0001
Female	1.197	1.040	1.376	0.0119
Expansion Population	1.047	0.900	1.218	0.5505
ACG Risk Score	1.998	1.846	2.162	<.0001

6.2.2.8 Diabetes Monitoring for People with Diabetes and Schizophrenia

Studies estimate the exact prevalence of diabetes among people with schizophrenia to be 2 to 5 times greater than the general population.[73] Once identified, people with diabetes and schizophrenia should receive optimal diabetes care. A key part of that care is monitoring for both lipid (LDL-C test) and blood glucose (HbA1c test) levels. Approximately 70% of Beneficiaries with diabetes and schizophrenia age 18 to 64 received monitoring for blood glucose levels and lipids over the study period. The percent drops in the post period but perhaps due to a small sample size, the decline is not statistically significant.

With the exception of 2017, NH Medicaid is comparable to the National HEDIS® Medicaid benchmark. In 2017, NH Medicaid is 6% lower than the National benchmark of 70.4%.

Figure 6.2—14: Diabetes Monitoring for People with Diabetes and Schizophrenia – Unadjusted



Note: HEDIS MY 2013-2017 Diabetes Monitoring for People with Diabetes and Schizophrenia (SMD)- Unaudited Health Plan HEDIS Rate

Also, multivariate logistic modeling (Table 6.2—17) did not identify a significant difference in diabetes monitoring for people with schizophrenia and diabetes between the pre and post study periods when controlling for age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program and patient acuity (ACG risk score).

Table 6.2—17: Logistic Model Diabetes Monitoring for People with Schizophrenia and Diabetes

People with Schizophrenia (N=525)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits		P-Value
Post	0.914	0.619	1.350	0.6512
Age	1.035	1.017	1.053	<.0001
Female	0.845	0.577	1.237	0.3857
Expansion Population	1.125	0.559	2.266	0.7410
ACG Risk Score	0.934	0.888	0.982	0.0071

6.2.2.9 Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia

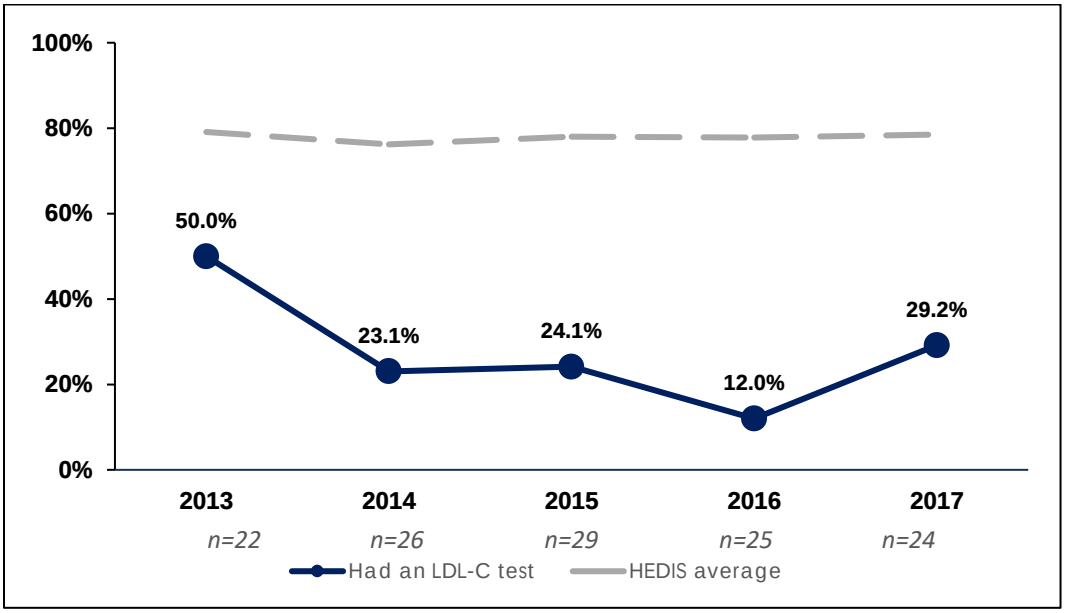
People with schizophrenia are at higher risk for cardiovascular disease (CVD) and are generally less likely to receive treatment. Additionally, certain atypical antipsychotic

medications increase low-density lipoprotein (LDL) cholesterol and triglycerides, and decrease high-density lipoprotein (HDL) cholesterol. Over two thirds of people with schizophrenia, compared with approximately one-half in the general population, die of coronary heart disease (CHD).[74] Routine LDL-C testing is thus recommended for people with schizophrenia. The DSRIP Demonstration seeks to improve integration of physical and behavioral health treatment. Improvement in LDL-C testing is one marker for improved quality of care for DSRIP Beneficiaries with schizophrenia.

As shown in Figure 6.2—15, the sample count is low, with between 22 and 29 Beneficiaries through the observation period. The rate fluctuates from a high in 2013 of 50% to a low of 12% in 2016, before increasing to 29% in 2017.

Cardiovascular monitoring is well below the National HEDIS® Medicaid Benchmark.

Figure 6.2—15: Cardiovascular Monitoring for People (age 18-64) with Cardiovascular Disease and Schizophrenia – Unadjusted



Note: HEDIS MY 2013-2017 Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia (SMC)-Unaudited Health Plan HEDIS Rate

Multivariate logistic modeling shown in Table 6.2—18, did not identify a significant difference in cardiovascular monitoring for people with schizophrenia between the pre and post period when controlling for age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program and patient acuity (ACG risk score).

Table 6.2–18: Logistic Regression Model Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia

People with Schizophrenia and CVD (N=126)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits		P-Value
Post	0.553	0.225	1.359	0.1966
Age	1.019	0.940	1.105	0.6465
Female	1.823	0.750	4.431	0.1851
Dual Eligible	0.180	0.065	0.496	0.0009
Expansion Population	1.150	0.121	10.918	0.9034
ACG Risk Score	0.978	0.902	1.059	0.5796

6.2.2.10 Follow-up Care for Children (age 6-12) Prescribed ADHD Medication – Initiation (30 days) and Continuation (270 Days)

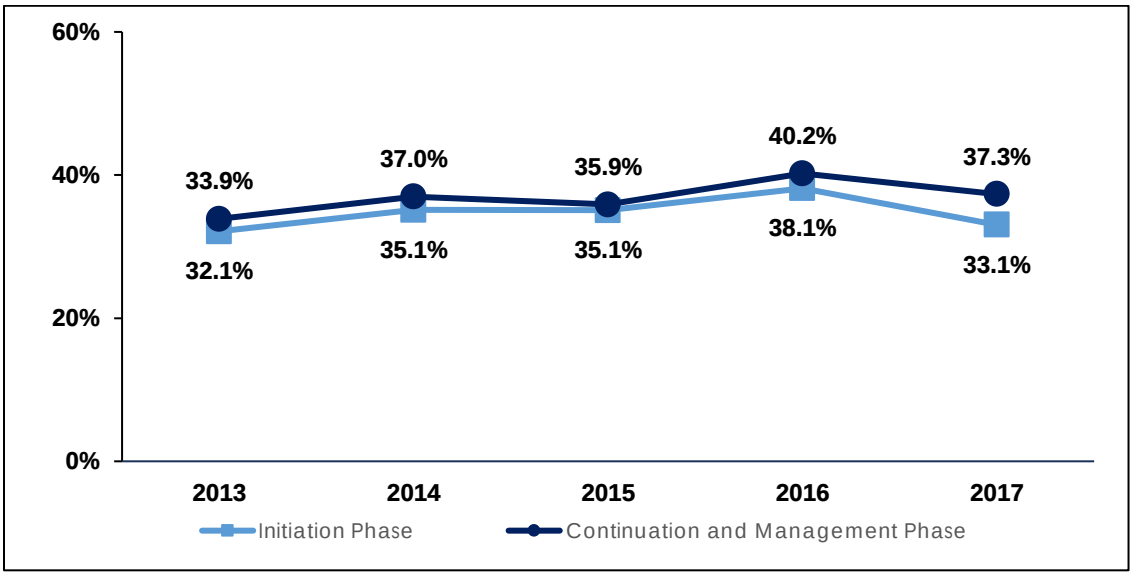
According to national data published by the American Academy of Pediatrics (AAP), about 9.4% of U.S. children ages 2-17 have been diagnosed at one time with attention deficit hyperactivity disorder (ADHD). Boys are more than twice as likely as girls are to be diagnosed with ADHD. Additionally, children with ADHD show symptoms of an additional mental disorder and may also have learning and language problems.[75]

The AAP recommends monthly office visits until the child's condition stabilizes. Once the condition stabilizes, office visits should occur every three to six months.[75] The DSRIP Demonstration seeks to improve adherence to ADHD treatment recommendations by measuring follow-up care for children (age 6-12) newly prescribed ADHD medication at 30 (initiation) and 210 days (continuation).

While 2016 saw improved rates over the 2015 baseline for both phase cohorts, the difference between the years is not statistically significant. No clear trend emerges in the unadjusted rates for children.

Not shown in the graph, NH Medicaid falls below the national HEDIS® Medicaid benchmark for both the initiation and continuation measures. Comparing 2016, the national benchmark is 44.6% for the initiation measure and 55% for the continuation measures.

Figure 6.2—16: Follow-Up Care for Children (age 6-12) Prescribed ADHD Medication – Unadjusted



Note: HEDIS MY 2013-2017 Follow-up Care for Children Prescribed ADHD Medication (ADD) -Unaudited Health Plan HEDIS Rate

Even after controlling for age, gender and patient acuity (ACG Risk Score), no significant variation was observed over the study period for the 30-day follow-up (initiation) visit.

Table 6.2—19: Logistic Regression Model Follow-up Care for Children (age 6-12) Prescribed ADHD Medication – Initiation

Children with ADHD (N=6,283)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits		P-Value
Post	1.060	0.953	1.179	0.2828
Age	0.912	0.885	0.940	<.0001
Female	1.023	0.914	1.144	0.6955
ACG Risk Score	1.309	1.161	1.476	<.0001

Similarly, after controlling for age, gender and patient acuity (ACG Risk Score), no significant variation was observed over the study period for the additional two or more visits during the continuation period.

Table 6.2–20: Logistic Regression Follow-up Care for Children (age 6-12) Prescribed ADHD Medication – Continuation

Children with ADHD (N=2,788)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits		P-Value
Post	1.148	0.980	1.346	0.0875
Age	0.909	0.868	0.951	<.0001
Female	1.053	0.891	1.244	0.5468
ACG Risk Score	1.237	1.056	1.449	0.0084

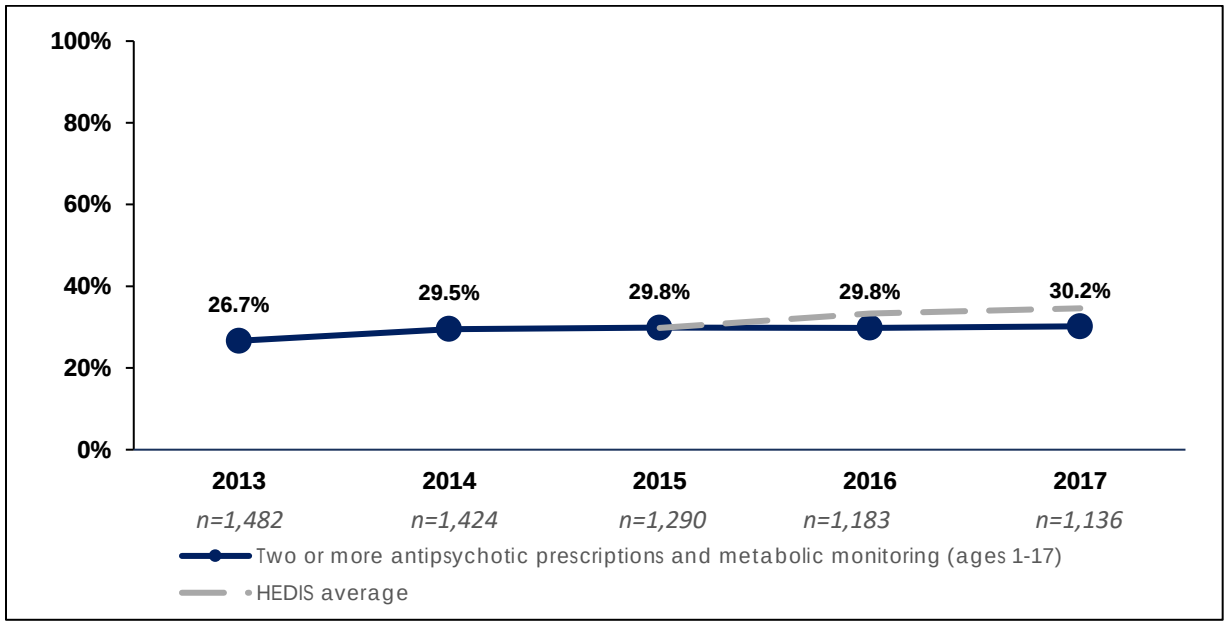
6.2.2.11 Metabolic Monitoring for Children and Adolescents on Antipsychotics

Similar to the use of antipsychotics in adults, the use of antipsychotics in children puts them at higher risk for metabolic health complications including weight gain and diabetes. The AAP recommends metabolic monitoring for children and adolescents on antipsychotics.[76] Children and adolescents should receive at least one blood glucose test (HbA1c) and cholesterol (LDL-C) during the year. The DSRIP Demonstration seeks to improve rates of metabolic monitoring in children and adolescents through better integration of mental and physical health care.

The unadjusted rate of metabolic monitoring shows a small, but not significant, increase over the study period. That said, less than one-third of children and adolescents on antipsychotics actually received the required metabolic screenings.

New Hampshire Medicaid is trending slightly lower than the national HEDIS® benchmark on metabolic monitoring of children and adolescents on antipsychotics.

Figure 6.2–17: Metabolic Monitoring for Children and Adolescents on Antipsychotics – Unadjusted



Note: HEDIS MY 2013-2017 Metabolic Monitoring for Children and Adolescents - Unaudited Health Plan HEDIS Rate

No significant change was observed over the study period when controlling for age, gender and patient acuity.

Table 6.2–21: Logistic Regression Model Metabolic Monitoring for Children (age 1-17) on Antipsychotics

Children with ADHD (N=6,515)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits		P-Value
Post	1.047	0.936	1.171	0.4253
Age	1.053	1.035	1.071	<.0001
Female	0.880	0.779	0.993	0.0386
ACG Risk Score	1.112	1.066	1.161	<.0001

6.2.2.12 Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics

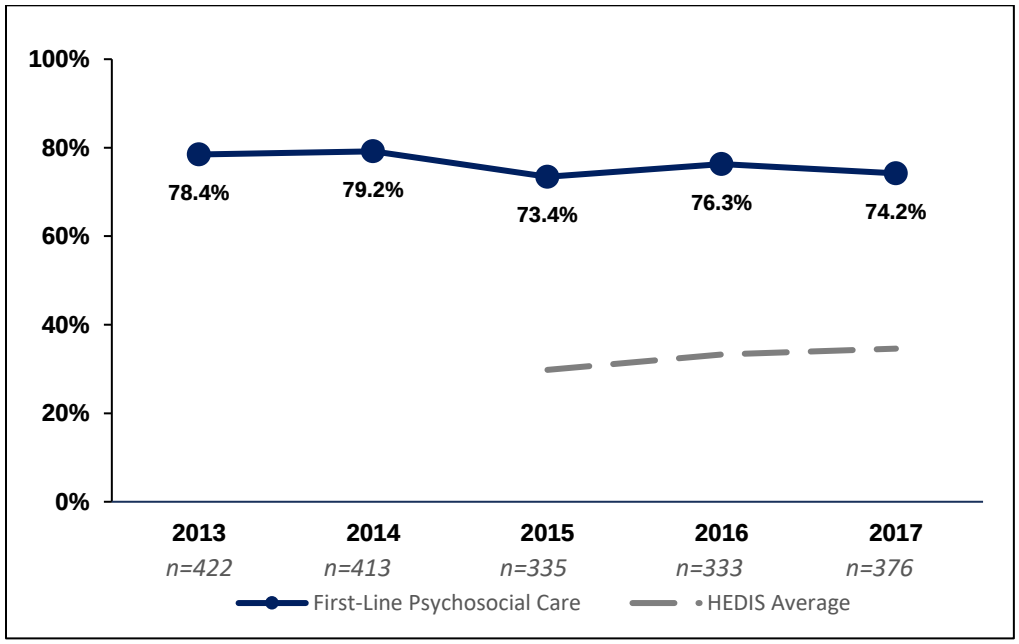
The Food and Drug Administration (FDA) has identified a limited number of behavioral health conditions (i.e., bipolar, schizophrenia, psychotic, tic disorders and irritability management related to autism) for which antipsychotics are a recommended first-line of treatment. Increasingly, antipsychotics are being prescribed for children who have conditions such as

ADHD and disruptive behavior disorders for whom psychosocial interventions are recommended first-line treatment.[77]

The DSRIP Demonstration through improved integration of care seeks to increase the use of first-line psychosocial care (e.g., behavioral health therapy) for children and adolescents prior to use of antipsychotics and improve evidence-based prescribing of antipsychotics in children and adolescents.

Roughly 75% of NH Medicaid children and adolescents prescribed antipsychotics received first-line psychosocial treatment (Figure 6.2—18). No significant variation is observed in the unadjusted rates. New Hampshire Medicaid is well above the national HEDIS® benchmark on this measure.

Figure 6.2—18: Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotic Medication – Unadjusted



Note: HEDIS MY 2013-2017 Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics (APP)-Unaudited Health Plan HEDIS Rate

Also, there was no significant variation over the study period (Table 6.2—22) in the use of first-line psychosocial care children and adolescents on antipsychotic medications after controlling for age, gender, and patient acuity (ACG risk Score).

Table 6.2—22: Logistic Regression Result Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotic Medication

Children with new antipsychotic (N=1,879)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits		P-Value
Post	0.879	0.706	1.095	0.2510
Age	0.983	0.953	1.014	0.2760
Female	1.296	1.032	1.628	0.0255
ACG Risk Score	1.054	0.959	1.158	0.2786

6.2.2.13 Use of Opioids at High Dosage

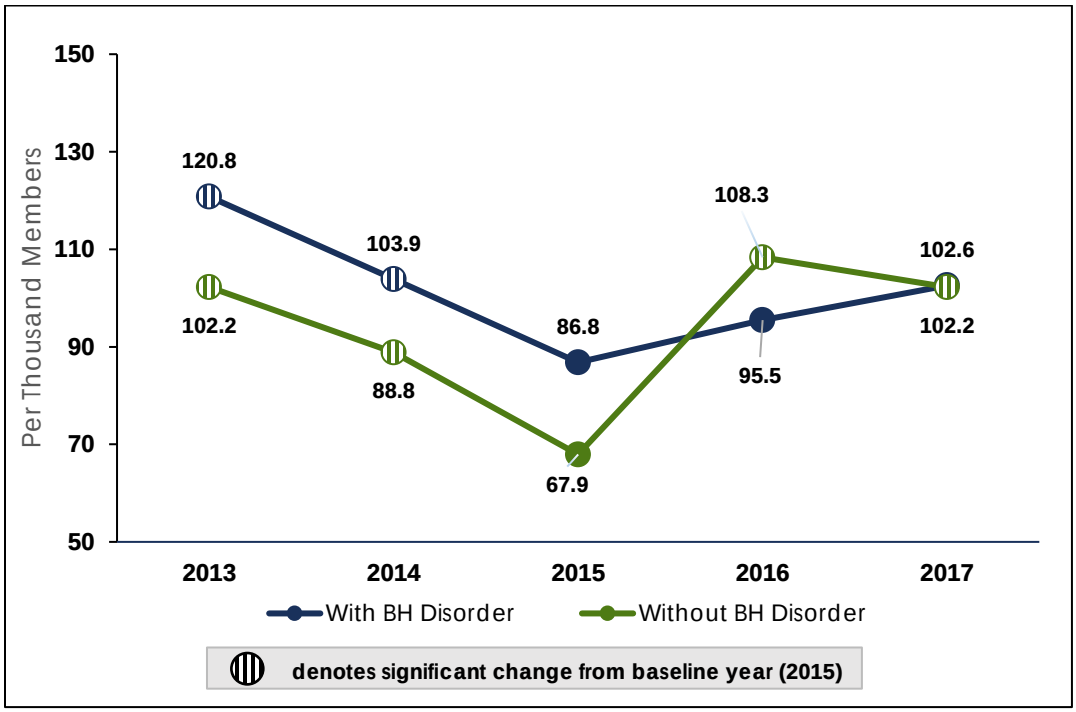
As noted earlier, at an age-adjusted rate of 34.0 deaths per 100,000 persons, NH has one of the highest rates of opioid deaths in the country. The NH Governor's Commission on Alcohol and other Drugs has an Opioid Task Force to focus on the state's high priority concern relative to opioid misuse.

Opioids are an appropriate component of a pain management plan; however, prolonged use at high dosages can lead to many side effects including dependence, increased tolerance, and death. Clinical evidence suggests that the maximum dose prescribed should be 120 morphine equivalent dose (MED).[78]

This measure looks at the rate of opioids prescribing above the maximum dose recommendation of 120 MED. Due to the lack of drug information for Beneficiaries who are dual eligible (covered by both Medicare and Medicaid), this measure is calculated for Beneficiaries who are covered by Medicaid only.

This rate is calculated for two groups of Beneficiaries: those with and those without a documented behavioral health condition during each observation year. The year of 2015 is used as the pre-Demonstration baseline year and is unique as it has the lowest rates of usage of opioids above the high-dosage threshold: 86.8 per 1,000 Beneficiaries with a behavioral health disorder and 67.9 per 1,000 Beneficiaries without behavioral health disorders.

Figure 6.2–19: Use of Opioids at High Dosage – Unadjusted



Note: HEDIS MY 2013-2017 Use of Opioid at High Dosage (UOD)- Unaudited Health Plan HEDIS Rate

Although difference-in-difference (DID) models show that use of opioids at high dose declined significantly by 20% in the behavioral health population and remained steady in the non-behavioral health population, the difference in rate of change was not statistically significant.

Table 6.2–23: Logistic Regression Use of Opioids at High Dosage Rate (per 1,000) – Propensity Matched Sample

Propensity Matched Sample (N=119,938)					
Interaction Effects	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
Pre Period (BH to Non-BH)	1.0317	0.1101	0.8369	1.2719	0.7697
Post Period (BH to Non-BH)	0.8323	0.1272	0.6168	1.1230	0.2297
Change Pre/Post BH sample	0.7964	0.0651	0.6784	0.9348	0.0054
Change Pre/Post Non-BH sample	0.9872	0.1376	0.7513	1.2973	0.9266
BH Time Interaction	0.8067	0.1272	0.5922	1.0988	0.1730

The population of behavioral health Beneficiaries that did not match experienced a similar rate of decrease over time as the Beneficiaries that did match. The 19% decline between pre and post periods was significant after controlling for age, gender, whether the Beneficiary was enrolled in the expansion program and patient acuity (ACG Risk Score).

Table 6.2—24: Logistic Regression Use of Opioids at High Dosage (Rate per 1,000) – Unmatched Behavioral Health Group

Unmatched Behavioral Health Group (N= 6,020)					
Parameter	Estimate	Standard Error	95% Confidence Limits		P-Value
Intercept	-2.3628	0.2091	-2.7726	-1.953	<.0001
Post	-0.2078	0.0972	-0.3983	-0.0173	0.0325
Age	0.0092	0.004	0.0014	0.0169	0.0202
Female	-0.3784	0.1053	-0.5849	-0.172	0.0003
Expansion Population	-0.0811	0.1144	-0.3052	0.1431	0.4784
ACG Risk Score	0.0127	0.0111	-0.0091	0.0344	0.2531
	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
BH post vs pre	0.8124	0.0790	0.6714	0.9828	0.0325

6.2.2.14 Summary of Quality of Care Trends

One of the objectives of the Demonstration is to improve the quality of behavioral health care, including enhancing the integration of behavioral health with physical health care, increasing follow up care after acute care, and expanding medication management for individuals with co-occurring disorders. Although performance in most of the Quality of Care measures has not changed significantly between the pre period and the first two years of the Demonstration, a few promising trends were noted:

- Both measures for follow-up after hospitalization for mental illness (7 day and 30 day) increased between the pre and post Demonstration periods, including a statistically significant increase in odds of nearly 6% for the 7 day follow-up (p = 0.0110) *(sections 6.2.2.2 and 6.2.2.3*).
- The odds of opioid use at high dosage for the propensity matched study population decreased by 20% in the Demonstration period compared to the pre period (p = 0.0054), while the odds for the unmatched study population declined by 19% (p = 0.0325) *(section 6.2.2.13)*.

Conversely, there were a few early cautionary trends within the Quality of Care measures domain, which include:

- The odds of both acute and continuation antidepressant medication management declining by 12% (p = 0.0020, p = 0.0033) *(section 6.2.2.1)*.
- Antidepressant medication management trended in the opposite direction of expectations in the early years of the Demonstration, though it was the only Quality of Care measure (of 11) to do so *(section 6.2.2.1)*.

Furthermore, no significant changes were detected in screening and monitoring measures for Beneficiaries with co-occurring chronic conditions and behavioral health diagnoses.

6.2.3 Integration of Care

Within the Integration of Care domain, trends are unclear at this point in the Demonstration. However, there are improvements in alcohol/drug dependence emergency department follow-up visits.

Table 6.2—25: Overview of Measures of Integration of Care Domain

Integration and Coordination	Range	Trend	Status	Statistical Test (s)	Years Significantly Different from 2015
Measure 2.1.1: Fragmented Care					
With BH Disorder	26.8%-32.6%	--	Unclear	Chi-Square, Logistic Regression, Difference-in-Difference	2014, 2016, 2017
Without BH Disorder	20.0%-23.9%	--	Unclear	Chi-Square, Logistic Regression, Difference-in-Difference	2014, 2016, 2017
Measure 2.1.9: Mental Health Hospitalization Follow-Up*					
Within 7 days of discharge	50.8% - 58.6%	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model (GENMOD)	2013
Measure 2.1.10: Mental Health Hospitalization Follow-Up*					
Within 30 days of discharge	70.6% - 76.7%	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model (GENMOD)	None

Integration and Coordination	Range	Trend	Status	Statistical Test (s)	Years Significantly Different from 2015
Measure 2.1.11: Mental Illness Emergency Department Visit Follow-Up*					
Within 30 days	80.7% - 84.4%	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model (GENMOD)	None
Measure 2.1.12: Alcohol/Drug Dependence (AOD) Emergency Department Visit Follow-Up*					
Within 30 days	18.6% - 30.6%	▲	Improving	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model (GENMOD)	2013, 2014

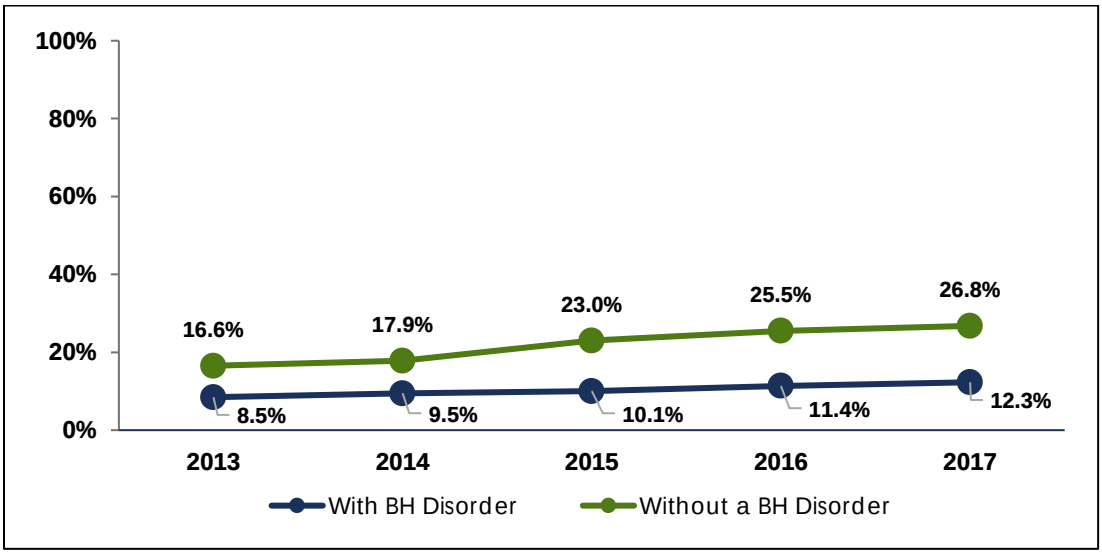
* HEDIS MY 2013-2017 – Unaudited Health Plan HEDIS Rate

6.2.3.1 Fragmented Care

Current thinking about how best to improve health outcomes for persons with chronic medical conditions[69] stresses the importance of patient and provider being engaged in a continuous, collaborative relationship. The DSRIP measure of Fragmented Care is based on work by Liu et al[79], which calculates a continuity of care (COC) measure as a method for gauging patient-provider relationships. COC considers the total number of visits to primary care providers (PCP), the number of different PCP practices, and the number of visits to each practice. The COC runs from 0 (continuous care-all visits to the same PCP) to 1 (each visit takes place at a different PCP site). Beneficiaries were ranked based on COC score for the pre-study period with those above the 75th percentile distribution considered to have fragmented care.

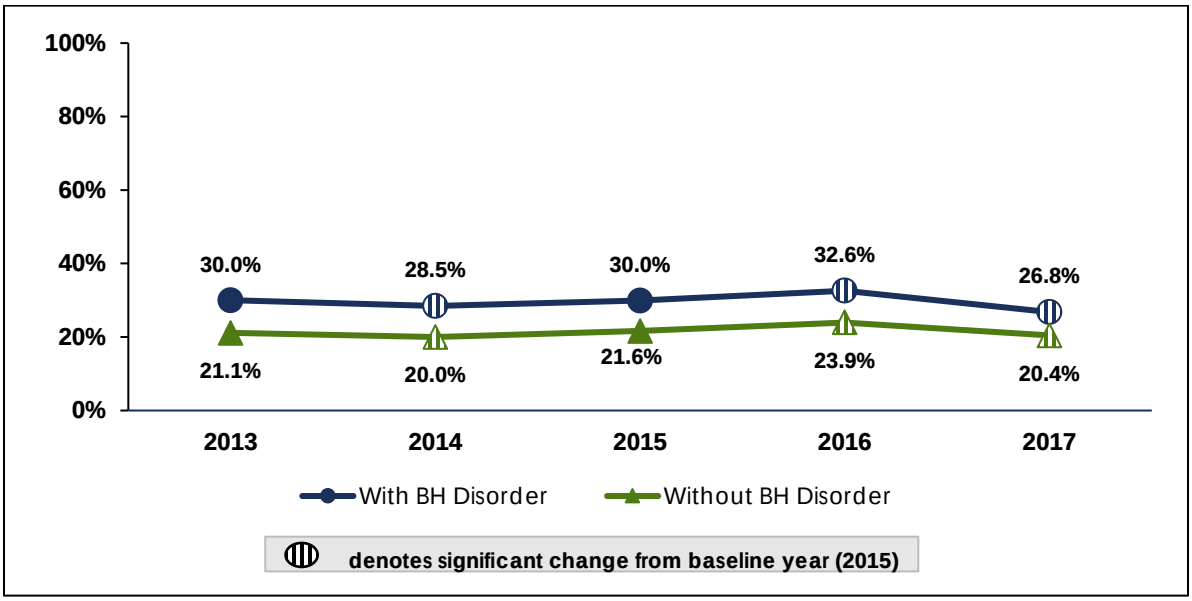
For this measure, Beneficiaries that did not see a primary care practitioner during the year were identified. Beneficiaries with behavioral health disorders were more likely to see a primary care provider during the study period. The percentage of Beneficiaries with a behavioral health disorder that did not have a primary care visit increased slightly from 9% in 2013 to 12% in 2017. Beneficiaries without a behavioral health disorder that did not have a primary care visit increased from 17% in 2013 to 27% in 2017.

Figure 6.2–20: Percentage of Beneficiaries without a Primary Care Visit



In every year, Beneficiaries with a behavioral health disorder had a higher percentage of fragmented care than Beneficiaries without a behavioral health disorder—approximately 10% higher every year. At this time, no clear trends were observed in fragmented care during the Demonstration period.

Figure 6.2–21: Percentage of Beneficiaries with Fragmented Care

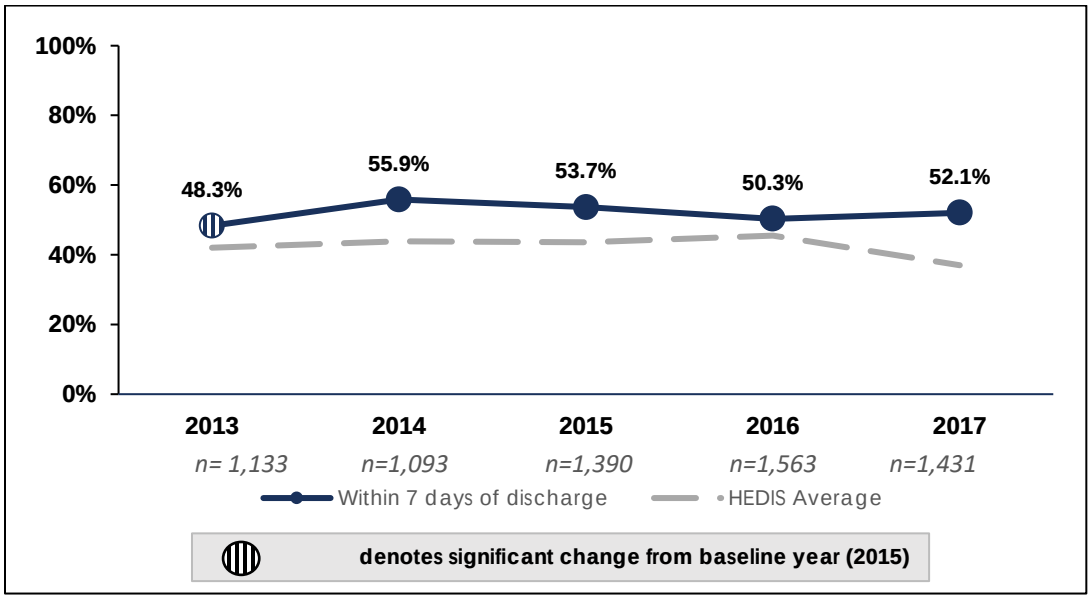


6.2.3.2 Mental Health Hospitalization Follow-up (7 days)

Follow-up after mental health hospitalization is another measure of continuity of care for Beneficiaries (ages 6 and over) with mental health disorders or intentional self-harm. Regular follow-up with a mental health provider assures transitions back to the community and allows for monitoring of reactions to medications.

The NH DSRIP seven-day follow-up rate was higher than the Medicaid national average over the study period. The national average HEDIS® benchmark over the study period for the 7-day follow-up visits was approximately 40% with a range from 37% (2017) to 46% (2016). In all years, half of all discharges of NH Medicaid Beneficiaries for a behavioral health disorder had a follow-up visit within 7 days of discharge. Simple generalized linear model regression found only 2013 to be significantly lower than the referent year of 2015.

Figure 6.2—22: Mental Health Hospitalization Follow-Up Visit within 7 Days



Note: HEDIS MY 2013-2017 Follow-up after hospitalization for mental illness (FUH) - Unaudited Health Plan HEDIS Rate

Multivariate analysis using generalized linear model with a Poisson distribution and clustering for Beneficiary, however, found a significantly higher (5.6%) likelihood of a 7-day follow-up visit following hospitalization in the post study period when controlling for age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program, and patient acuity (ACG risk score).

Table 6.2—26: Generalized Linear Models Percent of Discharger for a Mental Health Hospitalization Follow-Up Visit within Seven Days

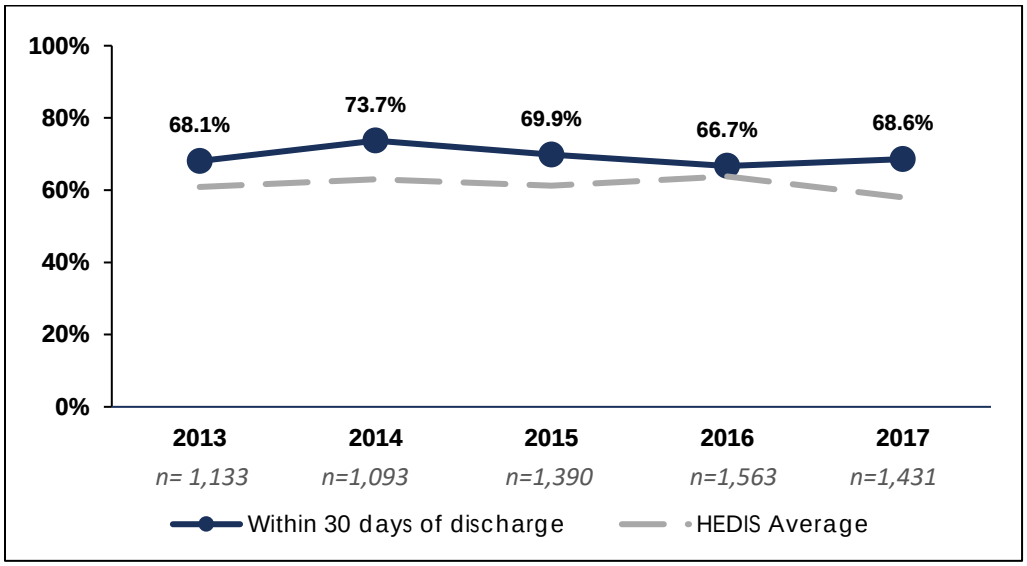
Mental Health Hospitalizations (N=6,610)					
Parameter	Estimate	Standard Error	95% Confidence Limits		P-Value
Intercept	-0.6870	0.0302	-0.7461	-0.6279	<.0001
Post	0.0544	0.0214	0.0124	0.0963	0.0110
Age	-0.0013	0.0009	-0.0030	0.0004	0.1255
Female	0.0800	0.0238	0.0333	0.1267	0.0008
Dual Eligible	0.2716	0.0303	0.2123	0.3310	<.0001
Expansion Population	-0.1748	0.0339	-0.2413	-0.1084	<.0001
ACG Risk Score	0.0010	0.0032	-0.0052	0.0073	0.7445
	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
Change/Pre Post BH Sample	1.0559	0.0226	1.0125	1.1011	0.0110

6.2.3.3 Mental Health Hospitalization Follow-up (30 days)

NH DSRIP 30-day follow-up rate was higher than the Medicaid national average over the study period. The national average HEDIS® benchmark for the 7-day follow-up visits was approximately 60% with a range from 58% (2017) to 64% (2016).

In all data years for the study population, a follow-up visit occurred for approximately 70% of hospitalizations for a behavioral health disorder within 30 days of the discharge. There was no significant difference in this rate over the study period.

Figure 6.2–23: Mental Health Hospitalization Follow-Up Visit within 30 days



Note: HEDIS MY 2013-2017 Follow-Up after Hospitalization for Mental Illness (FUH) - Unaudited Health Plan HEDIS Rate

Multivariate analysis using generalized linear model with a Poisson distribution and clustering for Beneficiary also *did not* find a significant difference in the likelihood of a 30-day follow-up visit following hospitalization in the post period when controlling for age, gender, dual eligibility, patient acuity (ACG risk score) and whether the Beneficiary was enrolled in the expansion program.

Table 6.2–27: Generalized Linear Models Percent of Discharger for a Mental Health Hospitalization Follow-Up Visit within Thirty Days

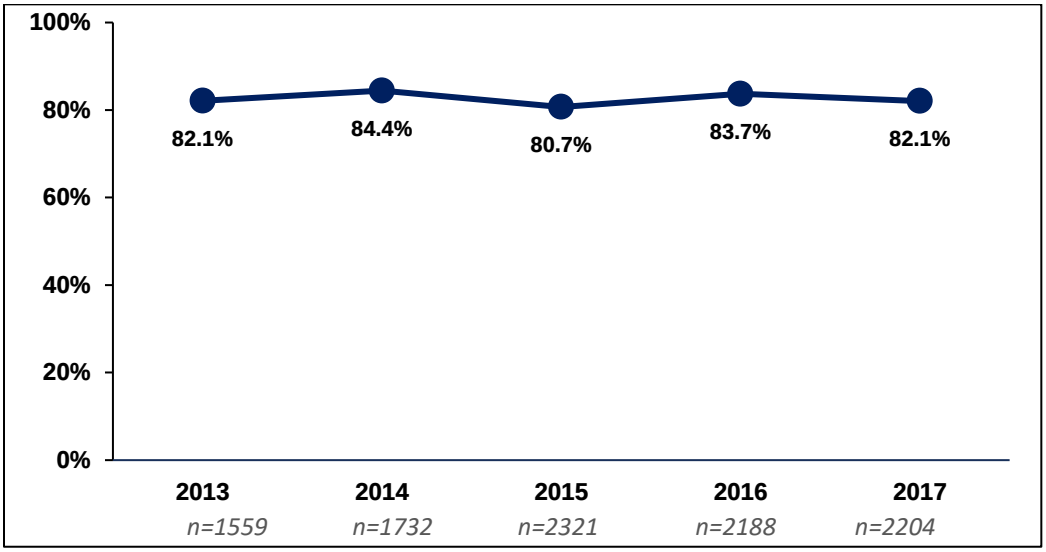
Mental Health Hospitalizations (N=6,610)					
Parameter	Estimate	Standard Error	95% Confidence Limits		P-Value
Intercept	-0.3613	0.0206	-0.4017	-0.3210	<.0001
Post	0.0234	0.0140	-0.0040	0.0507	0.0940
Age	-0.0018	0.0006	-0.0029	-0.0006	0.0026
Female	0.0656	0.0162	0.0338	0.0974	<.0001
Dual Eligible	0.2006	0.0200	0.1613	0.2398	<.0001
Expansion Population	-0.1148	0.0230	-0.1598	-0.0698	<.0001
ACG Risk Score	0.0042	0.0020	0.0003	0.0081	0.0351
	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
Change/Pre Post BH Sample	1.0236	0.0143	0.9960	1.0520	0.0940

6.2.3.4 Mental Illness Emergency Department (ED) Visit Follow-up (30 days)

Treatment for mental health disorders can rarely be treated in a single ED visit and requires follow-up with mental health providers in the community. These follow-up visits are important for establishing continuity of care, medication management and implementing or monitoring care plans resulting from the ED visit. Eight out of every ten Beneficiaries seen in the ED for a mental health related visit, had a follow-up visit for a mental health disorder in the outpatient setting within 30 days. Simple regression analysis showed no significant change over time.

A national HEDIS® benchmark for the 30-day follow-up visits following a mental health related ED visit was 55% in 2017. First data year for this measure is 2016. Earlier benchmarks are not available for this measure.

Figure 6.2—24: Mental Illness Emergency Department Visit with a Follow-Up Visit within 30 Day



Note: HEDIS MY 2013-2017 Follow-Up After Emergency Department Visit for Mental Illness (FUM) - Unaudited Health Plan HEDIS Rate

Although no significant change was detected with unadjusted regression analysis, multivariate analysis controlling for age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program and patient acuity (ACG risk score) using generalized linear model with a Poisson distribution and clustering for Beneficiary (Table 6.2—28) found a significant increased (3.3%) likelihood of a 30-day follow-up visit following a mental health related ED visit in the post study period.

Table 6.2—28: Generalized Linear Models Percent of Mental Illness Emergency Department Visits with a Follow-up Visit within Thirty Days

Mental Health ED Visits (N=10,004)					
Parameter	Estimate	Standard Error	95% Confidence Limits		P-Value
Intercept	-0.1385	0.0108	-0.1596	-0.1174	<.0001
Post	0.0322	0.0083	0.0159	0.0485	0.0001
Age	-0.0022	0.0004	-0.0030	-0.0015	<.0001
Female	0.0233	0.0092	0.0052	0.0414	0.0115
Dual Eligible	0.0470	0.0132	0.0211	0.0729	0.0004
Expansion Population	-0.1162	0.0135	-0.1426	-0.0897	<.0001
ACG Risk Score	0.0030	0.0013	0.0005	0.0055	0.0202
	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
Change/Pre Post BH Sample	1.0327	0.0086	1.0161		.0001

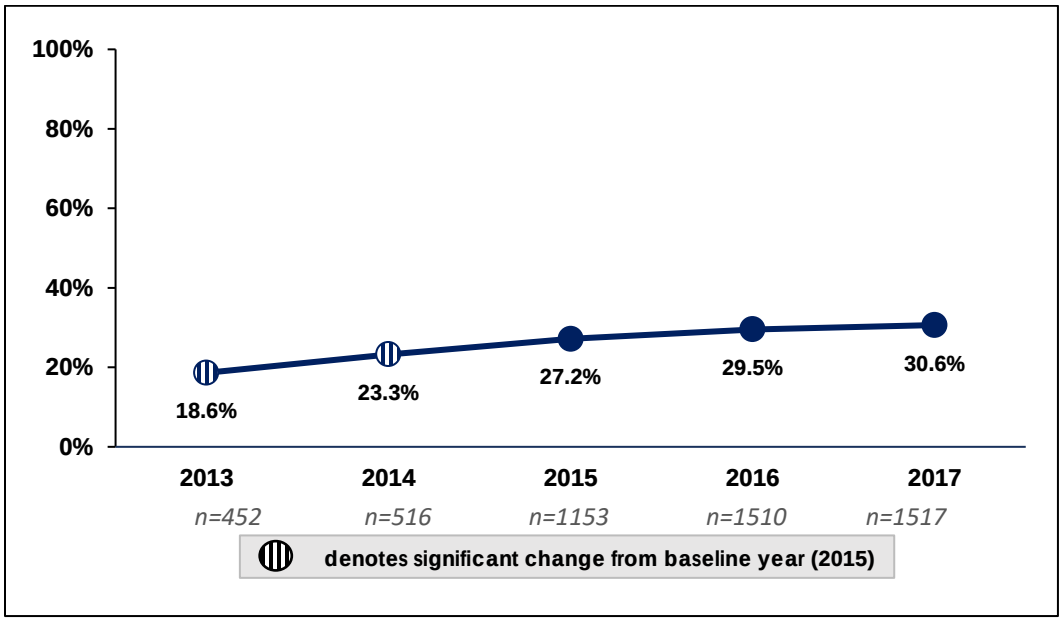
6.2.3.5 Alcohol/Drug Dependence Emergency Department (ED) Visit Follow-up (30 days)

Intervention and treatment of AOD following an ED visit has been shown to be successful in reducing future use of substances.[80]

In September of 2014, NH Medicaid began to cover AOD treatment services for the NH Medicaid expansion population (PAP). Prior to this time, contractors delivered services that were paid through the Substance Abuse and Mental Health Administration (SAMHSA) grant. In July 2017, AOD services were covered for the regular Medicaid population. As a result, over the study period, less than one in three AOD ED visits had a follow-up visit for AOD services within 30 days.

There are no national HEDIS® benchmarks for this measure.

Figure 6.2–25: Alcohol or Drug Dependence (AOD) Emergency Department (ED) Visit with a Follow-Up Visit within 30 Days



Note: HEDIS MY 2013-2017 Follow-Up After Emergency Department Visit for Alcohol and Other Drug Dependence (FUA) - Unaudited Health Plan HEDIS Rate

Results of multivariate analysis controlling for risk factors show the odds of follow up after an AOD ED visit increase by over 12 percent in the Demonstration period. This change is statistically significant

Table 6.2–29: Generalized Linear Models Percentage of Alcohol or Drug Dependence (AOD) Emergency Department (ED) Visit with a Follow-Up Visit within Thirty Days

AOD ED Visits (N=5,148)					
Parameter	Estimate	Standard Error	95% Confidence Limits		P-Value
Intercept	-1.5329	0.0801	-1.69	-1.3759	<.0001
Post	0.1182	0.0474	0.0252	0.2111	0.0127
Age	-0.0018	0.0018	-0.0053	0.0017	0.3109
Female	0.0879	0.0448	0.0001	0.1757	0.0499
Dual Eligible	-0.0606	0.0795	-0.2164	0.0951	0.4455
Expansion Population	0.26	0.0539	0.1543	0.3657	<.0001
ACG Risk Score	0.0195	0.0048	0.0101	0.0289	<.0001
	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
Change/Pre Post BH Sample	1.1254	0.0534	1.0256	1.2350	0.0127

6.2.3.6 Summary of Integration of Care Trends

Promoting integration of physical and behavioral health care is a primary objective of NH's DSRIP program. Measures under the Integration of Care domain examined the extent to which the DSRIP Demonstration activities are fostering increased collaboration and communication, as well coordination and transitions, across providers. Findings from analyses of Integration of Care measures were mixed with bivariate analysis showing little change over time in the early stages of the Demonstration. However, when controlling for risk, the odds of follow-up care for hospitalizations and ED visits showed promise. The following trends were observed for the study population:

- Increase in Mental Health Hospitalization Follow-up Visits within 7 days of Discharge (significant at p = 0.0110) *(section 6.2.3.2)*.
- Increase in Mental Illness Emergency Department (ED) Visit Follow-up (30 days) (significant at p = 0.0001) *(section 6.2.3.4)*.
- Increase in Alcohol or Drug Dependence (AOD) Emergency Department (ED) Visit with a Follow-Up Visit within 30 Days (significant at 0.0127) *(section 6.2.3.5)*.
- Increase in Mental Health Hospitalization Follow-up (30 days), but did not meet level of statistical significance *(section 6.2.3.3)*.

As noted above, no clear trend or significant results were observed in fragmented care *(section 6.2.3.1)* during the Demonstration period.

6.2.4 Service Utilization

Better care and lower costs through improved health care service utilization is a chief tenant of research question one. In the Service Utilization domain, measures of over and appropriate use of services are examined. This includes frequent emergency department (ED) visits, potentially preventable ED visits, hospital readmissions, and ambulatory sensitive admissions.

Within the Service Utilization domain, improvements are evident for the majority of the measures. This includes: frequent emergency room visits, potentially avoidable emergency department visits, hospital readmissions for any cause (Beneficiaries with behavioral health disorders or co-occurring disorders only), hospital readmission for behavioral health disorders, and hospital admissions for ambulatory care, sensitive admissions for behavioral health disorders (Prevention Quality Indicator #91: admissions with a principal diagnosis of dehydration, bacterial pneumonia, or urinary tract infection).

Table 6.2—30: Overview of Measures in Service Utilization Domain

Service Utilization	Range	Trend	Status	Statistical Test(s)	Years Significantly Different from 2015
Measure 1.1.18: Emergency Department (ED) Visits*					
Frequent (4+ annually) ED Visits: non-mental health or chemical dependency services (with BH disorder)	14.7% - 17.9%	▼	Improving	Chi-Square, Logistic Regression, Difference-in-Difference	2014, 2016, 2017
Frequent (4+ annually) ED Visits: mental health or chemical dependency services (with BH disorder)	1.9%- 2.4%	▼	Improving	Chi-Square, Logistic Regression, Difference-in-Difference	2013, 2014, 2016, 2017
Frequent (4+ annually) ED Visits: non-mental health or chemical dependency services (without BH disorder)	6.3% - 8.5%	▼	Improving	Chi-Square, Logistic Regression, Difference-in-Difference	2013, 2016, 2017
Measure 1.1.19: Potentially Preventable Emergency Department (ED) Visits					
Potentially preventable ED visits per 1,000 Beneficiary months (With BH disorder)	34.6% - 40.4%	▼	Improving	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model (GENMOD), Difference-in-Difference	None
Potentially preventable ED visits per 1,000 Beneficiary months (Without BH disorder)	15.7% - 20.4%	▼	Improving	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model (GENMOD), Difference-in-Difference	2013, 2014, 2016, 2017
Measure 1.5.1: Hospital Readmission for Any Cause*					
Within 30 days (Without BH disorder)	5.6% - 8.4%	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model (GENMOD), Difference-in-Difference	None
Within 30 days for an adult (With a behavioral health disorder or co-occurring disorder)	2.0% - 6.0%	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model (GENMOD), Difference-in-Difference	None

Service Utilization	Range	Trend	Status	Statistical Test(s)	Years Significantly Different from 2015
Measure 1.5.2: Hospital Readmission for Behavioral Health Disorder					
Within 30 days	7.5% - 10.4%	▼	Improving	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model (GENMOD)	None
Measure 1.6.1: Hospital Admission for Ambulatory Care Sensitive Admissions for Individuals with Behavioral Health Disorders					
Overall composite (PQI #90)	19.7% - 14.4%	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model (GENMOD)	None
Acute composite (PQI #91)	4.9% - 7.4%	▼	Improving	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model (GENMOD)	None
Chronic composite (PQI #92)	9.2% - 12.3%	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model (GENMOD)	None
Measure 1.8.1: Length of Stay for Inpatient Psychiatric Care					
Average length of stay (days) for psychiatric care at NHH	23.6 – 31.3	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Regression (REG)	2016, 2017

* HEDIS MY 2013-2017 – Unaudited Health Plan HEDIS Rate

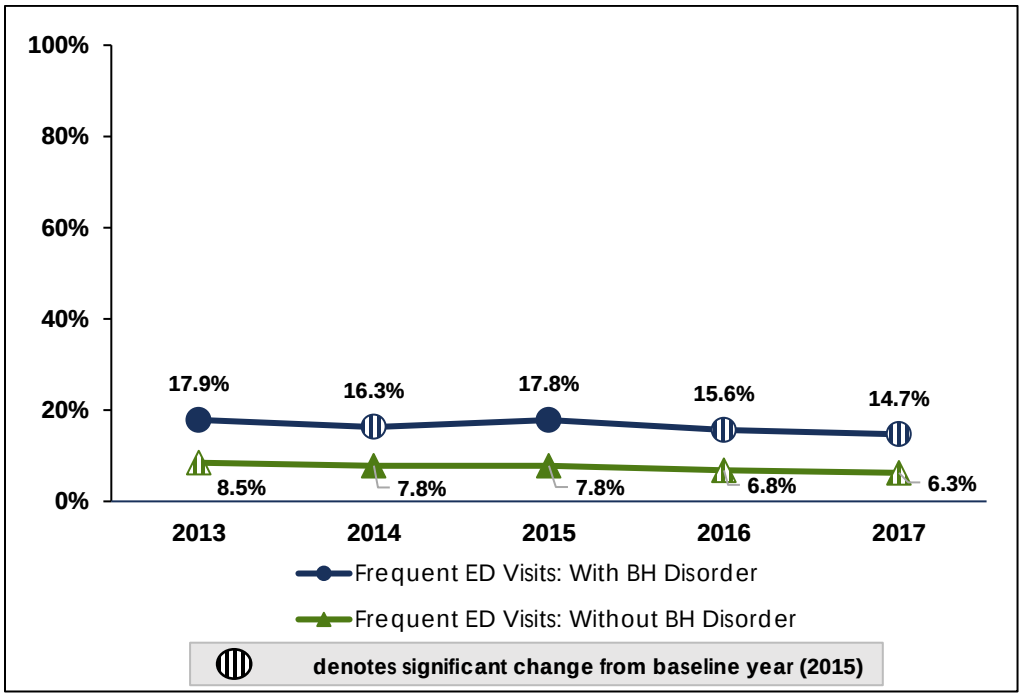
6.2.4.1 Prevalence of Frequent Non-Mental Health or Chemical Dependence Outpatient Emergency Department Visits

A 2008 study of NH Medicaid frequent ED users identified frequent users as having higher access to primary care and comparable use of preventive health services.[81] The 2008 study identified the highest prevalence (13%) of frequent ED users among NH Medicaid Beneficiaries whose category for eligibility was for disability due to mental illness.

It is hypothesized that the DSRIP Demonstration will improve access to and continuity of primary and behavioral health care for Beneficiaries, and result in a reduction of emergency department use. Approximately half of NH Medicaid Beneficiaries with a mental health disorder used the ED during the study period, while a third of NH Medicaid Beneficiaries without behavioral health disorders used the ED during the study period. Notably, approximately 10% of Beneficiaries are frequent ED users (4 or more ED visits in a year), and account for 63% of non-behavioral health ED visits.

The prevalence of frequent ED use for Beneficiaries with behavioral health disorder varied from a high of 17.9% in 2013 to a low of 14.7% in 2017. With the exception of 2013, all years were significantly lower than the 2015 referent year. The prevalence of frequent ED use for Beneficiaries without behavioral health disorders declined over the study period from a high of 8.5% in 2013 to a low of 6.3% in 2017.

Figure 6.2—26: Prevalence of Frequent Non-Mental Health or Chemical Dependence Outpatient Emergency Department Visits – Unadjusted



Note: HEDIS MY 2013-2017 Ambulatory Care (AMB) – Emergency Department Visits (Non-mental health or chemical dependency services), Ambulatory Care (AMB) – Emergency Department Visits for mental health or chemical dependency services- Unaudited Health Plan HEDIS Rate

Similar to the bivariate results for all Beneficiaries, the odds of having four or more ED visits decreased for the matched sample of Beneficiaries with and without behavioral health disorders in the post period. Table 6.2—31 presents the results of difference-in-difference (DID) logistic regression analysis of the propensity matched sample. The propensity matched sample allows a comparison of the rate of change in frequent ED use with Beneficiaries without behavioral health disorders or the "expected" rate of change. Examining the propensity matched sample results, Beneficiaries with behavioral health disorders were 5% (1.0 - 0.9506) less likely than expected to be a frequent user of the ED in the post period.

Table 6.2—31: Logistic Regression Estimating Frequent (4 or more Visits) Emergency Department Use – Propensity Matched Sample

Propensity Matched Sample (N=494,608)					
Interaction Effects	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
Pre Period (BH to Non-BH)	1.5179	0.0193	1.4805	1.5563	<.0001
Post Period (BH to Non-BH)	1.4429	0.0208	1.4027	1.4842	<.0001
Change Pre/Post BH sample	0.7676	0.0089	0.7504	0.7852	<.0001
Change Pre/Post Non-BH sample	0.8075	0.0108	0.7866	0.829	<.0001
BH Time Interaction	0.9506	0.0168	0.9181	0.9841	0.0042

For Beneficiaries with behavioral health disorders for whom a propensity match was not found (Table 6.2—32), the odds of 4 or more frequent ED visits remained stable between the pre and post periods after controlling for age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program and patient acuity (ACG risk score). However, the proportion of this population with frequent ED visits ranged from 32.8% to 53.9%, much greater than that of the matched behavioral health population.

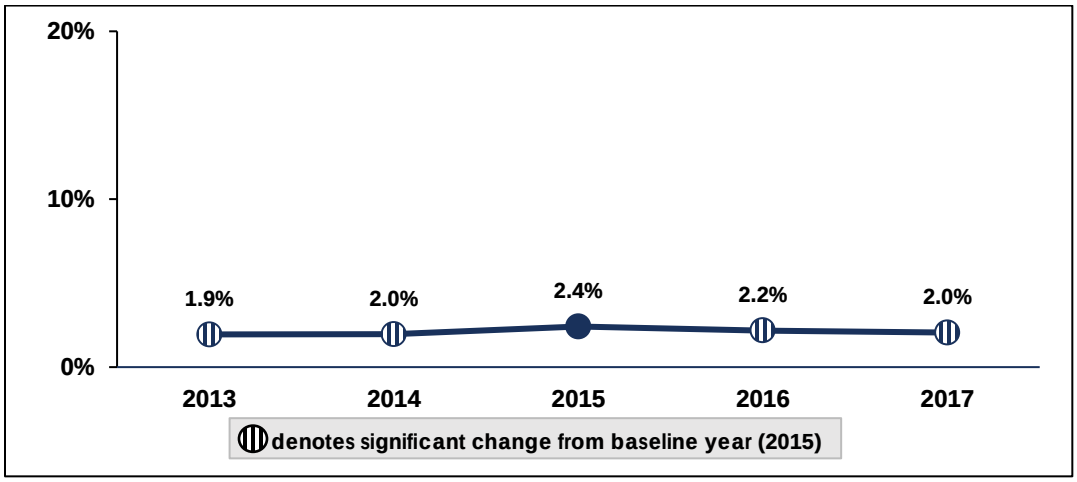
Table 6.2—32: Generalized Linear Models Estimating Frequent (4 or more Visits) Emergency Department Use – Unmatched Behavioral Health Group

Unmatched Behavioral Health Group (N= 32,673)					
Parameter	Estimate	Standard Error	95% Confidence Limits		P-Value
Intercept	0.0825	0.0459	-0.0075	0.1725	0.0723
Post	-0.0082	0.0272	-0.0615	0.0451	0.7621
Age	-0.0283	0.001	-0.0303	-0.0263	<.0001
Female	0.2621	0.0281	0.207	0.3171	<.0001
Dual Eligible	-0.4815	0.0364	-0.5529	-0.4101	<.0001
Expansion Population	0.2065	0.0314	0.1449	0.268	<.0001
ACG Risk Score	0.1744	0.0038	0.1669	0.1819	<.0001
	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
Change/Pre Post BH Sample	0.9918	0.027	0.9403	1.0461	0.7621

6.2.4.2 Prevalence of Frequent (4 or more) Mental Health or Chemical Dependence Outpatient Emergency Department Visits

As shown in Figure 6.2—27, less than 3% of Beneficiaries had frequent mental health or chemical dependency ED visits over the study period. ED visits with a primary diagnosis of mental health or chemical dependency were included in this measure.

Figure 6.2—27: Prevalence of Frequent (4 or more) Mental Health or Chemical Dependence Outpatient Emergency Department Visits for Beneficiaries with Behavioral Health Disorders – Unadjusted



Note: HEDIS MY 2013-2017 Ambulatory Care (AMB) – Emergency Department Visits (Non-mental health or chemical dependency services), Ambulatory Care (AMB) – Emergency Department Visits for mental health or chemical dependency services- Unaudited Health Plan HEDIS Rate

When controlling for age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program and patient acuity (ACG risk score), Beneficiaries with behavioral health disorders experienced a decrease of 15% in the odds of having frequent ED visits between the pre and post study periods. This decline is significant (p-value <.0001).

Table 6.2—33: Logistic Model for Frequent Mental Health and Substance Use Related Emergency Department Visits

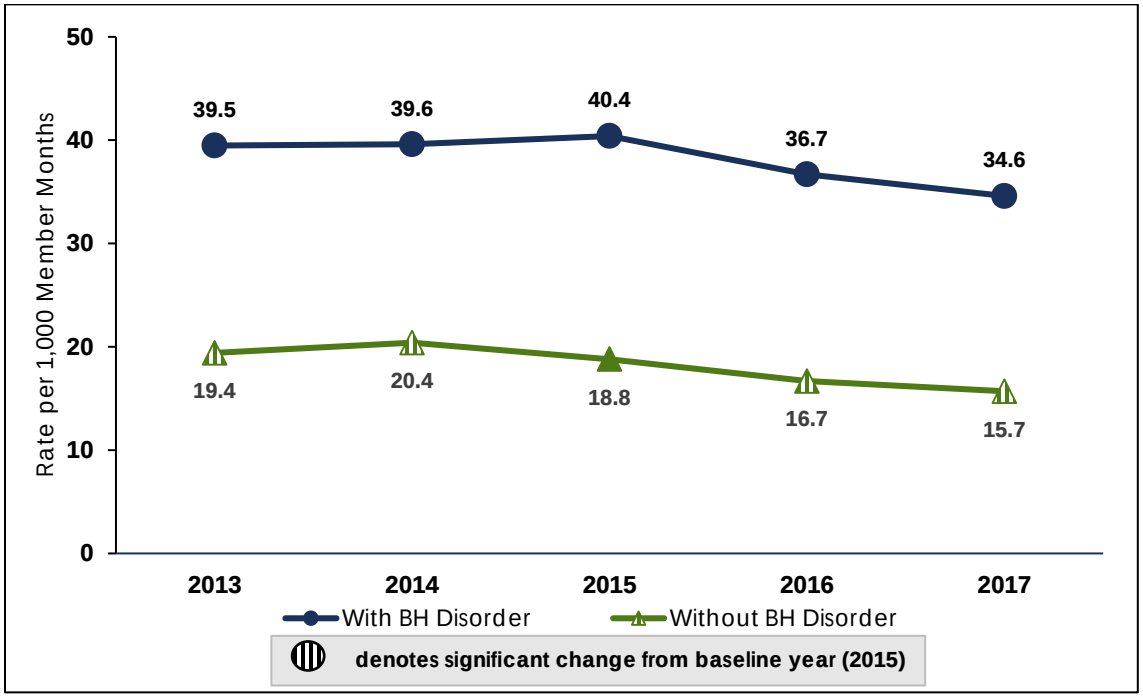
Behavioral Health Population (N=279,977)				
Parameter	Estimate (Odds Ratio)	95% Wald Confidence Limits		P-Value
Post	0.846	0.801	0.893	<.0001
Age	0.988	0.986	0.99	<.0001
Female	0.812	0.771	0.857	<.0001
Dual Eligible	1.259	1.157	1.371	<.0001
Expansion Population	2.126	1.992	2.268	<.0001
ACG Risk Score	1.224	1.217	1.231	<.0001

6.2.4.3 Potentially Preventable ED Visits

Potentially preventable or ambulatory care sensitive conditions are a set of acute and chronic medical conditions for which early and effective management in the primary care setting may prevent an ED visit.[82,83] The NH DSRIP Demonstration is hypothesized to decrease preventable ED visits to assure better access to primary care and as a potential means of cost containment.

The rate of potentially preventable ED visits per 1,000 Beneficiary months (MM) declined over the study period. Rates for Beneficiaries with behavioral health disorders declined from approximately 40.4 per 1,000 MM in 2015 to 34.6 per 1,000 MM in 2017. Beneficiaries without behavioral health disorders with ED visits that could have potentially been treated in a primary care setting declined from 20.4 per 1,000 mm to 15.7 in 2014 per 1,000 mm in 2017. While this decline is not significant for Beneficiaries with behavioral health disorders, it is significant for Beneficiaries without behavioral health disorders.

Figure 6.2—28: Rate of Potentially Preventable Outpatient Emergency Department Visits



Both populations in the propensity matched samples also experienced a decline in visits, but the difference for both populations was significant (p-value <.0001 Furthermore, the rate of decline was 6% greater (1-0.9365) for Beneficiaries with behavioral health disorders than the control group in the propensity matched sample (Table 6.2—34).

Table 6.2–34: Generalized Linear Models Estimating the Rate of Potentially Preventable ED Visits per 1,000 Beneficiary Months – Propensity Matched Sample

Propensity Matched Sample (N=494,608)					
Interaction Effects	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
Pre Period (BH to Non-BH)	1.3986	0.0163	0.05	1.3670	<.0001
Post Period (BH to Non-BH)	1.3097	0.0164	0.05	1.2780	<.0001
Change Pre/Post BH sample	0.8060	0.0085	0.05	0.7895	<.0001
Change Pre/Post Non-BH sample	0.8607	0.0091	0.05	0.8430	<.0001
BH time interaction	0.9365	0.0139	0.05	0.9096	<.0001

Although the matched group of behavioral health beneficiaries experienced a decline in the odds of potentially preventable ED visits between pre and post, the unmatched group of Beneficiaries with behavioral health disorders had a 9.8% increase in visits in the post period after controlling for age, gender, dual eligibility, whether the Beneficiary was enrolled in the expansion program, and patient acuity (ACG Risk Score). The visits per 1,000 MM were much greater for this group compared to the matched behavioral health population, ranging from 75 to 133 with the peak occurring in 2015.

Table 6.2–35: Generalized Linear Models Estimating the Rate of Potentially Preventable ED Visits per 1,000 Member Months – Unmatched Behavioral Health Group

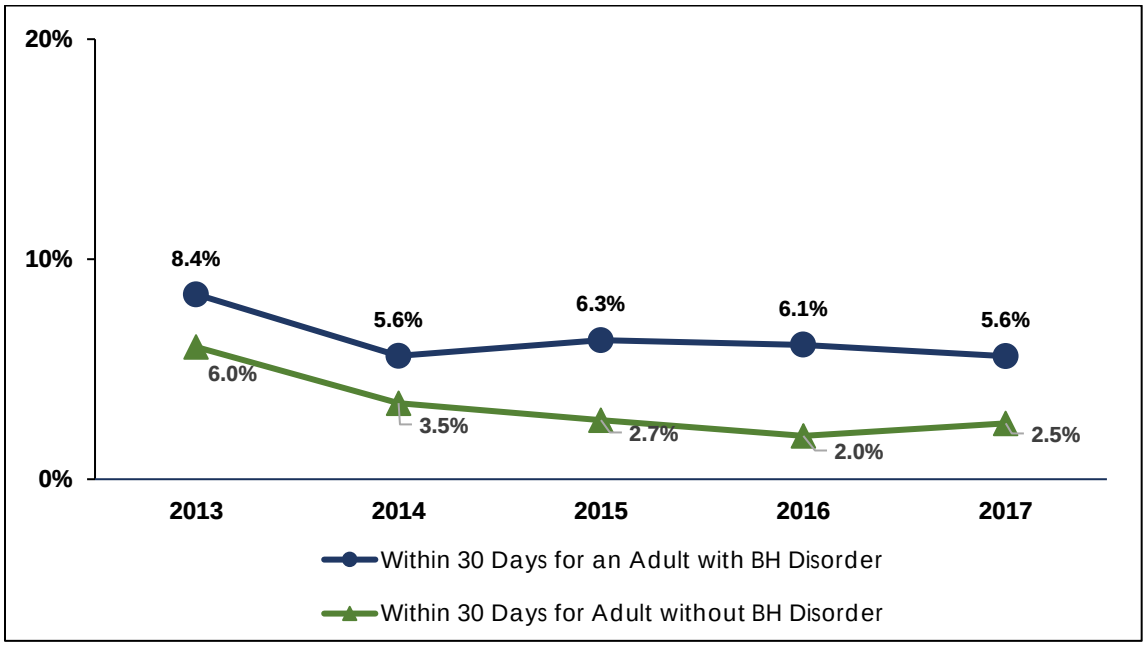
Unmatched Group (N= 32,673)					
Parameter	Estimate	Standard Error	95% Confidence Limits		P-Value
Intercept	-2.3339	0.0381	-2.4086	-2.2592	<.0001
Post	0.0940	0.0289	0.0373	0.1506	0.0011
Age	-0.0169	0.0009	-0.0185	-0.0152	<.0001
Female	0.3627	0.0257	0.3123	0.4131	<.0001
Dual Eligible	-0.0836	0.0382	-0.1585	-0.0087	0.0288
Expansion Population	0.0139	0.0316	-0.0480	0.0759	0.6593
ACG Risk Score	0.0838	0.0029	0.0780	0.0896	<.0001
Interaction Effects	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-Value
BH post vs pre	1.0985	0.0317	0.05	1.0381	0.0011

6.2.4.4 Hospital 30-day Readmission for Any Cause

Hospital readmissions have long been identified as an area of concern for the well-being of the patient and are potentially avoidable with good discharge planning and care coordination. Hospital readmissions can be particularly difficult on adults with multiple chronic conditions and behavioral health disorders.[84,85] The DSRIP Demonstration is hypothesized to reduce hospital readmissions by improved transitional care and community care coordination.

Preliminary statewide results shows both populations decline in hospital readmissions from 2013 to 2014. This aligns with NH Medicaid transition from fee-for-service to managed care. At this point in the study, no significant changes between the pre and post periods are observed in the propensity matched behavioral health and non-behavioral health populations. Hospital readmissions between pre and post periods for the unmatched BH population also remained unchanged. There are no national HEDIS® benchmarks for this measure.

Figure 6.2–29: Prevalence of Hospital Readmission for Any Cause



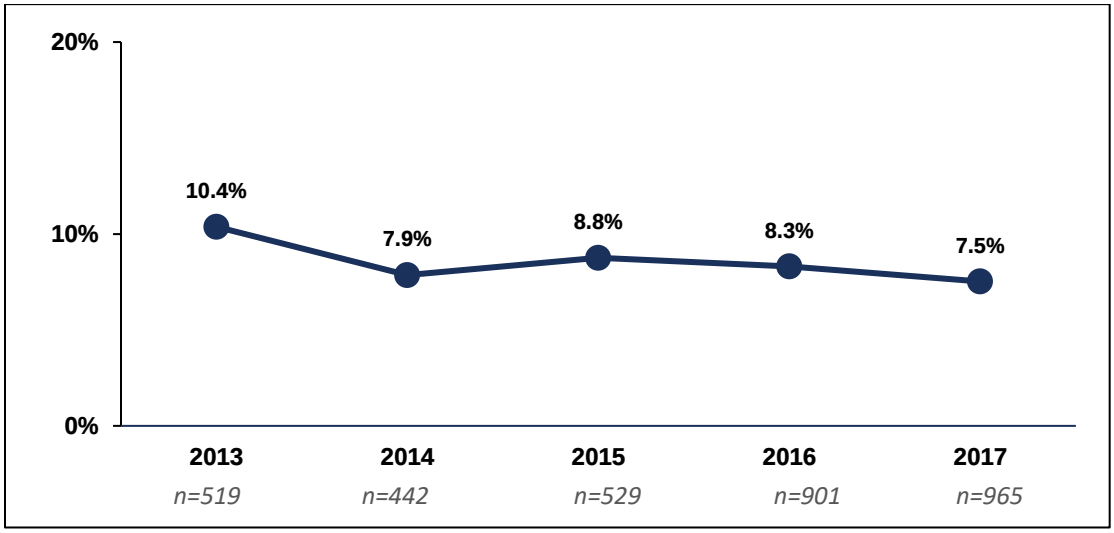
Note: HEDIS MY 2013-2017 Plan All-Cause Readmission (PCR) - Unaudited Health Plan HEDIS Rate

6.2.4.5 Hospital 30-day Readmission for Any Cause – Behavioral Health Admissions

Similar to the prevalence of readmissions for any cause, readmissions for behavioral health disorder hospitalizations showed the biggest change from 2013 to 2014 with no significant change otherwise. This measure identified 30 readmissions following hospitalizations for

behavioral health disorders. The readmissions for any cause were included. There are no national HEDIS® benchmarks for this measure.

Figure 6.2–30: Prevalence of Hospital Readmission for Behavioral Health Disorders

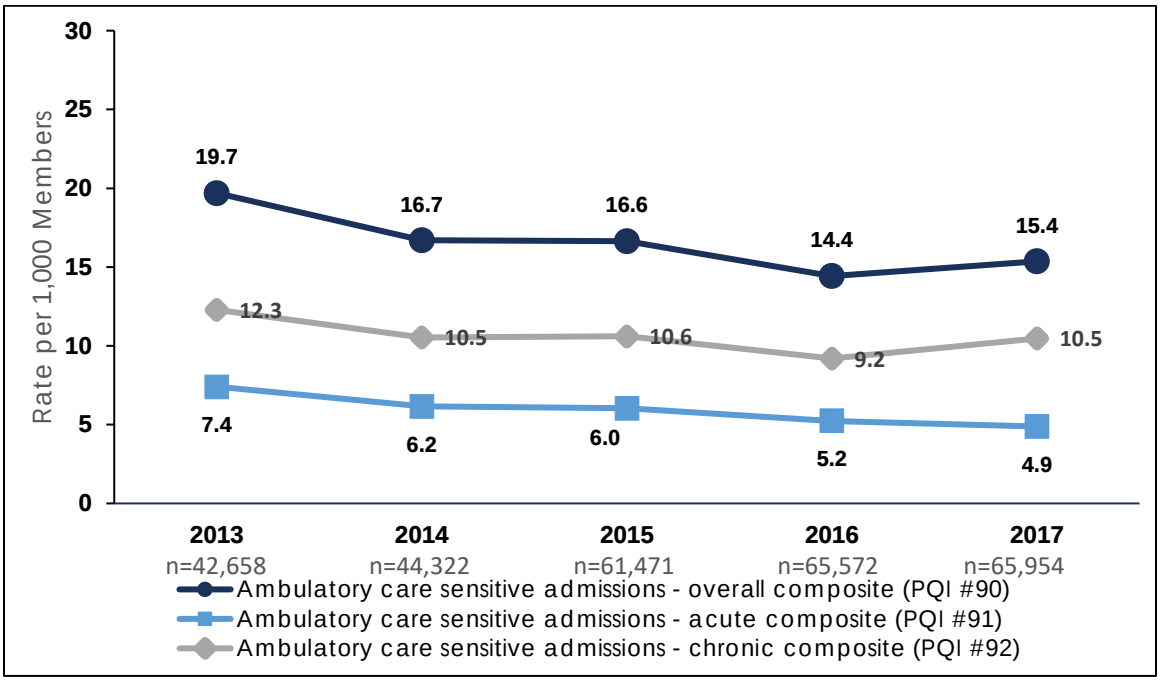


6.2.4.6 Ambulatory Care Sensitive (ACS) Hospital Admissions

An ambulatory care sensitive condition (ACS) is defined as a condition for which timely and effective primary care or outpatient care can potentially reduce the risk of hospitalization. A summary of the research found that continuity of primary care was consistent with fewer ACS admissions.[86] Developed by the Agency for Healthcare Research and Quality (AHRQ), ACS conditions consist of 11 conditions considered as potentially preventable if managed well in the primary care setting. These conditions are combined into an acute rate consisting of dehydration, bacterial pneumonia, or urinary tract infection (UTI) (Prevention Quality Overall Composite #90)[87] and chronic rate consisting of diabetes short-term complications, diabetes long-term complications, chronic obstructive pulmonary disease (COPD) or asthma, hypertension, heart failure, uncontrolled diabetes, asthma in younger adults, and lower-extremity amputation among patients with diabetes (PQI #92).[88] A combined rate is also considered (PQI #90).[87] Admissions for Beneficiaries 18 and over are included.

The DSRIP Demonstration is hypothesized to reduce ACS admissions by providing better continuity of care. Rates of ACS admissions declined over the study period with the exception of a slight increase in the chronic ACS rate to 10.5 per 1,000 members in 2017. This results in an increase in the overall composite rate as well.

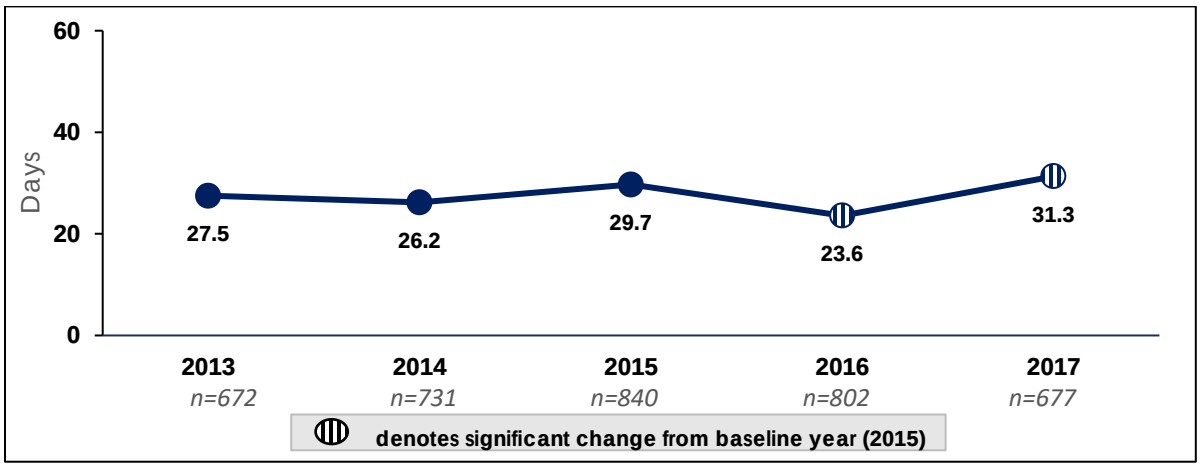
Figure 6.2–31: Ambulatory Care Sensitive (ACS) Hospital Admission for Beneficiaries with Behavioral Health Disorders– Unadjusted



6.2.4.7 Length of Stay for Psychiatric Hospital Discharges (Days)

The DSRIP Demonstration is hypothesized to reduce the length of stay (LOS) at New Hampshire Hospital, the states institution for mental disease (IMD) through better continuity and coordination of community care. No clear pattern emerges in the LOS; however, an increase is observed to a high of 31.3 days in 2017. Multivariate regression controlling for risk factors shows no significant difference between pre and post periods.

Figure 6.2–32: LOS for Psychiatric Hospital Discharges – Unadjusted



6.2.4.8 Summary of Service Utilization Trends

One of the goals of the Demonstration is to reduce utilization of high cost services such as hospital readmissions, ambulatory care sensitive readmissions, long stays at psychiatric hospitals, frequent ED visits, and potentially preventable ED visits. For the behavioral health population/study group, service utilization trends showed mixed results for this early period of the intervention included in this Interim Report.

All of the ED measures *(sections 6.2.4.1-6.2.4.3)* declined while hospital readmissions *(sections 6.2.4.4 and 6.2.4.5)* and ambulatory care admissions *(section 6.2.4.6)* experienced no significant changes over time. The following trends were observed for the study population:

- Decrease in prevalence of Frequent Non-Mental Health or Chemical Dependence Outpatient Emergency Department Visits ($p < 0.0001$) *(section 6.2.4.1)*.
- Decrease in prevalence of Frequent (4 or more) Mental Health or Chemical Dependence Outpatient Emergency Department Visits ($p<0.0001$) *(section 6.2.4.2)*.
- Decrease in Potentially Preventable ED Visits ($p<0.0001$) *(section 6.2.4.3)*.

Although statistically significant declines were observed for both the behavioral health (study population) and non-behavioral health populations (control group) for all of the ED measures, the downward trend for the study population was significantly greater than the trend for the control group.

Length of stay for psychiatric hospital discharges *(section 6.2.4.7)* was the only measure that trended upward during the study period, but the increase was not significant.

6.2.5 Costs of Care

The DSRIP Demonstration is hypothesized to reduce overall costs to the Medicaid program for Beneficiaries with behavioral health disorders through better continuity and coordination of physical and mental health care.

Standardized Medicaid costs were derived from fee-for-service and encounter claims for the study period. Costs were standardized to the 2016 study year (first year of DSRIP Demonstration) using the Consumer Price Index (CPI) for Medical Care.[89] Per Beneficiary Per Month (PMPM) costs were calculated for each study year. ***All references to PMPM costs below are based on 2016 standardized claim-based costs. No off claim payments, settlements or capitation payments are included in this analysis.***

Statistical analysis using simple Generalized Linear Model (GLM) regression examined each population separately. Multivariate analysis were conducted on the separate populations

and on the propensity matched sample. Yearly statistical comparisons are made to the referent year 2015, the year prior to the DSRIP Demonstration period, in all regression analyses.

NH Medicaid implemented managed care in December 2013. Managed Care plans are required to submit encounter claims for services with the associated NH Medicaid costs for the services. All claims are processed by the State's claims processor into their certified MMIS system. Managed care claims are subject to the same claims edit as fee-for-service (FFS) claims.

New Hampshire Medicaid implemented its expansion program, the Premium Assistant Program (PAP), in January of 2015. Gorham Actuarial reported in 2017 that the PAP population had significantly higher (28%) claims PMPM than other segments of NH Individual Market.[90]

Please use caution when interpreting results. The results of the cost analysis are preliminary and include known gaps in financial data. Corrected and complete financial claims data will be available in the Final Evaluation Report.

Within the Cost of Care domain, there are cost reductions (i.e., improvements) in many of the measures including: total costs of emergency department care, behavioral health care, inpatient and outpatient behavioral health care, and emergency department behavioral health care. Trends for the total cost of care and total cost of all inpatient care are unclear at this point of the Demonstration. Among those without a behavioral health disorder, total costs for outpatient services are increasing.

Table 6.2—36: Overview of Measures for Cost of Care Domain

Cost of Care	Range	Trend	Status	Statistical Test (s)	Years Significantly Different from 2015
Measure 1.4.1: Total Cost of All Care					
Total per Beneficiary per month (PMPM) cost healthcare (Without BH disorder)	$353 - $417	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model	2013, 2014
Total per Beneficiary per month (PMPM) cost healthcare (With BH disorder)	$1,045 - $1,240	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model	2013, 2014, 2016, 2017
Measure 1.4.2: Total Cost of All Inpatient Care					
Total PMPM inpatient costs of healthcare: physical and behavioral (Without BH disorder)	$13 - $18	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model	2013, 2014, 2016, 2017

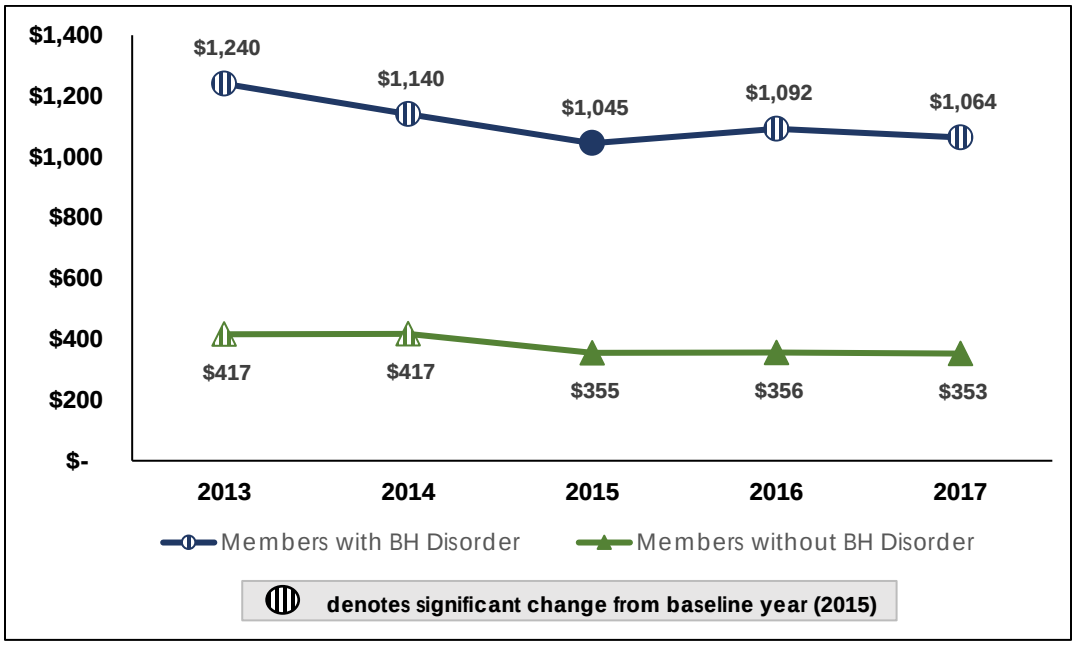
Cost of Care	Range	Trend	Status	Statistical Test (s)	Years Significantly Different from 2015
Total PMPM inpatient costs of healthcare: physical and behavioral (With BH disorder)	$50 - $77	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model	2013, 2014, 2016, 2017
Measure 1.4.3: Total Cost of All Outpatient Care					
Total PMPM outpatient services costs (Without BH disorder)	$180 - $$221	▲	Worsening	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model	2013
Total PMPM outpatient services costs (With BH disorder)	$747 - $913	--	Unclear	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model	2016
Measure 1.4.4: Total Cost of Emergency Department (ED) Care					
Total costs of ED outpatient services (Without BH disorder)	$15 - $22	▼	Improving	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model	2013, 2014, 2016, 2017
Total costs of ED outpatient services (With BH disorder)	$54- $86	▼	Improving	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model	2013, 2014, 2016, 2017
Measure 1.4.5: Total Cost of Behavioral Health Care					
Total per Beneficiary per month (PMPM) cost behavioral health care	$163 - $263	▼	Improving	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model	2013, 2014, 2016
Measure 1.4.6: Total Cost of Outpatient Behavioral Health Care					
Total PMPM cost of outpatient behavioral health services	$146 - $250	▼	Improving	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model	2013, 2014, 2016
Measure 1.4.7: Total Cost of Inpatient Behavioral Health Care					
Total PMPM inpatient costs of behavioral health care	$13-$19	▼	Improving	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model	2013, 2014, 2016, 2017
Measure 1.4.8: Total Cost of Emergency Department (ED) Behavioral Health Care					
Total PMPM costs of ED behavioral health services	$7 - $11	▼	Improving	Chi-Square (non-parametric/NPAR1WAY), Generalized Linear Model	2013, 2014, 2016, 2017

6.2.5.1 Total Cost of All Care

Total Costs PMPM, including medical, behavioral health and pharmacy, declined over the study period from $417 to $353 PMPM for Beneficiaries without a behavioral health disorder; and from $1,240 to $1,064 for Beneficiaries with a behavioral health disorder. The

decline in PMPM costs in the early years appears to be related to the implementation of managed care.[91] Total costs for Beneficiaries without a behavioral health disorder were significantly higher in the pre-years 2013 and 2014; however, no significant difference is observed in the post years. Costs for Beneficiaries with behavioral health disorders where significantly greater in 2013, 2014, 2016, and 2017 when compared to 2015.

Figure 6.2–33: Total Standardized Medicaid Costs (PMPM) of All Care over Time – Unadjusted



Although per Beneficiary per month costs decreased over time for both propensity matched populations, the rate of change between the two groups was not significantly different.

Table 6.2–37: Generalized Linear Models Estimating Total Costs Per Member Per Month – Propensity Matched Sample

Propensity Matched Sample (N=494,608)					
Parameter	Estimate (dollars)	Standard Error	95% Confidence Limits		P-Value
Pre Period (BH to Non-BH)	368.66	10.38	348.33	389.00	<.0001
Change Pre/Post Non-BH sample	-113.00	6.2631	-125.27	-100.72	<.0001
BH Time Interaction	7.39	9.8619	-11.93	26.72	0.453

Multivariate analysis of total costs for the behavioral health population that did not have a match, show a significant increase between pre and post periods of $158 per Beneficiary

per month when controlling for age, gender, dual status, enrollment in the expansion population and patient acuity (ACG risk score).

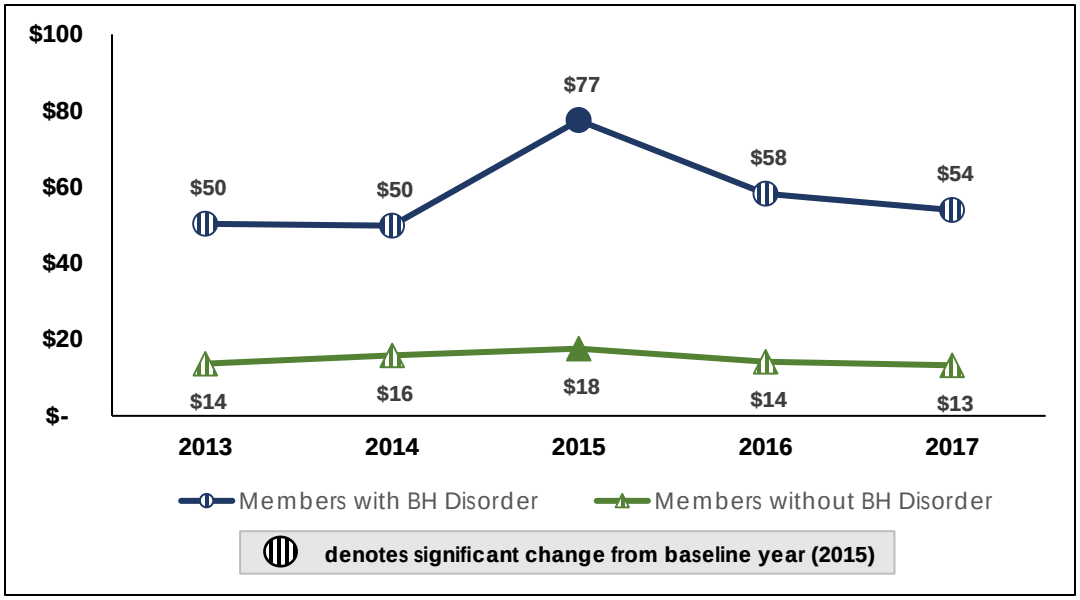
Table 6.2–38: Generalized Linear Models Estimating Total Health Care Costs Per Member Per Month – Unmatched Behavioral Health Population

Behavioral Health Population (N= 32,673)					
Parameter	Estimate (dollars)	Standard Error	95% Confidence Limits		P-Value
Intercept	1142.03	54.87	1034.49	1249.57	<.0001
Post	157.88	34.04	91.16	224.61	<.0001
Age	10.40	1.09	8.27	12.53	<.0001
Female	-661.02	42.80	-744.91	--577.12	<.0001
Dual Eligible	5.77	50.86	-93.91	105.44	0.920
Expansion Population	-178.88	37.29	-251.96	214.66	<.0001
ACG Risk Score	200.49	7.23	15.88	1249.57	<.0001

6.2.5.2 Total Costs of All Inpatient Care

Total unadjusted inpatient costs increased in the pre-period to a high in 2015 of $77 PMPM for Beneficiaries with behavioral health disorders and $18 PMPM for Beneficiaries without a behavioral health disorder. With this high point of costs for inpatient services in 2015, all years for both populations are significantly lower.

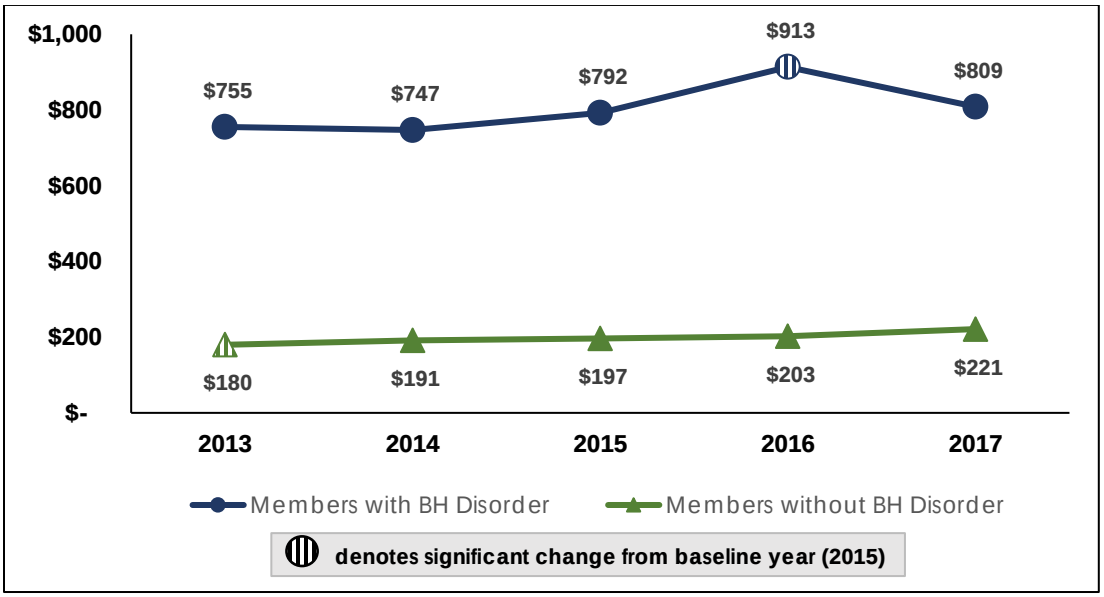
Figure 6.2–34: Total Standardized Medicaid Inpatient Costs (PMPM) - Unadjusted



6.2.5.3 Total Costs of All Outpatient Care

Total outpatient costs increased in the pre-period to a high in 2016 of $913 PMPM for Beneficiaries with behavioral health disorders, while 2017 showed the first decrease in costs from the prior year to $809. The 2016 increase was statistically significant. Outpatient costs continued to increase over the study period for Beneficiaries without a behavioral health disorder, from $180 in 2013 to $221 in 2017.

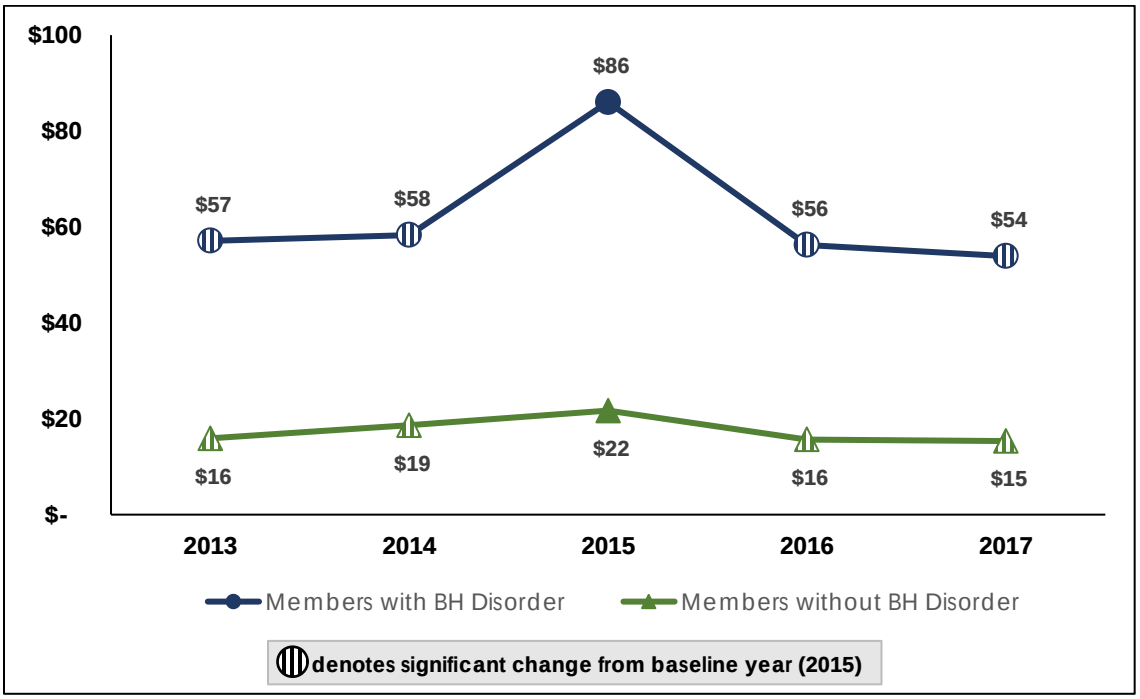
Figure 6.2–35: Total Standardized Medicaid Outpatient Costs (PMPM) – Unadjusted



6.2.5.4 Total Costs of Emergency Department Care

Total outpatient Emergency Department (ED) costs increased in the pre-period to a high in 2015 of $86 PMPM for Beneficiaries with behavioral health disorders and $22 PMPM for Beneficiaries without a behavioral health disorder. With this high point of costs for ED visits in 2015, all years for both populations are significantly lower in the post period.

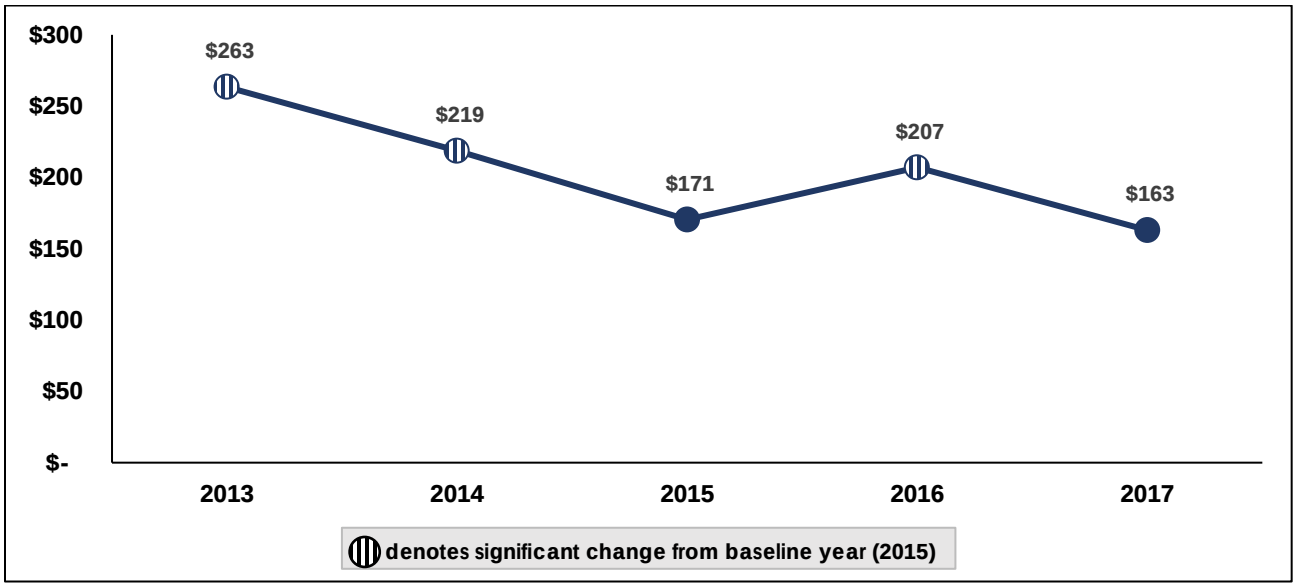
Figure 6.2–36: Total Standardized Medicaid Outpatient Emergency Room Costs (PMPM) – Unadjusted



6.2.5.5 Total Cost of Behavioral Health Care

Behavioral health care costs varied widely over the study period with a low of $163 in 2017 to a high of $263 in 2013. Data years 2013, 2014 and 2016 were all significantly higher than 2015. While 2017 PMPM costs were lower than 2015 ($163 versus $171), this variation was not significant.

Figure 6.2–37: Total Standardized Medicaid Behavioral Health Care Costs (PMPM)



After controlling for age, gender, dual status, whether the Beneficiary was enrolled in the expansion program, and patient acuity (ACG risk score), total behavioral health care costs were lower in the post period compared to baseline but the difference was not significant.

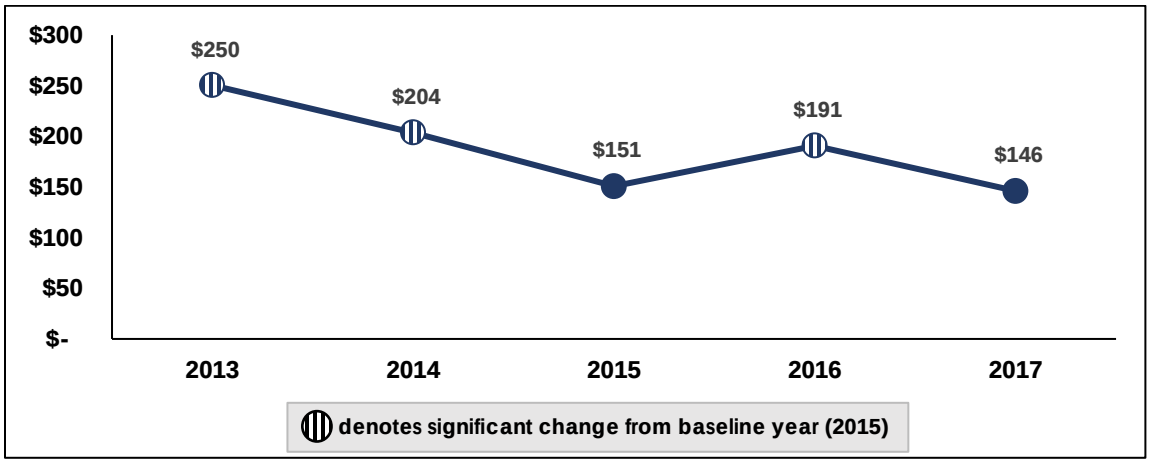
Table 6.2–39: Generalized Linear Models Estimating Per Member Per Month Total Behavioral Health Care Costs – Behavioral Health Population

Behavioral Health Population (N= 279,977)					
Parameter	Estimate (dollars)	Standard Error	95% Confidence Limits		P-Value
Intercept	108.64	6.07	96.75	120.54	<.0001
Post	-4.56	3.52	-11.46	2.33	0.194
Age	-.00	.25	-.49	-.48	0.986
Female	-31.60	5.23	-41.85	-21.36	<.0001
Dual Eligible	191.34	26.82	138.78	243.89	<.0001
Expansion Population	-3.51	6.42	-16.09	9.08	0.585
ACG Risk Score	82.81	5.11	72.78	92.83	<.0001

6.2.5.6 Total Costs of All Behavioral Health Care Outpatient

Outpatient behavioral health care costs varied widely over the study period with a low of $146 in 2017 to a high of $250 in 2013. Data years 2013, 2014 and 2016 were all significantly higher than 2015. While 2017 PMPM costs were lower than 2015 ($151 versus $146), this variation is not significant.

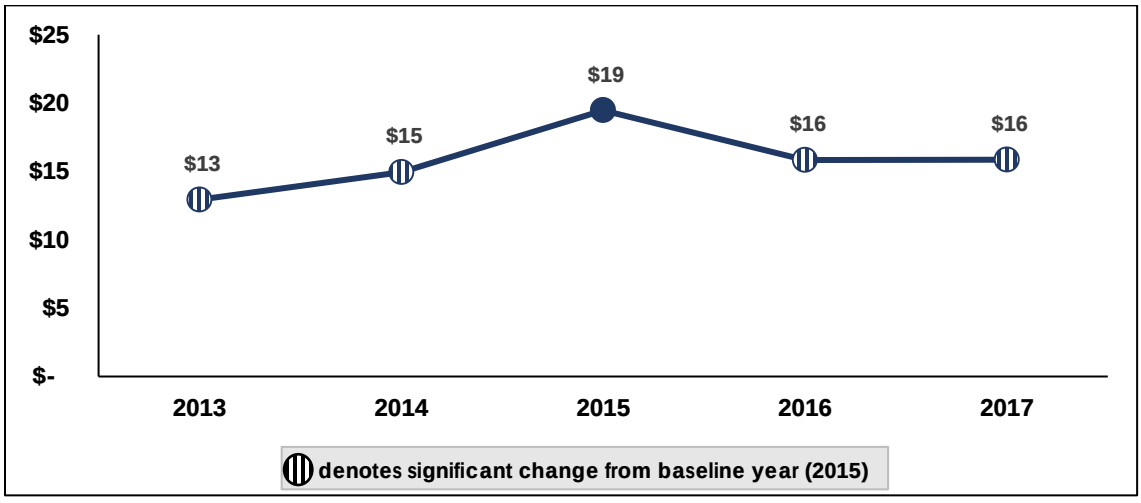
Figure 6.2–38: Total Standardized Medicaid Outpatient Behavioral Health Care Costs (PMPM) – Unadjusted



6.2.5.7 Total Costs of All Behavioral Health Inpatient Care

Due to the higher inpatient behavioral health care costs in 2015 ($19) every other year was significantly lower. Costs for New Hampshire Hospital (NHH), the state institution for mental disease (IMD) for adults 21-64, were not included in these costs.

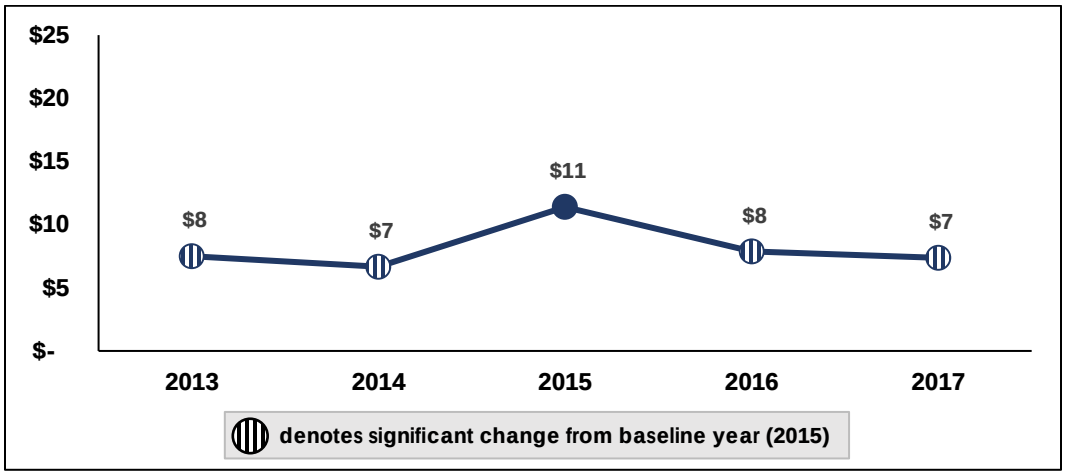
Figure 6.2–39: Total Standardized Medicaid Inpatient Behavioral Health Care Costs (PMPM) – Unadjusted



6.2.5.8 Total Costs of Behavioral Health Emergency Department Care

With the exception of 2015, little variation was observed in outpatient ED visit costs for behavioral health related conditions. Due to the high cost in 2015, $11 PMPM, every year was significantly lower.

Figure 6.2—40: Total Standardized Medicaid Behavioral Health Outpatient Emergency Department Costs (PMPM) – Unadjusted



6.2.5.9 Summary of Cost of Care Trends

Due to the known issues in the financial data in the claims, summary interpretation of cost results are not included at this time. Complete financial data and interpretation will be available in the Final Evaluation Report.

6.2.6 Population Health

6.2.6.1 Broad Population Health Indicators

When compared to all respondents, the Medicaid respondents were more likely to report having "fair or poor health" and more "not good" mental or physical health days ($p<0.05$). There were no significant changes between the years of 2014 and 2017. Respondents with a behavioral health flag were more likely to respond their general health was "poor" and that they had 14-30 "not good" mental or physical health days per month ($p<0.0001$). Nationally, 17% to 18% (2014 vs. 2017) of respondents had fair or poor health compared to 14% in New Hampshire for both years.[92]

Table 6.2—40: Broad Population Health Indicators

	2014		2017				
	Weighted Frequency	Percent	Weighted Frequency	Percent	Change in Percentage Points	Trend	Significant Difference Between Years
All Respondents							
General Health - Responding "Fair or Poor"	144,693	14%	150,229	14%	0.22	▲	no
Physical Health - 14 to 30 days "not good" per month	101,187	30%	127,483	31%	1.49	▲	no
Mental Health - 14 to 30 days "not good" per month	109,146	31%	128,636	33%	1.86	▲	no
Poor Health - 14 to 30 days poor physical or mental health	76,174	37%	82,191	33%	-3.20	▼	no
Medicaid Respondents							
General Health - Responding "Fair or Poor"	15,104	35%	24,043	40%	5.07	▲	no
Physical Health - 14 to 30 days "not good" per month	12,962	59%	14,363	44%	-14.54	▼	no
Mental Health - 14 to 30 days "not good" per month	13,804	60%	21,622	53%	-6.85	▼	no
Poor Health - 14 to 30 days poor physical or mental health	12,843	65%	12,682	50%	-15.09%	▼	no

Source: NH BRFSS, 2014 and 2017

*percentages are rounded to the nearest whole number

6.2.6.2 Specific Health Indicators

6.2.6.2.1 Diet

There is not enough data during the Demonstration period to show trends related to diet (based on total fruit or vegetable servings per day). In 2017, 30% of respondents had less than one serving of fruit per day and 14% consumed vegetables less than one time per day. This is lower than the national averages of 37% (fruit) and 18% (vegetables).[92]

New Hampshire BRFSS respondents with a behavioral health flag were significantly more likely to consume less than one serving of fruit ($p < 0.0.5$) and vegetables ($p<0.001$) per day compared to those without a behavioral health flag in both years.

Table 6.2—41: Population Health Measures - Diet

	2014		2017				
	Weighted Frequency	Percent *	Weighted Frequency	Percent*	Change in Percentage Points	Trend	Significant Difference Between Years (p<0.05)
Diet: All Respondents							
Total Fruit Servings per Day - Less than 1 serving	Not Available		293,191	30%	N/A		
Total Vegetable Servings per Day - Less than 1 serving			122,196	13%	N/A		
Diet: All Respondents with BH Flag (14+ days of mental health not good)							
Total Fruit Servings per Day - Less than 1 serving	Not Available		44,687	39%	N/A		
Total Vegetable Servings per Day - Less than 1 serving			26,925	24%	N/A		
Diet: All Respondents without BH Flag							
Total Fruit Servings per Day - Less than 1 serving	Not Available		248,504	29%	N/A		
Total Vegetable Servings per Day - Less than 1 serving			95,271	11%	N/A		

*percentages are rounded to the nearest whole number

6.2.6.2.2 **Exercise**

Between 2014 and 2017, there was a significant overall increase in the percent of respondents who reported not having any physical activity or exercise in the past 30 days ($p<0.001$). In 2014, 19% of respondents had no physical activity or exercise and in 2017 this increased to 24%. The national rates for 2014 and 2017 were 23% and 26%, respectively.[92]

For both years of data, respondents with a behavioral health flag were significantly more likely to report no physical activity or exercise compared to those without a behavioral health flag ($p<0.0001$). Among NH respondents with a behavioral health flag, the percentage of respondents who reported not having any physical activity or exercise increased from 31% to 38%. However, this was not statistically significant.

Table 6.2—42: Population Health Measures - Exercise

	2014		2017				
	Weighted Frequency	Percent *	Weighted Frequency	Percent*	Change in Percentage Points	Trend	Significant Difference Between Years ($p<0.05$)
Exercise: All Respondents							
No physical activity or exercise in the past 30 days	203,941	19%	234,494	24%	4.60	▲	yes
Exercise: All Respondents with BH Flag (14+ days of mental health not good)							
No physical activity or exercise in the past 30 days	339,79	31%	44,506	38%	6.75	▲	no
Exercise: All Respondents without BH Flag							
No physical activity or exercise in the past 30 days	169,963	18%	189,988	22%	4.06	▲	yes

*percentages are rounded to the nearest whole number

6.2.6.2.3 **Weight**

For population health data around weight, underweight and overweight respondents were grouped together due to the small sample size of respondents falling into the underweight category. Between 2014 and 2017, the percent of respondents with "normal" weight (based on respondents' calculated Body Mass Index) decreased slightly overall for all respondent types. Of all respondents, NH had a higher percentage of respondents with normal weight for both years when compared to the national BRFSS results (2014: 35% vs. 33%, 2017: 34% vs. 32%).[92]

Respondents with a behavioral health flag had a higher percentage of "normal" weight; however, they were twice as likely to be underweight, more likely to be obese, and less likely to be overweight (data not shown). The percent of respondents who were overweight/underweight or obese increased for all respondent types from 2014 to 2017.

Table 6.2—43: Population Health Measures- Weight

	2014		2017				
	Weighted Frequency	Percent*	Weighted Frequency	Percent*	Change in Percentage Points	Trend	Significant Difference Between Years (p<0.05)
Weight: All Respondents							
Normal weight	346,330	35%	330,050	34%	-1.30	▼	no
Underweight or Overweight	372,228	38%	375,028	38%	0.62	▲	no
Obese	271,408	27%	274,648	28%	0.68	▲	no
Weight: All Respondents with BH Flag (14+ days of mental health not good)							
Normal weight	41,386	42%	42,101	36%	-5.88	▼	no
Underweight or Overweight	24,965	25%	32,634	28%	3.31	▲	no
Obese	33,424	34%	43,536	37%	2.58	▲	no
Weight: All Respondents without BH Flag							
Normal weight	304,944	34%	287,950	33%	-0.83	▼	no
Underweight or Overweight	347,263	39%	342,394	40%	0.09	▲	no
Obese	237,984	27%	231,112	27%	0.74	▲	no

*percentages are rounded to the nearest whole number

6.2.6.2.4 Tobacco Use

Overall, respondents in 2017 were less likely to be current smokers compared to respondents in 2014 (16% vs. 18%). This is similar to national trends (17% vs. 18%).[92] There was a significant decrease in the percent of current smokers for those with a behavioral health flag ($p<0.05$). Respondents with a behavioral health flag were significantly more likely to be a current smoker in both years ($p<0.0001$).

For the interim report, there is not enough data available at this point to examine trends around e-cigarette use.

Table 6.2—44: Population Health Measures- Tobacco

	2014		2017				
	Weighted Frequency	Percent *	Weighted Frequency	Percent *	Change in Percentage Points	Trend	Significant Difference Between Years (p<0.05)
Tobacco: All Respondents							
Current Smoker	176,499	18%	160,908	16%	-1.88	▼	no
Current E-Cigarette Smoker	Not Available		46,519	5%	N/A		
Tobacco: All Respondents with BH Flag (14+ days of mental health not good)							
Current Smoker	44,025	42%	38,961	32%	-9.83	▼	yes
Current E-Cigarette Smoker	Not Available		8,606	7%	N/A		
Tobacco: All Respondents without BH Flag							
Current Smoker	132,474	15%	121,946	13%	-1.24	▼	no
Current E-Cigarette Smoker	Not Available		37,913	4%	N/A		

*percentages are rounded to the nearest whole number

6.2.6.2.5 Alcohol Use

Based on respondents' last 30 days, heavy alcohol consumption (more than 14 drinks for men or more than 7 drinks for women per week) and binge drinking (more than 5 drinks for men or more than 4 drinks for women on one occasion) slightly increased between 2014 and 2017. For both alcohol indicators and for both years, alcohol use was higher than national BRFSS results.[92]

Among those with a behavioral health flag, heavy alcohol consumption and binge drinking decreased between the two years. In 2014, respondents with a behavioral health flag were significantly more likely to binge drink ($p<0.05$).

Table 6.2—45: Population Health Behaviors and Indicators

	2014		2017				
	Weighted Frequency	Percent *	Weighted Frequency	Percent *	Change in Percentage Points	Trend	Significant Difference Between Years ($p<0.05$)
Alcohol: All Respondents							
Heavy Alcohol Consumption	69,382	7%	76,178	8%	0.60	▲	no
Binge Drinking	166,054	17%	186,109	19%	1.86	▲	no
Alcohol: All Respondents with BH Flag (14+ days of mental health not good)							
Heavy Alcohol Consumption	10,232	10%	11,356	10%	-0.33	▼	no
Binge Drinking	25,400	25%	27,575	24%	-1.23	▼	no
Alcohol: All Respondents without BH Flag							
Heavy Alcohol Consumption	59,149	7%	64,821	7%	0.67	▲	no
Binge Drinking	140,654	16%	158,534	18%	2.13	▲	no

6.2.6.3 Summary of Population Health Trends

The DSRIP Demonstration in NH aims to improve access and quality of care for Medicaid Beneficiaries by enhancing local delivery systems and in turn implementing strategies that address public health priorities. It is anticipated that population health indicators will improve as a result of the Demonstration. Population health includes measures for general health, diet, exercise, weight, tobacco use, and alcohol use. The source for all of these measures is New Hampshire's BRFSS data. For this report, BRFSS respondents were broken into three groups: all respondents, those with a BH flag, and those without a BH flag,

identifying those with a BH flag as a group that correlates with the behavioral health study group for other measure domains in this report. There are a few notable differences observed in the BRFSS behavioral health population between survey years 2014 and 2017.

- The only significant finding is the nearly 10% decline in those who report current smoking ($p < 0.05$) (section 6.2.6.2.4).
- A promising but statistically insignificant trend for the behavioral health population in the state is a decrease in heavy alcohol consumption and binge drinking (section 6.2.6.2.5).
- One negative trend to take note of, though statistically insignificant, is the decrease in physical activity in the past 30 days from 2014 to 2017 (section 6.2.6.2.2).

6.2.7 Summary of Findings from the NH DSRIP Evaluation of Performance Measures

Although the quantitative analyses in this report only include data from the first two years of a five-year Demonstration and only represent four months of data after the IDN Project Plans were approved, there are early indications that the program may have a positive influence on the healthcare of the study population (Beneficiaries with a behavioral health diagnosis).

While many measures across the key domains of interest (access to care, quality of care, care integration, population health) have remained statistically unchanged, some metrics from each domain have trended in a positive direction and some of those changes are statistically significant. Examples of encouraging results after the implementation of the Demonstration include:

- Upward trends indicated improvement in integration of care measures, including follow-up care for mental health hospitalizations and ED visits.
- Increased follow-up care for alcohol and drug dependence ED visits.
- Downward trends indicated a reduction in the use of high-cost services, including mental health and non-mental health ED visits and potentially preventable ED visits in the behavioral health study population.
- Reduced use of high dosages of opioids.
- Increased access to breast cancer screenings and substance use treatment services in the behavioral health study population.

Additionally, analysis of the 2014 and 2017 Behavioral Risk Factor Surveillance System data suggested a statistically significant decline in current smoking among the behavioral health population (any respondents reporting 14+ days of mental health “not good” in previous 30 days).

Only a few measures have trended in an undesirable direction where the difference is statistically significant after the Demonstration’s implementation:

- Beneficiaries' use of primary care services declined, although the behavioral health study population experienced less of a decline than the control population.
- In the quality of care domain, adequate antidepressant medication management declined for Beneficiaries in the behavioral health study group, in both the acute stage and continued maintenance stage.

Promising non-significant results after the implementation of the Demonstration were also found across the domains and include:

- Increased odds of a 30-day follow-up after hospitalization for mental illness.
- Increased odds of initiation and continuation of follow-up care for children prescribed ADHD medication.
- Increased odds of metabolic monitoring for children and adolescents on antipsychotics.
- Decreased in hospital 30-day readmissions for both any cause and for behavioral health admissions as well as a decline in ambulatory care hospital admissions for the behavioral health study population.

Other statistically non-significant but notable outcomes after the implementation of the Demonstration include:

- Slightly lower odds of a behavioral health care visit where an increase in visits would be expected.
- Increased length of stay for psychiatric hospitalizations.
- Decreased odds of screening and monitoring of the behavioral health population with co-occurring diabetes and cardiovascular disease.

Cost trends are not included in this summary due to the known issues with the financial information in the claims data. Complete financial data and interpretation will be available in the Final Evaluation Report.

7. Comparative Analysis

Initial descriptive analysis are presented to examine unadjusted IDN-level performance on seven measures. For measures without a control group, within IDN pre/post multivariate comparative statistics are presented controlling for age, gender, dual eligibility, patient acuity (ACG risk score) and whether the Beneficiary was enrolled in the expansion program. Each IDN model contains the pre/post term to test the significance of the change over time. Tables with the summary results from these analyses will present odds ratios, standard errors, confidence intervals, and significance of the pre/post change for each IDN.

For measures with a control group (potentially preventable ED visits, fragmented care and primary care visits) difference-in-difference regression models with propensity matched samples are used for the within IDN trend analysis. These models test whether the observed rate of change over time is significantly different for the behavioral health group versus the control group to assess if the intervention is making a difference. Results from these regression models will present the observed trend for the behavioral health and non-behavioral health (control) group as well as the pre/post interaction that tests if the rate of change is significantly different from the control group.

As discussed above, it is important to note that while the Demonstration officially began in January 2016, the first year and a half of the initiative was largely dedicated to executing the planning and infrastructure building activities necessary to implement the Demonstration such as establishing IDNs and creating project plans. The first IDN project plans were not fully approved by the DHHS until September 1, 2017; as a result, DSRIP implementation only really began at that time. Therefore, these results are preliminary and should be interpreted with caution.

Please note, not all domains are represented in this section, due to the early stages of Demonstration data included in the evaluation, and the logic used for selected measures chosen for the Interim Report. A robust IDN comparative analysis will be include in the independent evaluator's Final Report.

7.1 Access to Care

7.1.1 Fragmented Care

Integration of behavioral and primary health care stresses the importance of a patient and provider being engaged in a continuous, collaborative relationship. A measure of continuity of care of a Beneficiary with a behavioral health disorder and a primary care provider was constructed (see Appendix A for complete details). The distribution of this measure was examined and Beneficiaries whose score exceeded the 75th percentile score of the pre-period were flagged as having fragmented care.

7.1.1.1 No Primary Care Visit

Continuity of primary care assumes a primary care provider was seen during the year. Beneficiaries that did not see a primary care practitioner during the year were identified and examined separately. Statewide Beneficiaries with behavioral health disorders were more likely to see a primary care provider during the study period. However, the percentage of Beneficiaries without a primary care visit increased slightly from 8.5% in 2013 to 12.3% in 2017. Figure 7.1—1 presents the unadjusted distribution of Beneficiaries with behavioral health disorders that did not see a primary care provider during the year by IDN. IDN 5 had a consistently higher percentage of Beneficiaries without a primary care visit, up to 14% in 2017.

7.1.1.2 Within IDN Comparison Results – No Primary Care

Multivariate difference-in-difference negative binomial regression analyses for the propensity matched sample were conducted for each IDN. Models included clustering for member while controlling for age, gender, dual eligibility, patient acuity (ACG risk score) and whether the Beneficiary was enrolled in the expansion program.

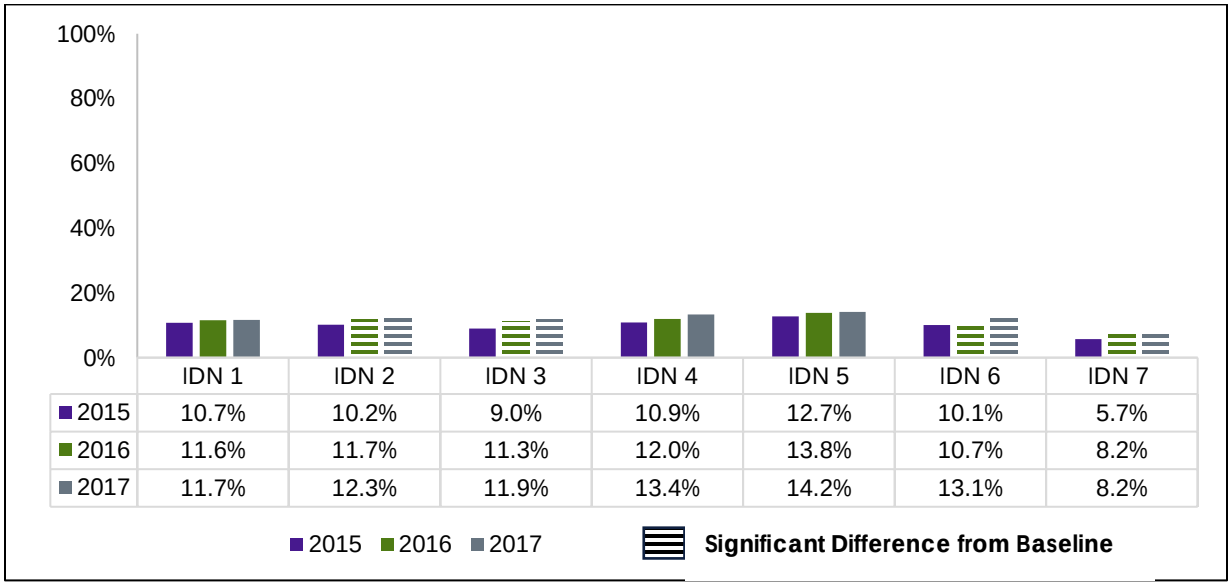
Table 7.1—1 presents the results from the seven regression analyses.

A significant increase in the percent of Beneficiaries with a behavioral health condition and without a primary care visit over time is observed in IDN 1 (1.5% increase), IDN 2 (17% increase), IDN 3 (20% increase) and IDN 7 (35% increase). Significant increases for Beneficiaries without behavioral health disorders (control group) occurred in IDN 1 (9%), 2 (8%), 3 (20%), 4 (11%), 6 (14%) and 7 (14%). In IDN 7, this rate of increase for the behavioral health group (35%) was significantly different than that observed in the non-behavioral health population (14%). The rate of increase in percent of Beneficiaries with no behavioral health condition was not significantly different for IDNs 1, 2 and 3.

In IDN 4, the percent of Beneficiaries in the non-BH population without a primary care visit increased significantly between pre and post by nearly 11% while the BH population did not significantly increase.

No significant trend is observed in IDN 5.

Figure 7.1—1: Percent of Beneficiaries with Behavioral Health Disorders with No Primary Care Visit Over Time by IDN



	IDN 1	IDN 2	IDN 3	IDN 4	IDN 5	IDN 6	IDN 7
2015	10.7%	10.2%	9.0%	10.9%	12.7%	10.1%	5.7%
2016	11.6%	11.7%	11.3%	12.0%	13.8%	10.7%	8.2%
2017	11.7%	12.3%	11.9%	13.4%	14.2%	13.1%	8.2%

Table 7.1—1: Summary of Within IDN Generalized Linear Models Estimating No Primary Care Visits– Propensity Matched Sample

IDN	Parameter	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-value
1	**Pre/Post BH sample**	**1.0153**	**0.0434**	**0.9337**	**1.1041**	**0.7220**
	Pre/Post Non-BH sample	1.0911	0.0355	1.0236	1.1630	0.0074
	BH Time Interaction	0.9306	0.0500	0.8376	1.0339	0.1806
2	Pre/Post BH sample	1.1664	0.0602	1.0541	1.2907	0.0029
	Pre/Post Non-BH sample	1.0826	0.0412	1.0048	1.1664	0.0369
	BH Time Interaction	1.0774	0.0691	0.9501	1.2217	0.2451
3	Pre/Post BH sample	1.2044	0.0598	1.0927	1.3276	0.0002
	Pre/Post Non-BH sample	1.2023	0.0439	1.1192	1.2915	<.0001
	BH Time Interaction	1.0018	0.0617	0.8878	1.1304	0.9766
4	Pre/Post BH sample	1.0605	0.0345	0.9949	1.1304	0.0714
	Pre/Post Non-BH sample	1.1073	0.0284	1.0531	1.1644	<.0001
	BH Time Interaction	0.9577	0.0397	0.8830	1.0387	0.2969
5	Pre/Post BH sample	1.0653	0.0527	0.9668	1.1738	0.2016
	Pre/Post Non-BH sample	0.9573	0.0358	0.8896	1.0302	0.2438
	BH Time Interaction	1.1128	0.0690	0.9853	1.2567	0.0851
6	Pre/Post BH sample	1.1089	0.0433	1.0271	1.1971	0.0082
	Pre/Post Non-BH sample	1.1443	0.0345	1.0787	1.2139	<.0001
	BH Time Interaction	0.9691	0.0478	0.8798	1.0674	0.5238
7	Pre/Post BH sample	1.3462	0.0878	1.1847	1.5297	<.0001
	Pre/Post Non-BH sample	1.1388	0.0450	1.0538	1.2306	0.0010
	BH Time Interaction	1.1822	0.0901	1.0181	1.3727	0.0281

7.1.1.3 Within IDN Comparison Results – Fragmented Care

In every year, Beneficiaries with a behavioral health disorder had a higher percentage of fragmented care than Beneficiaries without BH—approximately 10% higher every year. However, no clear trends or significant results were observed in fragmented care for either group in the statewide results. Figure 7.1—2 presents the percentage of Beneficiaries with behavioral health disorders with fragmented care by IDN. The percentage of Beneficiaries with behavioral health disorders with fragmented care declined across all IDNs with the exception of IDN 6.

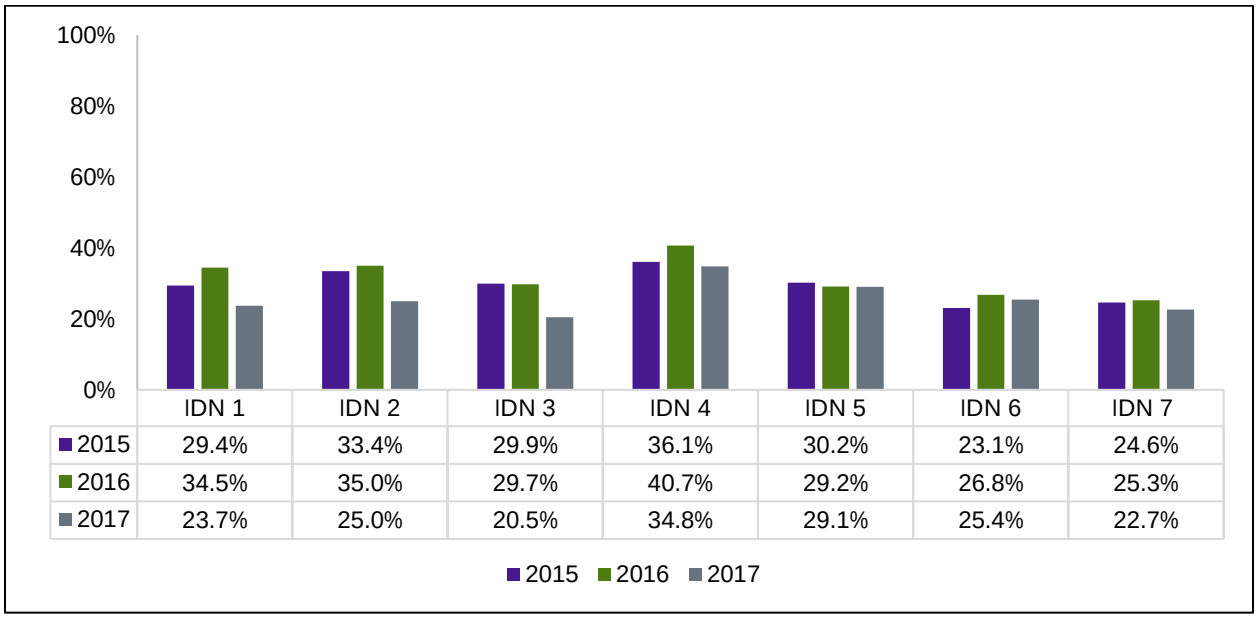
Multivariate difference-in-difference regression analysis showed significant decreases from the pre to the post Demonstration periods in IDNs 1, 2, 3, and 5 for both behavioral health

and non-behavioral health Beneficiaries. The rate of change is not significant between the two groups.

In contrast, fragmented care increased by 18.4% for the BH population and by 20.7% for the non-BH population in IDN 6. These changes are significant for both groups but the difference in the rates are not significant.

No significant trend is observed in IDN 7.

Figure 7.1–2: Fragmented Care in Beneficiaries with a Behavioral Health Disorder Over Time by IDN



	IDN 1	IDN 2	IDN 3	IDN 4	IDN 5	IDN 6	IDN 7
2015	29.4%	33.4%	29.9%	36.1%	30.2%	23.1%	24.6%
2016	34.5%	35.0%	29.7%	40.7%	29.2%	26.8%	25.3%
2017	23.7%	25.0%	20.5%	34.8%	29.1%	25.4%	22.7%

Table 7.1–2: Summary of Within IDN Generalized Linear Models Estimating Fragmented Care– Propensity Matched Sample

IDN	Parameter	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-value
1	Pre/Post BH sample	0.9772	0.0307	0.9188	1.0393	0.4631
	Pre/Post Non-BH sample	0.8921	0.0327	0.8302	0.9585	0.0018
	BH Time Interaction	1.0954	0.0529	0.9965	1.2042	0.0590
2	Pre/Post BH sample	0.8132	0.0302	0.7561	0.8747	<.0001
	Pre/Post Non-BH sample	0.8151	0.0344	0.7504	0.8854	<.0001
	BH Time Interaction	0.9977	0.0561	0.8936	1.1140	0.9674
3	Pre/Post BH sample	0.7609	0.0270	0.7097	0.8158	<.0001
	Pre/Post Non-BH sample	0.7577	0.0291	0.7027	0.8169	<.0001
	BH Time Interaction	1.0042	0.0525	0.9064	1.1127	0.9354

IDN	Parameter	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-value
4	Pre/Post BH sample	1.1186	0.0264	1.0680	1.1717	<.0001
	Pre/Post Non-BH sample	1.0692	0.0275	1.0167	1.1245	0.0093
	BH Time Interaction	1.0462	0.0365	0.9770	1.1203	0.1961
5	Pre/Post BH sample	0.9069	0.0371	0.8370	0.9826	0.0169
	Pre/Post Non-BH sample	0.9152	0.0434	0.8340	1.0043	0.0615
	BH Time Interaction	0.9909	0.0620	0.8765	1.1203	0.8844
6	Pre/Post BH sample	1.1848	0.0372	1.1140	1.2601	<.0001
	Pre/Post Non-BH sample	1.2067	0.0444	1.1227	1.2970	<.0001
	BH Time Interaction	0.9818	0.0475	0.8930	1.0795	0.7044
7	Pre/Post BH sample	0.9463	0.0376	0.8753	1.0229	0.1645
	Pre/Post Non-BH sample	0.9842	0.0397	0.9094	1.0651	0.6926
	BH Time Interaction	0.9615	0.0544	0.8605	1.0743	0.4875

7.2 Quality of Care

7.2.1 Antidepressant Medication Management

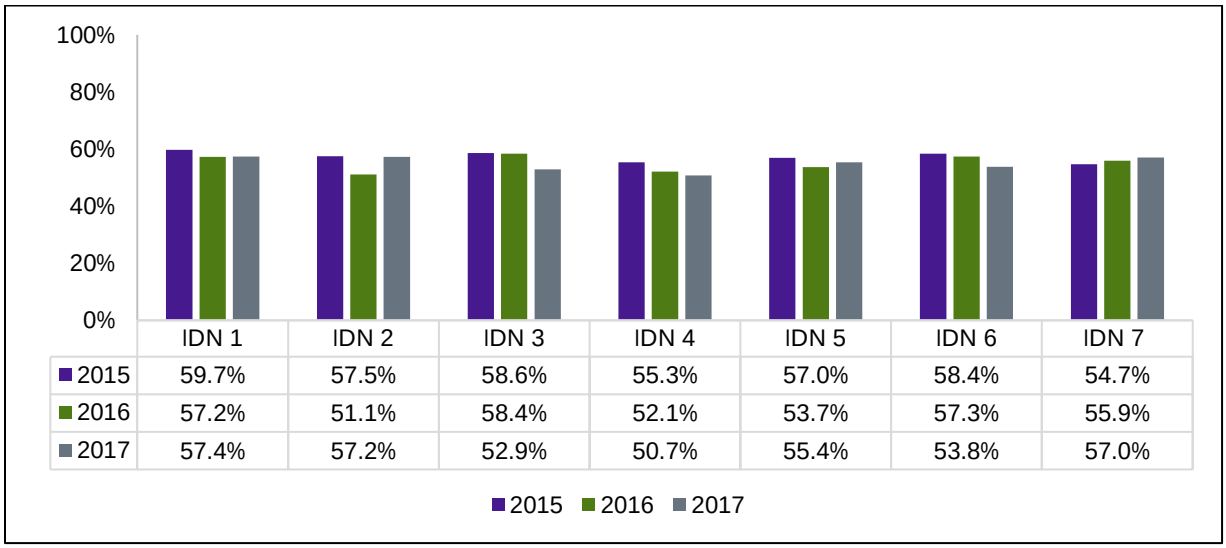
Careful monitoring by providers is required during the initiation of antidepressant medication for treatment of depression. An acute (first 3 months) and continuation phase (continuous 6 months) are examined. See Appendix A for a full description of these measures. Statewide results showed a slight decline in the initiation phase between 2015 (57.2%) and 2017 (54.4%) and no clear trend in the continuation phase.

No clear pattern is observed in the trend for antidepressant medication management by IDN for either the initiation or continuation phase of the measure.

7.2.1.1 Within IDN Comparison Results

No significant results are observed in the multivariate within IDN analysis on this measure.

Figure 7.2—1: Antidepressant Medication Management (3 months) by IDN Over Time



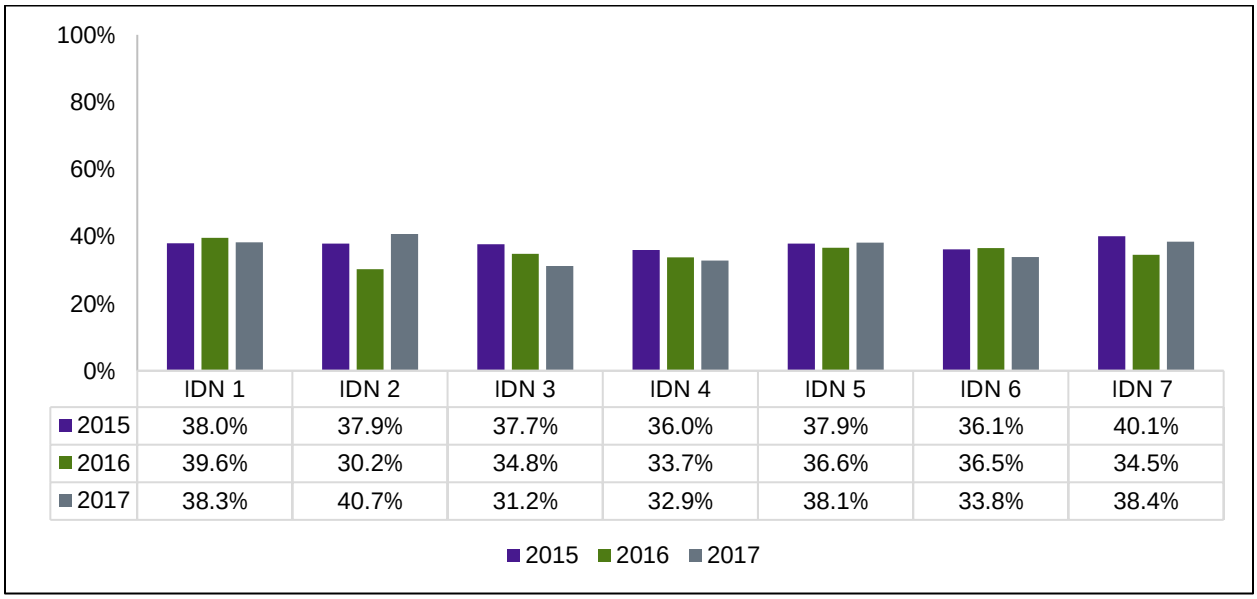
	IDN 1	IDN 2	IDN 3	IDN 4	IDN 5	IDN 6	IDN 7
2015	59.7%	57.5%	58.6%	55.3%	57.0%	58.4%	54.7%
2016	57.2%	51.1%	58.4%	52.1%	53.7%	57.3%	55.9%
2017	57.4%	57.2%	52.9%	50.7%	55.4%	53.8%	57.0%

Note: HEDIS MY 2015-2017 Antidepressant Medication Management (AMM)- Unaudited Health Plan HEDIS Rate

Table 7.2—1: Summary of within IDN Generalized Linear Models for Antidepressant Medication Management (3 months) – Pre/Post Change Odds Ratio from Each Model

IDN	Estimate (Odds Ratio) Change Pre/Post	Standard Error	95% Confidence Limits		P-Value
1	0.8531	0.1011	0.6762	1.0763	0.1803
2	0.8663	0.1289	0.6472	1.1596	0.3347
3	0.8680	0.1138	0.6714	1.1222	0.2801
4	0.8765	0.0828	0.7284	1.0547	0.1627
5	0.9457	0.1474	0.6968	1.2835	0.7201
6	0.8822	0.0914	0.7200	1.0809	0.2265
7	1.0820	0.1533	0.8197	1.4282	0.5778

Figure 7.2—2: Antidepressant Medication Management (6 months) by IDN Over Time



	IDN 1	IDN 2	IDN 3	IDN 4	IDN 5	IDN 6	IDN 7
2015	38.0%	37.9%	37.7%	36.0%	37.9%	36.1%	40.1%
2016	39.6%	30.2%	34.8%	33.7%	36.6%	36.5%	34.5%
2017	38.3%	40.7%	31.2%	32.9%	38.1%	33.8%	38.4%

Note: HEDIS MY 2015-2017 Antidepressant Medication Management (AMM)- Unaudited Health Plan HEDIS Rate

Table 7.2—2: Summary of within IDN Generalized Linear Models for Antidepressant Medication Management (6 months) – Pre/Post Change Odds Ratio from Each Model

IDN	Estimate (Odds Ratio) Change Pre/Post	Standard Error	95% Confidence Limits		P-Value
1	0.9921	0.1194	0.7837	1.2561	0.9476
2	0.8733	0.1360	0.6436	1.1850	0.3842
3	0.7913	0.1079	0.6057	1.0337	0.0860
4	0.9073	0.0896	0.7475	1.1011	0.3246
5	1.0496	0.1697	0.7645	1.4409	0.7646
6	0.9608	0.1038	0.7775	1.1873	0.7111
7	0.8844	0.1298	0.6633	1.1792	0.4027

7.3 Integration of Care

7.3.1 Mental Health Hospitalization Follow-Up (7 Days)

Follow-up after hospitalization for mental health disorders or intentional self-harm for Beneficiaries (ages 6 and over) assures transitions back to the community and monitors reactions to medications. Follow-up after hospitalization is a key function of care transitions and enhanced care coordination. The statewide results showed half of all discharges for a behavioral health disorder had a follow-up visit within 7 days of discharge.

7.3.1.1 Within IDN Comparison Results

Figure 7.3—1 presents mixed results for unadjusted results over time by IDNs. The highest rate by 2017 is observed in IDN 2 at 65.2%, while the lowest over the entire period is observed in IDN 3 (19.9% up to 26.4% in 2017).

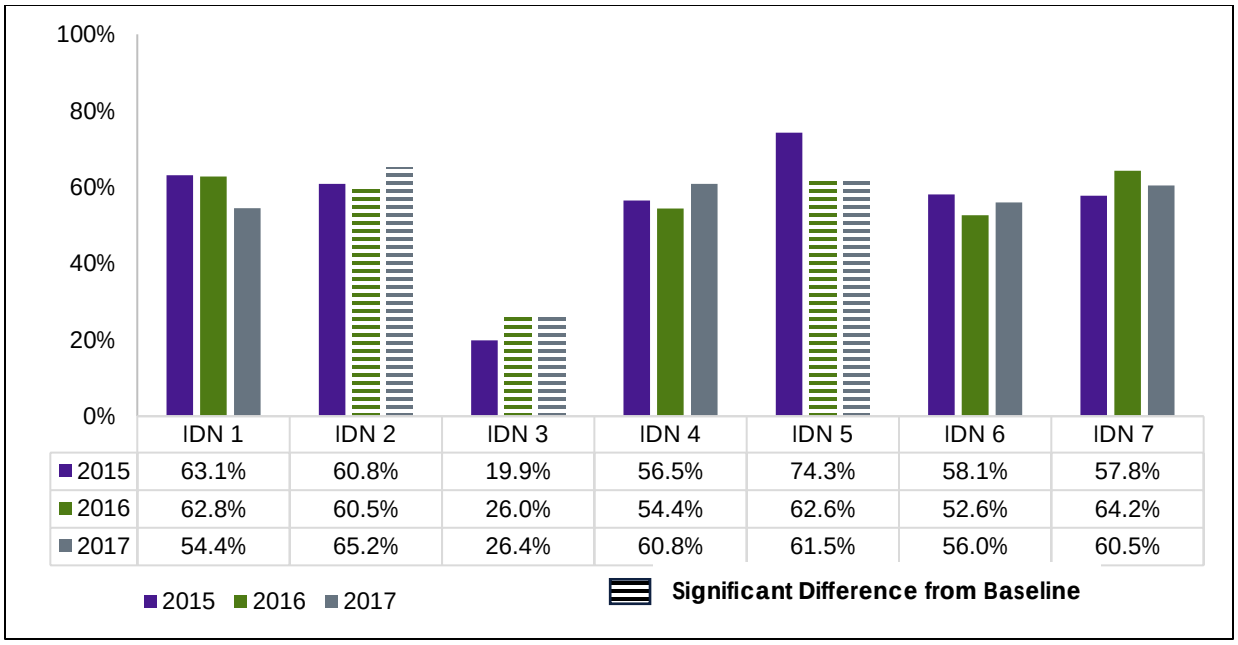
Multivariate analysis using generalized linear model with a Poisson distribution and clustering for member while controlling for age, gender, dual eligibility, patient acuity (ACG risk score) and whether the Beneficiary was enrolled in the expansion program was conducted for each IDN.

Table 7.3—1 summarizes the odds ratios from the regression results for each IDN. The low rate of follow-up in IDN 3 is concerning, but shows significant improvement over time. The percent of hospitalizations with follow-up within 7 days in IDN 3 jumped 54% between pre and post periods. The change in IDN 2 is also significant over time where the rate of follow-up increased 11.5%.

In contrast, follow-up in IDN 5 declined in the Demonstration period by almost 14% (1-0.8646). This change was statistically significant.

While showing improvement, IDNs 1, 4, 6 and 7 changes are not significant over time.

Figure 7.3—1: Mental Health Hospitalization Follow-Up (7 days) by IDN Over Time



	IDN 1	IDN 2	IDN 3	IDN 4	IDN 5	IDN 6	IDN 7
2015	63.1%	60.8%	19.9%	56.5%	74.3%	58.1%	57.8%
2016	62.8%	60.5%	26.0%	54.4%	62.6%	52.6%	64.2%
2017	54.4%	65.2%	26.4%	60.8%	61.5%	56.0%	60.5%

Note: HEDIS MY 2015-2017 Follow-Up after Hospitalization for Mental Illness (FUH)- Unaudited Health Plan HEDIS Rate

Table 7.3—1: Summary of Within IDN Generalized Linear Models for Mental Health Hospitalization Follow-Up Visit within Seven Days – Pre/Post Change Odds Ratio from Each Model

IDN	Estimate (Odds Ratio) Change Pre/Post	Standard Error	95% Confidence Limits		P-Value
1	0.9594	0.0594	0.8497	1.0831	0.5027
2	1.1154	0.0560	1.0108	1.2308	0.0298
3	1.5437	0.2532	1.1193	2.1292	0.0081
4	1.0548	0.0562	0.9503	1.1708	0.3162
5	0.8646	0.0580	0.7580	0.9862	0.0302
6	0.9201	0.0522	0.8232	1.0283	0.1422
7	0.9963	0.0831	0.8460	1.1733	0.9647

7.3.2 Mental Illness Emergency Department (ED) Visit Follow-Up (30 days)

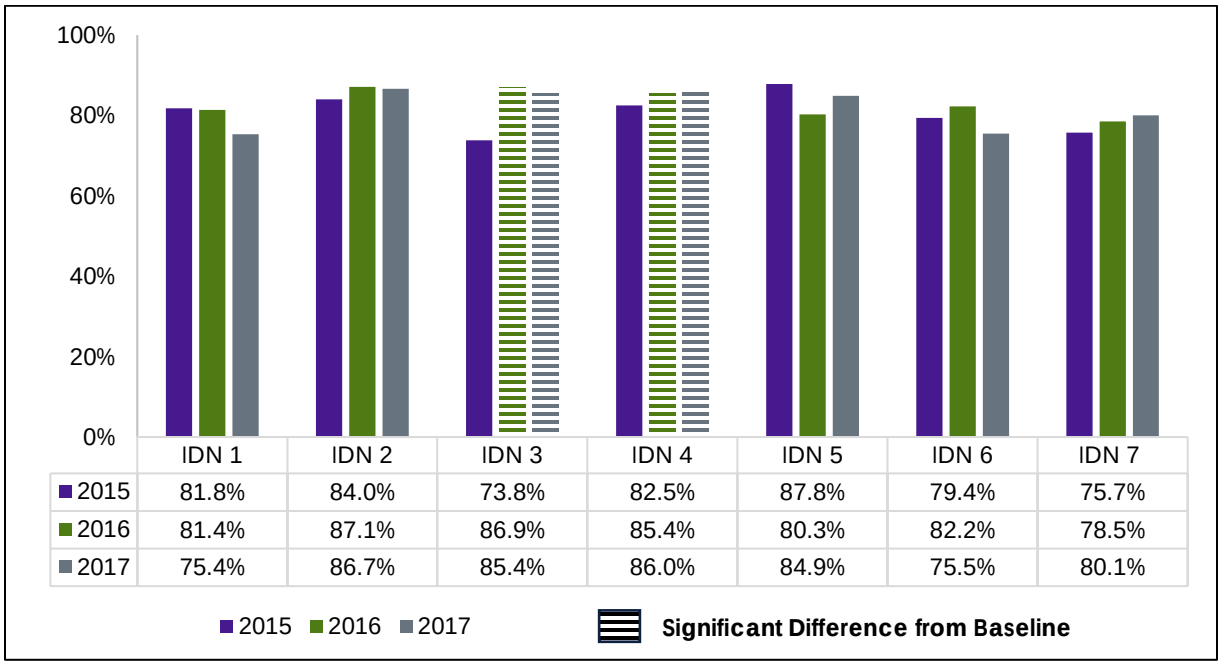
Follow-up visits after an ED visit for mental illness are important for establishing continuity of care, medication management and implementing or monitoring care plans. ED follow-up is a

key tool for enhanced care coordination, particularly in high need populations. In the statewide results, eight out of every ten Beneficiaries seen in the ED for a mental health related visit, had a follow-up visit for a mental health disorder in the outpatient setting within 30 days. IDN level results were similar with the exception of IDNs 1 (81.8% declined to 75.4%), 5 (87.8% decline to 84.9%) and 6 (79.45 to 75.5%) where a decline is observed in the trend in 2017.

7.3.2.1 Within IDN Comparison Results

Multivariate analysis using generalized linear model with a Poisson distribution and clustering for member while controlling for age, gender, dual eligibility, patient acuity (ACG risk score) and whether the Beneficiary was enrolled in the expansion program was conducted for each IDN. Multivariate analysis showed significant improvement in IDNs 3 and 4. Follow-up for mental illness ED visits within 30 days increased by almost 14% between baseline and follow-up in IDN 3, while IDN 4 increased by 4.3% between the pre and post period. No other within IDN trend result was significant.

Figure 7.3–2: Mental Health Illness Emergency Department (ED) Visit Follow-Up (30 Days) by IDN Over Time



	IDN 1	IDN 2	IDN 3	IDN 4	IDN 5	IDN 6	IDN 7
2015	81.8%	84.0%	73.8%	82.5%	87.8%	79.4%	75.7%
2016	81.4%	87.1%	86.9%	85.4%	80.3%	82.2%	78.5%
2017	75.4%	86.7%	85.4%	86.0%	84.9%	75.5%	80.1%

Note: HEDIS MY 2015-2017 Follow-Up after Hospitalization for Mental Illness (FUH)- Unaudited Health Plan HEDIS Rate

Table 7.3—2: Summary of Within IDN Generalized Linear Models for Mental Health Emergency Department (ED) Follow-Up Visit within Thirty Days – Pre/Post Change Odds Ratio from Each Model

IDN	Estimate (Odds Ratio) Change Pre/Post	Standard Error	95% Confidence Limits		P-Value
1	0.9459	0.0291	0.8906	1.0046	0.0701
2	1.0296	0.0337	0.9656	1.0977	0.3733
3	1.1487	0.0373	1.0779	1.2241	<.0001
4	1.0436	0.0185	1.0080	1.0805	0.0161
5	0.9873	0.0331	0.9246	1.0543	0.7033
6	0.9900	0.0260	0.9403	1.0422	0.7010
7	1.0564	0.0542	0.9554	1.1682	0.2847

7.4 Service Utilization

7.4.1 Potentially Preventable ED Visits

Potentially preventable or ambulatory care sensitive conditions are a set of acute and chronic medical conditions for which early and effective management in the primary care setting may prevent an ED visit. Integration of behavioral and primary care is a core competency of the NH DSRIP Demonstration. In the statewide results, the rate of potentially preventable ED visits per 1,000 member months declined over the study period. This pattern was consistent across IDNs and for Beneficiaries both with and without behavioral health disorders with the exception of IDN 5, which experienced an increase from 35.9 to 41.1 per 1,000 member months. Figure 7.4—1 presents IDN-specific unadjusted rates per 1,000 member months for Beneficiaries with behavioral health disorders over time by IDN.

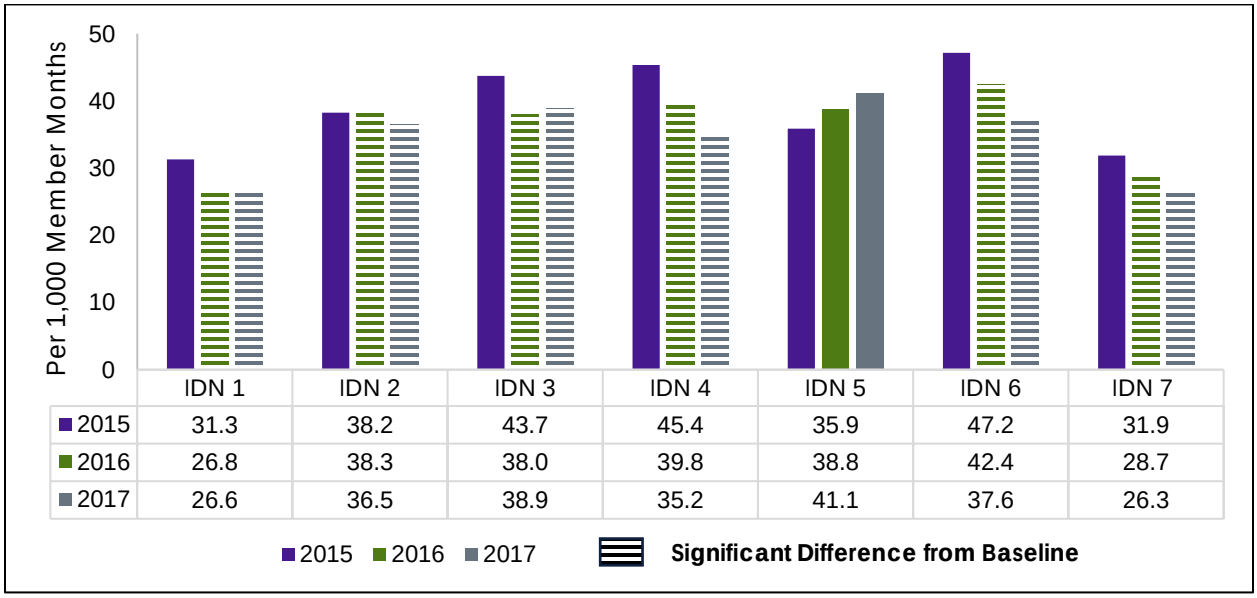
7.4.1.1 Within IDN Comparison Results

Table 7.4—1 presents summary results of the seven multivariate difference-in-difference negative binomial regression analyses for the propensity matched sample. Models included clustering for member while controlling for age, gender, dual eligibility, patient acuity (ACG risk score) and whether the Beneficiary was enrolled in the expansion program. A greater reduction in the rate of potentially preventable ED visits was observed for the behavioral health population than for those without a behavioral health disorder in IDN 4. Potentially preventable ED visits in IDN 4 declined by nearly 21% for the BH population and by 12% for the non-BH population. This difference in rate of change is statistically different.

In IDNs 1,2,3,6 and 7 the rate of change is significant for both populations from the baseline period; however, this rate of change is not significantly different between the populations.

Although an increased rate of potentially preventable ED visits is observed in IDN 5, this change is not significant when controlling for other characteristics.

Figure 7.4—1: Potentially Preventable ED Visits (per 1,000 member months) For Beneficiaries with Behavioral Health Disorders by IDN Over Time



	IDN 1	IDN 2	IDN 3	IDN 4	IDN 5	IDN 6	IDN 7
2015	31.3	38.2	43.7	45.4	35.9	47.2	31.9
2016	26.8	38.3	38.0	39.8	38.8	42.4	28.7
2017	26.6	36.5	38.9	35.2	41.1	37.6	26.3

Table 7.4—1: Summary of Within IDN Generalized Linear Models Estimating Potentially Preventable ED Visits– Propensity Matched Sample

IDN	Parameter	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-value
1	Pre/Post BH sample	0.8097	0.0253	0.7617	0.8608	<.0001
	Pre/Post Non-BH sample	0.8239	0.0313	0.7648	0.8875	<.0001
	BH Time Interaction	0.9828	0.0486	0.8920	1.0829	0.7259
2	Pre/Post BH sample	0.8427	0.0288	0.7881	0.9010	<.0001
	Pre/Post Non-BH sample	0.9213	0.0359	0.8536	0.9943	0.0352
	BH Time Interaction	0.9146	0.0478	0.8257	1.0132	0.0875
3	Pre/Post BH sample	0.8764	0.0282	0.8227	0.9335	<.0001
	Pre/Post Non-BH sample	0.8697	0.0296	0.8136	0.9296	<.0001
	BH Time Interaction	1.0077	0.0475	0.9187	1.1053	0.8706
4	Pre/Post BH sample	0.7929	0.0178	0.7588	0.8285	<.0001
	Pre/Post Non-BH sample	0.8790	0.0219	0.8370	0.9231	<.0001
	BH Time Interaction	0.9021	0.0306	0.8441	0.9640	0.0024

IDN	Parameter	Estimate (Odds Ratio)	Standard Error	95% Confidence Limits		P-value
5	Pre/Post BH sample	1.0521	0.0399	0.9768	1.1332	0.1804
	Pre/Post Non-BH sample	1.0843	0.0510	0.9888	1.1891	0.0855
	BH Time Interaction	0.9702	0.0589	0.8613	1.0929	0.6190
6	Pre/Post BH sample	0.8002	0.0207	0.7607	0.8418	<.0001
	Pre/Post Non-BH sample	0.8517	0.0262	0.8019	0.9045	<.0001
	BH Time Interaction	0.9395	0.0380	0.8679	1.0171	0.1231
7	Pre/Post BH sample	0.8438	0.0310	0.7851	0.9069	<.0001
	Pre/Post Non-BH sample	0.9133	0.0385	0.8409	0.9920	0.0314
	BH Time Interaction	0.9240	0.0520	0.8275	1.0316	0.1597

8. Interpretations and Policy Implications

8.1 DSRIP Demonstration within Overall Medicaid Context

To better understand New Hampshire's DSRIP Demonstration within an overall Medicaid context, it is important to note any possible interrelations of the DSRIP program with other current initiatives within the state's Medicaid program as well as interactions with other Medicaid waivers and federal awards that can affect quality of care, service delivery, population heath, and the cost of care for Medicaid Beneficiaries. While it is too early to point to conclusive influence of the DSRIP Demonstration on the triple-aim, this section discusses the overall state environment in which DSRIP resides, for New Hampshire to consider in its long-range planning as it seeks to further integrate care for its Medicaid Beneficiaries with behavioral health disorders.

8.2 Interactions with Other State Initiatives

8.2.1 Overview

Over the past decade, NH has initiated many health care reforms and invested in its Medicaid health care delivery system including:

- Moving from a fee-for-service (FFS) system to Medicaid Managed Care (2013);
- Expanding Medicaid coverage to 138% federal poverty level (FPL) under the Accountable Care Act (ACA) in 2014;
- Implementing the New Hampshire Health Protection Program (NHHPP) Premium Assistance Program (PAP) in January 2016. This Medicaid waiver program provided premium assistance to Medicaid members to purchase insurance on the New Hampshire health insurance marketplace (the Marketplace) through a

Qualified Health Plan (QHP). The 3-year PAP waiver ended in 2018. In 2019, Expansion members transitioned back to Medicaid managed care;

- Being awarded a State Innovation Model (SIM) grant designed to achieve the triple aim---better care for individuals, better health for populations and lower costs;
- Being approved by CMS for the State's Substance Use and Disorders (SUD) Waiver Demonstration in 2018 to provide more coordinated and comprehensive OUD/SUD treatment for Medicaid Beneficiaries;
- Releasing a new ten year Mental Health Plan to extend DSRIP infrastructure to the broader population in January 2019;
- Being awarded a Maternal Opioid Misuse (MOM) grant; and,
- Several Home and Community Base Waivers.

Within this rapidly changing NH Medicaid context, the NH DSRIP Demonstration was implemented to strengthen and expand capacity for the behavioral health delivery system. The behavioral health delivery system includes services for both mental health and substance misuse treatment. Its key constructs are to provide better access to and integration of behavioral and physical care for people with behavioral health disorders, to strengthen community-based mental health services, combat the opioid crisis, and drive health care delivery system reform. This section will discuss the interrelations with other state and Medicaid initiatives affecting the NH health care delivery system.

8.2.2 Improving Quality of Care and Health Outcomes, Increasing Access

8.2.2.1 Medicaid Expansion

New Hampshire adopted Medicaid Expansion under the ACA in 2013, providing coverage to individuals up to 138% of the federal poverty level (FPL). Under this expansion, over 55,000 additional individuals enrolled between 2013 and 2018.[93] The ACA required SUD treatment services to be covered for Expansion members. (Of note, in July 2016, SUD services were added to the standard Medicaid benefit package in New Hampshire.) In March 2015, a new waiver changing the delivery method of coverage for persons in the Expansion was approved—the New Hampshire Health Protection Program (NHHPP), which is a mandatory exchange plan premium assistance program (PAP).

In 2018 the NH Legislature created the Granite Advantage Health Care Program which moved the majority of the Expansion population from the mandatory exchange plan to standard Medicaid Care Management. Although PAP-enrolled Expansion members were initially excluded from DSRIP, 25% had behavioral health needs.[94] Expansion members who were dually eligible for Medicare and Medicaid, members younger than 19 and older than 65, and members who self-identified as medically frail, were enrolled in QHPs and were

included in the DSRIP Demonstration. The DSRIP Demonstration supports the improved infrastructure, care coordination and expansion of mental health and substance misuse services needed for this new group of insured individuals. With the PAP ending in 2018 and Beneficiaries' transition to Medicaid managed care, the DSRIP integrated care delivery network will likely see a direct impact from this program.

8.2.2.2 1115 SUD Demonstration

In July 2018, CMS approved New Hampshire's Substance Use Disorder Treatment and Recovery Access Section 1115(a) Research and Demonstration Waiver. Demonstration goals include maintaining critical access to opioid use disorder (OUD) and other substance use disorder (SUD) services, delivery system improvements for these services and more coordinated and comprehensive OUD/SUD treatment for Medicaid Beneficiaries. With this waiver funding, NH seeks to:[95]

- Increase rates of identification, initiation, and engagement in treatment;
- Increase adherence to and retention in treatment;
- Reduce overdose deaths, particularly those due to opioids;
- Reduce utilization of emergency departments and inpatient hospital settings for treatment where utilization is preventable or medically inappropriate through improved access to other continuum of care services;
- Reduce preventable and/or medically inappropriate readmissions to the same or higher level of care; and,
- Improve access to care for physical health conditions among Medicaid Beneficiaries.

The SUD Demonstration provides additional support for this key part of the DSRIP infrastructure. In this Interim Report analyses are conducted through 2017, therefore no interaction will be observed with this waiver.

8.2.2.3 NH 10-Year Plan

New Hampshire released its 10-Year Mental Health Plan in January of 2019, which recommends the state "leverage, extend, and sustain the infrastructure, networks, and successes of NH's DSRIP."[5] The Plan outlines a regional hub and spoke model for mental health and SUD that aligns with the IDN structure and extends beyond to the broader NH population. New Hampshire DSRIP is a key part of the infrastructure of this plan. Given the 2019 start date, no impact is observed at this time.

8.2.2.4 MOM Model

In December 2019, CMS awarded New Hampshire funding under the Maternal Opioid Misuse (MOM) Model. While not implemented yet, this model is designed to improve quality of care for pregnant and postpartum women with OUD, as well as increase access to treatment while employing strategies to support care integration, with the intent of reducing the costs of providing care for mothers and infants. Given the 2019 start date, no impact is observed at this time.

8.2.2.5 State Home and Community Base Services (HCBS) Waivers (1915c Waivers)

NH has several HCBS waivers to provide at home long-term services and supports to NH Medicaid Beneficiaries with chronic health conditions. Participants in these waivers are likely to benefit from the enhanced provider capacity to deliver the comprehensive and integrated care that can most effectively address the needs of New Hampshire residents with severe behavioral health or comorbid physical and behavioral health problems. The following is the list of waivers that may benefit from the DSRIP integrated care model:[96]

- NH Developmental Disabilities (DD) Waiver (0053.R06.00) – NH DD waiver provides home and community services to NH Medicaid Beneficiaries of all ages with developmental disabilities. A wide array of services are provided including participation services, residential habilitation/personal care services, respite, service coordination, supported employment, assistive technology support services, community support services (CSS), crisis response services, environmental and vehicle modification services, participant directed and managed services (PDMS) formerly consolidated developmental services, specialty services, and wellness coaching for individuals with autism.

- NH Acquired Brain Disorder (ABD) Waiver (4177.R05.00) – The ABD waiver provided HCBS services to individual 22 years of age and older with a brain injury. Services include community participation services, respite, service coordination, supported employment services, assistive technology support services, community support services (CSS), crisis response services, environmental and vehicle modification services, participant directed and managed services—PDMS (formerly consolidated acquired brain disorder services), residential habilitation/personal care services, specialty services, and wellness coaching.

- NH In Home Supports for Children with Developmental Disabilities (0397.R03.00) – The children with DD waiver provides enhanced personal care, consultations, environmental and vehicle mods, family support/service coordination, and respite care for children (age 0-21) with autism, intellectual disabilities or developmental disabilities.

- **NH Choices for Independence Waiver (0060.R07.00) –** Adults ages 65 and over or with physically disabilities and other disabilities age 18-64 receive HCBS services through the Choices waiver. Choices covered services includes adult medical day services, home health aide, homemaker, personal care, respite, supported employment, financial management services, adult family care, adult in-home services, community transition services, environmental accessibility services, home-delivered meals, non-medical transportation, participant directed and managed services, personal emergency response system, residential care facility services, skilled nursing, specialized medical equipment services, and supportive housing services.

8.2.3 Reducing Costs

8.2.3.1 Medicaid Managed Care

At the direction of the NH legislature (SB147, June 2011), NH DHHS developed a comprehensive statewide Medicaid managed care program. The Medicaid Care Management (MCM) program was expected to improve quality, budget predictability and ultimately reduce costs for the Medicaid population. The program's primary goal was to "deliver the right care, at the right time, in the right place to Medicaid enrollees." The guiding principles for the MCM program included an emphasis on a "whole person" approach to care coordination with efforts to integrate not only primary care and behavioral health, but consideration of psychosocial and other needs, a patient-centered medical home, chronic care and high risk management, and a focus on wellness and prevention.[97]

The DSRIP Demonstration builds on the MCM structure adding enhanced care coordination for the behavioral health populations, with IDNs focused on community-driven projects built around three enabling pathways: mental health and substance use disorder treatment capacity building, integration of physical and behavioral care, and improving transitions of care across settings.

Managed care plans participate in DSRIP to support alternate payment models (APM) infrastructure (e.g., IDN member and provider attribution), quality reporting for clinical management and incentive payment to support population health improvement and value-based reimbursement. There is not a direct material gain for the MCOs.

8.3 Implications for State and Federal Health Policy

Interim evaluation results are largely inconclusive as to whether or not DSRIP can achieve better health outcomes than traditional Medicaid models of care for persons with behavioral health needs. Early process and implementation findings indicate that widespread collaboration and partnership building are perceived to be valuable for care integration, though there is no conclusive proof of increased quality nor decreased costs at this time. Any state or federal policy must take into consideration the current infrastructure of the state's model of care and closely consider disruption and/or enhancement of the

infrastructure based on DSRIP initiatives. The time and effort involved in aligning priorities of all state and federal initiatives, and understanding their collective impacts, should not be underestimated.

9. Lessons Learned and Recommendations

By design, DSRIP Demonstrations are large, complex mechanisms that seek to transform health care systems at multiple levels. This multifaceted approach to changing an already-complex system presents several challenges. While necessary to recognize these challenges, it is equally important to share best practices and lessons learned during implementation that can inform other states, as well as with NH DHHS as it enters the final phase of its five-year Demonstration. Identifying ongoing challenges, even those for which solutions are not fully identified, provides insight for CMS and other states considering implementing DSRIP programs.

Based on the performance measures included in the Independent Evaluation, it is still too early to draw any conclusions on the influence of the DSRIP Demonstration on the healthcare system in New Hampshire and how this may be translated into best practices for other states or future CMS 1115 Waiver Demonstrations. Therefore, this section will primarily focus on documenting early observations and implications for practice from the process evaluation, including highlighting both successes and ongoing challenges to implementation. In addition, lessons learned through the NH DSRIP Demonstration are presented to help inform other Demonstration projects. The overall outcomes will be included in the final summative report, which will evaluate additional Demonstration years, and include a more extensive analysis of cross-IDN and IDN-level performance and overall systems change. Analyses will more thoroughly triangulate implementation, process and results with performance measure findings.

9.1 Early Successes of the DSRIP Demonstration

Below is a summary of some early successes of the DSRIP Demonstration that were documented as part of the interim evaluation.

9.1.1 Infrastructure Development

9.1.1.1 Health Information Technology

- **Collaboration:** Findings indicate that the collaborative relationships established as part of the Statewide HIT initiative not only had a positive effect on the planning and implementation HIT applications, but also helped facilitate relationships between HIT staff and providers. These collaborative relationships continued over the course of the implementation period. Individuals who would not normally have an opportunity to work together, had the chance to partner on Demonstration activities. This helped facilitate more effective communication between HIT and clinical partners.

- **Implementation of Software Applications:** As part of the statewide HIT project, IDNs were tasked with implementing: Events Notification, Shared Care Plan, Direct Secure Messaging and Quality Data Reporting software. Although IDNs are at various stages of software implementation, there has been significant progress towards expanding the utilization of software applications with the majority of IDNs reporting that the required software packages were implemented or are in the process of being implemented at their IDNs. With the exception of the shared care plan the majority of providers indicated that software applications were user friendly and enhanced their capacity to communicate with other providers, facilitate care coordination, and improve the quality and timeliness of the care they provide Beneficiaries. HIT software expansion has been critical in supporting the closed-loop referral system, a key part of the Demonstration's care coordination efforts.

9.1.1.2 Work force Development

- **Increased Staff Capacity:** Early findings indicate that the Demonstration has helped enhance the State's behavioral health workforce. As part of the Demonstration, project funds were used to hire additional staff to support the work undertaken within the IDNs; these funds were used to support additional staff time for key care team members such as clinical social workers, community care coordinators and resource specialists. Increased staff capacity has helped IDNs be more responsive to the behavioral health care needs of Beneficiaries while at the same time increasing their capacity to address social determinants of health. New staff have been used to increase care capacity and create innovate mechanisms for addressing Beneficiary needs such as having a coordinator in the emergency department to help address Beneficiary needs that are non-emergent in nature; creating mechanisms to assist youth in transition; and implementing outreach activities.

- **Training:** As part of the Demonstration the IDNs have been able to engage in training and education sessions. IDNs and their project partners reported positive experiences with the training provided, and remarked that the trainings and resources offered through the Demonstration were particularly helpful because before the Demonstration lack of funding and time constrains often made it difficult for them to support and/or participate in workforce development activities.

- **Recruitment and Retention:** Target strategies implemented under the Demonstration, which were designed to assist with provider recruitment and retention, have been helpful in expanding behavioral health workforce capacity within IDN regions. For example, changes in licensing rules which made it easier to practice in New Hampshire have had a measurable impact on IDNs with provider recruitment and retention.

9.1.1.3 Alternative Payment Models

- **Supporting Care Integration:** While the transition to APMs has not fully materialized due to delays in the implementation timeline, early findings indicate that administrators and providers see APMs as a feasible way to support integrated models of care.

9.1.2 Access to Care

- **Care Integration:** The DSRIP Demonstration has facilitated the integration of behavioral health clinicians into primary care practices where they can readily consult with patients in need of behavioral health services. Many providers reported that, despite the challenges associated with implementing integrated models of care, they welcomed greater coordination of physical, behavioral health and community supports.

- **Care Coordination:** Initiatives associated with the care transitions project similarly convened stakeholders from diverse organizations, with perceived increases in care integration as well as expanded understanding of the complex care needs of transitioning Beneficiaries. Findings indicate Demonstration care coordination projects have shown results in care transitions (see Service Utilization below) and HIT infrastructure enhancements.

- **Reducing Stigma:** Early findings from providers indicate the integration of behavioral healthcare providers into medical settings increased access to services by minimizing or avoiding the stigma some Beneficiaries felt around seeking behavioral health treatment.

9.1.3 Quality of Care

- **Beneficiary Perceptions of Quality of Care:** The overall health composite rating from the Beneficiary Experience Survey indicates the majority of Beneficiaries rate their health care positively. The state mean was 8.03 out of 10.

- **Implementing Patient-Centered Models of Care:** Patient-Centered approaches to care are integral to providing high quality care to Beneficiaries. Implementing integrated models of care that are focused on patient-centered approaches is important to promoting systems transformation. Beneficiaries as stakeholders in the Demonstration have critical perspectives on their care delivery. In the evaluation interview process, Beneficiaries articulated how they perceived their care, and provided recommendations around how to provide high quality, patient-centered care. As depicted below, Beneficiaries' feedback indicated that it is critical for providers to spend more time with them, be understanding of their disabilities and challenges, and to develop therapeutic relationships that make patients feel that their provider truly cares about their emotional and physical well-being. While there

have been noted challenges to implementing the CCSA, findings from early adopters in the state indicated that the assessment is critical to supporting integrated models of care that are patient-centered and holistic.

Figure 9.1–1

9.1.4 Integration of Care

- **Improved Communication:** Enhancements to the State's HIT infrastructure have greatly improved the ability of providers to communicate with one another, which has been critical to supporting care integration and coordination efforts. Providers frequently cited the benefits of using event notification as a means to get real time data on patients often leading to early intervention and diversion to more appropriate care settings. The introduction of multidisciplinary care teams has the perceived benefits reported by IDN Administrators and providers of greater care integration for Beneficiaries within the IDNs. Furthermore, many IDN Administrators feel that MDCTs is a model that can and should be sustained moving forward.

- **HIT Enhancements:** HIT enhancements implemented under the Demonstration include improved communication and care coordination across organizations and providers. The implementation of software applications has helped providers connect Beneficiaries with appropriate services in a timely manner. Examples of access-related successes include same-day appointments resulting from event notifications, and connections between providers and organizations that created additional appointment availability.
- **Increased Awareness of Services:** The DSRIP Demonstration has helped to increase access to services for individuals with behavioral health care needs by facilitating collaboration across partner organizations, which has helped to increase provider awareness of the resources available in their region. In addition, enhanced communication and referral processes have increased their ability to engage patients with available resources more efficiently.
- **Improvements in Follow-up Rates:** Although our analysis of performance measures is preliminary, we do see some measures trending in a positive direction, which indicate improvements to care integration. For example, 7-day follow-up after a mental health ED visit increased by 3% between the baseline and Demonstration periods and 7-day follow-up after a mental health hospitalization rose by nearly 6%. In addition, AOD ED follow-up visits increased by 13%. These results may be early indications that the Demonstration is successfully influencing integration of care.

9.1.5 Service Utilization

- **Reductions in ED Utilization:** Although it is too early to draw conclusions on the DSRIP Demonstration's influence on the healthcare system in New Hampshire based on performance measures, interim results show some measures trending in a positive direction. The decline in the percentage of Beneficiaries with frequent ED visits (4 or more) and potentially avoidable ED visits over time suggest a positive impact of the Demonstration on service utilization and potentially improved access to primary care. Notably, IDN Administrators and HIT stakeholders report anecdotal success in expanding care coordination to Beneficiaries through their community-driven projects, in particular by leveraging the event notification software around unnecessary ED use. The care integration model inherently facilitates care coordination and transition planning and reducing ED utilization may be a potential early success indicator.

9.1.6 Cost of Care

- Cost data are insufficient in the interim evaluation period to determine successes associated with the Demonstration. Furthermore, any interim results associated with costs should be interpreted with care. The results of the cost analysis are preliminary

and include known gaps in financial data. Corrected and complete financial claims data will be available in the Final Evaluation Report.

9.1.7 Population Health

- Overall, BRFSS data is insufficient in the interim evaluation period to determine population health strengths associated with the Demonstration; while the Interim analyses indicate a statistically significant decline in current smoking for those self-reporting behavioral health issues, there were no other statistically significant changes between the years of 2014 and 2017.

9.2 Ongoing DSRIP Demonstration Challenges

Below is a summary of some ongoing Demonstration implementation challenges documented as part of the interim evaluation.

9.2.1 Infrastructure Development

9.2.1.1 Health Information Technology

- **Implementation of Software Applications:** While findings indicate that enhancements to the HIT infrastructure have facilitated communication across organizations and providers, there remain issues with the reliability of HIT systems to deliver information between providers and promote timely communications for patient care coordination, and improve the quality and timeliness of the care provided to Beneficiaries. Not all organizations and providers have implemented the software packages further hindering efforts to support enhanced communication and coordination, most notably closed-loop referrals. Finally, there remain issues with interoperability, which limit the utility of some of the software applications for data sharing and communication.

- **Selection of Performance Metrics:** Quality data tracking and reporting is largely predicated on the feasibility and perceived utility of the selected metrics. Although NH DHHS did make a conscientious effort to engage key stakeholders, including external clinicians in the selection of performance metrics, this process could have been implemented earlier and been more comprehensive. Many providers offered feedback that the reporting requirements were excessive and several mentioned that they did not see the value in tracking some of the metrics selected for the Demonstration.

- **Data Tracking and Reporting:** Ongoing data tracking and monitoring is essential for monitoring clinical outcomes and tracking the progress of Demonstration activities. In addition, having clearly identified targets and providing regular feedback to organizations on their performance are essential for getting buy-in and to support tracking efforts. While DHHS made efforts to help IDNs and their partner

organizations implement efficient data reporting systems, IDNs continue to face significant challenges in meeting the reporting requirements of the Demonstration. Current challenges include: not having the time to support collecting, compiling, and recording data on performance metrics; gathering and compiling data from multiple sources using a mix of data collection methods; and, staffing (e.g. allocating staff time for monitoring data; staff training). Despite the noted challenges, IDNs and their project partners continue to work toward establishing more efficient data collection strategies.

- **Data Sharing:** Although HIT software applications are useful for promoting care integration, challenges remain around data sharing. Privacy laws are complex, fluid, and volatile. Many organizations face challenges in determining what data is appropriate to share, how much risk is acceptable and how to securely share information with partners. Although DHHS convened a multidisciplinary group of stakeholders for training on the information sharing requirements of protected information and worked with IDNs to develop forms within each region to help operationalize data sharing arrangements, barriers to information sharing remain. The complexity of interpreting privacy regulations coupled with the constantly evolving nature of privacy and security laws has slowed efforts to expand data sharing arrangements among organizations and project partners. Thus, there is an opportunity for more training and understanding of HIT capabilities in order for tailored communication between the state and IDN leadership, so that these resources and their positive impact on efficiencies and patient care can be more effectively utilized.

9.2.1.2 Workforce Development

- **Behavioral Health Infrastructure**: Staff turnover and provider shortages continue to hinder the ability of IDNs and their project partners to expand access to behavioral health services in New Hampshire. This concern is shared among providers in both rural and urban communities in the state. Providers noted that it is particularly difficult to find care for people with complex psychiatric problems because of a lack of referral resources. In this case, the streamlined function of the integrated model is not able to overcome limitations of the workforce infrastructure. Discussions of MDCTs were generally very positive; however, a perceived barrier was the mandated inclusion of psychiatrists on the teams, forcing already limited input from these professionals as time spent in MDCT meetings instead of direct care, or in some cases, forcing some IDNs to have incomplete multidisciplinary care teams.

- **Staffing:** While the Demonstration has provided resources to increase the capacity of the behavioral health care workforce, workforce shortages in the state remain a significant barrier to behavioral healthcare access. Workforce issues also contribute to limited available providers, fewer treatment options and locations, as well as long-wait times.

9.2.1.3 Alternative Payment Models

- **Transitioning to APMs:** While many key stakeholders indicated they felt there was value in transitioning to APMs, feedback indicated that many providers were uncertain of the path forward. At the end of Demonstration Year 4, most partners did not understand or fully see their own role within the future shift to APMs. These findings may be partially attributed to delayed Demonstration implementation. Moreover, IDNs were not in a position to be risk-bearing entities, prior to the State of NH's new contract with the Medicaid Managed Care Organizations established in September of 2019. Through these new agreements, MCOs have APM requirements in working with IDNs and through Local Care Management activities which are incorporated. There appears to be a need for further training and communication as the Demonstration continues to shift to APMs.

9.2.2 Access to Care

- **Behavioral Health Workforce Capacity:** As described above, the primary barrier to accessing care for individuals with behavioral health disorders in New Hampshire is a lack of providers and treatment options. This is a theme throughout the qualitative data collected from IDN administrators, HIT stakeholders, providers and Beneficiaries.

- **Financial Barriers:** Consistent with the existing research, financial obstacles were the most frequently cited barrier to accessing care. Insurance coverage and out-of-pocket costs such as losing pay from work to attend appointments and transportation costs, were the most common cost-related topics mentioned by Beneficiaries. In addition, the complexity of insurance coverage through Medicaid and Medicare and navigating the benefit packages to pay for medications or finding behavioral health providers were also challenges identified in the preliminary evaluation.

9.2.3 Quality of Care

- **Therapeutic Relationships:** Beneficiaries' satisfaction with the quality of the healthcare service(s) they receive seems to hinge on their perspective of being treated with respect by providers, having those that provide care take their time during appointments, and having a provider with communication skills to effectively listen, hear and empathize with them while they are under their care.

9.2.4 Integration of Care

- **The effectiveness and sustainability of CCSAs hinge on providers' knowledge of resources and referral workflows available so they can address patient needs indicated by the screening.** Providers with varying degrees of holistic approaches to care may be challenged with the CCSA. In addition, integrating needs assessment and care planning into a daily routine can be difficult for practices, particularly small

or rural practices with limited provider capacity and the potential of disrupting clinic workflow. Providers lacking experience with integrative models of care that address health care needs as well as social determinants may struggle with the CCSA process. In order to ensure timely and successful implementation of CCSA, Demonstration projects utilizing CCSA need to consider the varying needs of providers and establish mechanisms for continuous training or technical assistance during the planning and implementation process. While DHHS did take into account varying levels of provider needs by decentralizing the development of the CCSA, IDNs were required to develop their own CCSA based on the needs identified in their region. There may be a need for additional incentives to organizations and providers to help facilitate the practice transformation necessary to fully adopt an integrate model of care. These incentives may also be useful for encouraging providers to take advantage of DHHS training and resources which were designed to facilitate the implementation of the CCSA, but to date, have been underutilized by providers.

9.2.5 Service Utilization

- There is insufficient data to report on service utilization data challenges at the time of the interim report.

9.2.6 Cost of Care

- Cost data are insufficient in the interim evaluation period to determine challenges associated with the Demonstration. Furthermore, any interim results associated with costs should be interpreted with care. The results of the cost analysis are preliminary and include known gaps in financial. Corrected and complete financial claims data will be available in the Final Evaluation Report.

9.2.7 Population Health

- BRFSS data is insufficient in the interim evaluation period to determine population health challenges associated with the Demonstration; there were no significant changes between the years of 2014 and 2017.

9.3 Lessons Learned: Implications for Other DSRIP Demonstrations

New Hampshire's DSRIP program required considerable time and resources from stakeholders at almost every juncture of implementation. IDNs were formed, in many cases, from disparate partners who had not previously collaborated, and required substantial time and energy during their formation, application development, and project planning stages. Given analysis on the qualitative data conducted for the interim evaluation, there are strategies to be considered for similar initiatives in the planning and early stages of implementation:

- **Pre-planning and assessing implementation readiness prior to submitting an 1115 application is essential to maximizing the full duration of an 1115 Demonstration.** Early understanding of IDN guidelines and expectations will allow organizations to determine the feasibility of applying to be an IDN and can help facilitate pre-planning efforts prior to the implementation of the 1115 Demonstration. In addition, collaborating with stakeholders during the waiver application planning phase to establish criteria for IDNs prior to Demonstration approval will expedite IDN selection and implementation of IDN networks after the onset of the Demonstration.

- **Collaboration is fundamental to promoting systems transformation and the implementation of integrated models of care.** Establishing and maintaining collaborative partnerships are necessary to creating comprehensive systems of care and improving access to care for individuals with complex health care needs. Establishing clinical-community linkages is also critical for establishing and expanding the infrastructure necessary to support integrated models of care that address physical, behavioral and social needs. It takes time and effort to engage key stakeholders, establish priorities, and build trust among partners. Engaging stakeholders as early as possible, allotting time and resources to support collaborative efforts and establishing mechanisms to support and maintain partnerships are important components of Demonstrations designed to promote systems transformation.

- **Investigate and strategize around confidentiality and data sharing issues during the Demonstration design phase, and as early as possible in the implementation**. Issues around confidentiality and data sharing are complicated and can lead to substantial delays in program implementation. Clear guidance on privacy laws and data sharing is essential to implementing data sharing protocols. Moreover, identifying and gaining consensus on mechanisms for data sharing early in the Demonstration process is a critical step to establishing efficient systems and ensuring application interoperability across partners, which is necessary for comprehensive data sharing.

- **Early engagement of key stakeholders in the identification of performance measures can help facilitate more robust reporting.** External clinical input into the Demonstration process is key to ensure data reporting requirements that are specific, measurable, realistic and relevant. Engage provider-level stakeholders (those who deliver care and work with health data) early on to develop and design feasible measures and to ensure high-quality data extraction.

- **Address challenges and communicate strategies around workflows and resources as early as possible in the implementation process, as they are critical to successes and further collaboration**. It is essential that a state implementing a large Demonstration engage stakeholders as early as possible in the process. Consistent and frequent communication from leadership on programmatic goals and the value of the initiative is critical to creating buy-in and can play a pivotal role in helping to overcome

implementation challenges. Furthermore, IDNs can achieve buy-in from key partner organizations hesitant to participate by continuing to extend educational and supportive resources.

- **Align with existing systems.** Building on existing infrastructure can help to facilitate system transformation efforts. It is critical for newly formed collaborative partners to leverage existing resources, including HIT and workforce capacity, within the partnership.
- **Communicate as much as possible with all partners and stakeholders throughout the Demonstration about mechanisms for transitioning to Value Based Payment and/or Alternative Payment Models.** Large system transformation efforts, particularly those involving payment models, can be overwhelming for organizations and providers. In addition, partners often do not understand these models or fully see their own role within the future shift to APMs. Frequent, clear and concise communication as well as providing trainings and resources for organizations and providers are necessary to support successful transitions to APMs.

10. Summary

This Interim Evaluation Report focuses on the progress made and challenges faced by New Hampshire as they implement their Section 1115(a) Medicaid Demonstration Waiver, *New Hampshire Building Capacity for Transformation* (New Hampshire Delivery System Reform Incentive Payment (DSRIP) Program). With the NH DSRIP program, the state seeks to promote integration of physical and behavioral health, build mental health and substance use disorder treatment capacity, and improve care transitions for Medicaid Beneficiaries experiencing mental health and/or substance use disorders or substance misuse.

The Interim Evaluation Report provides both high-level and detailed analyses of the process and implementation measures of the DSRIP program. Recognizing that varying stages of implementation across the IDNs were occurring over the interim evaluation period, and that the program has not yet ended, no causal findings can be made regarding cost savings, quality, service utilization, and system transformation at this time.

With data from all years of the DSRIP program, the future final summative evaluation will provide robust analyses, in-depth IDN comparative analysis, and a fuller picture of the progress made toward achieving the goals of the DSRIP program.

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APPENDIX

A. Measure Specifications

The evaluation team analyzed the performance measure specifications and definitions included in this appendix as part of the interim evaluation of the DSRIP Demonstration; they will also be included in the summative evaluation. Each of these measures address the research questions and hypotheses designed to examine the six key domains:

- Access to Care
- Quality of Care
- Service Utilization
- Costs of Care
- Integration and Coordination of Care
- Infrastructure Development (workforce, HIT, APMs)

Each measure is categorized by Demonstration waiver goal, key domain and hypothesis. HEDIS®[6] specifications are used for each of the measurement years unless otherwise noted in the measures specifications.

[6] HEDIS® is the Healthcare Effectiveness Data and Information Set and the registered trademark by the National Committee for Quality Assurance (NCQA). The HEDIS® measures used in this report are uncertified, unaudited HEDIS measures. The logic used to produce these HEDIS® measure results has not been certified by NCQA. Such results are for reference only and are not an indication of measure validity. HEDIS® specifications used to calculate measures are appropriate to each data year in the evaluation.

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Research Question 1: Was the DSRIP Demonstration effective in achieving the goals of better care for individuals (including access to care, quality of care, health outcomes), better health for the population, or lower cost through improvement? Was there any variation between IDNs/geographic regions/market areas? To what degree can improvements be attributed to the activities undertaken under DSRIP?

Hypothesis 1.1: Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.

Measure 1.1.1: Experiences of Health Care with DSRIP	
Domain	Quality of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.1	Individuals with behavioral health will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	Semi-structured interviews will explore beneficiaries' perceptions about the impact of DSRIP on health care quality and outcomes. In both 2019 and 2020, approximately 30-35 interviews will be conducted annually across the seven IDNs with beneficiaries who have a behavioral health disorder and who have had at least one health care visit in the previous year, respectively. Interviews will be audiotaped and transcribed for thematic analysis.
Eligible Population	Members 18 years and older who have a behavioral health disorder and have had at least one visit in the past year. Stratified by IDN.
Numerator	NA
Denominator	NA
Comparison Group	Baseline interview data from 2019
Data Source(s)	Semi Structured Interviews
Measure ID	1.1.1
Statistical Testing	Thematic Analysis

Measure 1.1.2 Antidepressant Medication Management	
Domain	Quality of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Antidepressant Medication Management (AMM) (Measure first year 2014 HEDIS® for 2013 data year) This measure reports two rates: 1.) The percentage of members with major depression who were initiated on an antidepressant drug and who received an adequate acute-phase trail of medications (3 months). 2.) The percentage of members with major depression who were initiated on an antidepressant drug and who completed a period of continuous medication treatment (6 months).
Eligible Population	Members 18+ who are treated with antidepressant medication and had a diagnosis of major depression and who remained on an antidepressant medication treatment for: 1.) Acute Phase Treatment – for at least 84 days (12 weeks). 2.) Effective Continuation Phase Treatment – for at least 180 days (6 months) – see HEDIS®AMM specifications for each measurement year beginning 2014 and including updates in 2015 and 2016 to measurement specifications. NOTE: This measure will not be used on duals due to lack of pharmacy data
Numerator	Members 18 years and older with a diagnosis of major depression as of April 30th of measurement year with continuous enrollment of 105 days prior to the Index Prescription Start Date (IPSD) and 231 days after the IPSD.
Denominator	The eligible population with HEDIS® exclusions applied
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
DSRIP Measure ID	1.1.2
Statistical Testing	Chi-square Logistic Regression

Measure 1.1.3 Follow-Up After Hospitalization for Mental Illness	
Domain	Quality of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.1	Individuals with behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Follow-Up after hospitalization for mental illness (FUH) This measure looks at the continuity of care for mental illness. It measures the percentage of members 6 years of age and older who were hospitalized for treatment of selected mental disorder or intentional self-harm and who had a follow-up visit with a mental health practitioner within 7 or 30 days after their discharge. This measure reports two rates: 1.) The percentages of discharges for which member received an outpatient visit, an intensive outpatient encounter or partial hospitalization with a mental health practitioner within 7 days after discharge. 2.) The percentages of discharges for which member received an outpatient visit, an intensive outpatient encounter or partial hospitalization with a mental health practitioner within 30 days after discharge.
Eligible Population	Members over 6 years of age who were hospitalized for treatment of selected mental disorders or intentional harm with continuous enrollment for 30 days after discharge.
Numerator	Members 6 years and older with a follow up visit between 1 and 30 days after discharge from a hospital for treatment of selected mental illness.
Denominator	The denominator for this measure is based on discharges not on members with HEDIS® exclusions applied.
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims, Medicaid Encounters, Data from non-claim discharges from New Hampshire (IMD) Hospital
Measure ID	1.1.3
Statistical Testing	Mann-Whitney U-Test Generalized linear models

Measure 1.1.4: Initiation and Engagement of Alcohol and Other Drug Dependence Treatment	
Domain	Quality of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.1	Individuals with behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment (IET) This measures assess the degree to which members identified with a need for alcohol and other drug (AOD) abuse and dependence services are initiated and continue treatment once the need for these services have been identified. This measure reports two rates for two age groups—adolescent patients age (13 to 17) and adult patients (18 and older) with a new episode of alcohol or other drug dependence: 1.) Initiation of AOD treatment: percent of patients who initiated AOD treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter or partial hospitalization within 14 days of the diagnosis 2.) Engagement of AOD Treatment: percent of patients who initiated treatment and who had two or more additional AOD services 30 days of the initiation visit. (2017 is the first year for this HEDIS® Measure. Specifications for HEDIS® 2017 was applied to 2013, 2014, 2015, 2016 data years.)
Eligible Population	Members 13 and older with a new episode of alcohol or other drug dependence with continuous enrollment from 60 days before the episode start state through 48 days after the episode start date. .
Numerator	The numerator for initiation of AOD treatment: an inpatient AOD admission, outpatient visit, or intensive outpatient encounter of partial hospitalization within 14 days of diagnosis. The numerator for engagement of AOD treatment: members who initiated treatment and had two or more additional AOD services 30 days of the initiation visit – see HEDIS® IET specifications for each measurement year.
Denominator	The eligible population
Comparison Group	Not applicable, services were not covered until after waiver implementation NH started providing AOD services to Medicaid Expansion population on 9/1/2014. AOD services were offered to Standard Medicaid population beginning 7/1/2017.
Data Source(s)	Medical Claims and Encounters
Measure ID	1.1.4
Statistical Testing	Chi-square Logistic Regression

Measure 1.1.5: Adherence to Antipsychotic Medications for Individuals with Schizophrenia	
Domain	Quality of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure–Adherence to Antipsychotic Medications for Individuals with Schizophrenia (SAA) Members 19-64 years of age with schizophrenia or schizoaffective disorder who were dispensed and remained on an antipsychotic medication for at least 80% of their treatment period, in the measurement year
Eligible Population	Members 19-64 years of age who have a schizophrenia diagnosis and prescribed antipsychotic medication NOTE: This measure will not be used on duals due to lack of pharmacy data
Numerator	Eligible members who achieved 80% of the proportion of days covered for their antipsychotic medications
Denominator	Members 19-64 years of age who have a schizophrenia diagnosis and prescribed antipsychotic medication
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.1.5
Statistical Testing	Chi-square Logistic Regression

Measure 1.1.6: Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications	
Domain	Quality of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs Quality of Care for Beneficiaries
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure – Diabetes Screening for People with Schizophrenia, Schizoaffective Disorder or Bipolar Disorder Who Were Dispensed Antipsychotic Medications and had a Diabetes Screening (SSD) Members 18-64 years of age with schizophrenia or bipolar disorder, who were dispensed an antipsychotic medication and had a diabetes test.
Eligible Population	Members 18-64 years of age with schizophrenia or bipolar disorder, who are prescribed antipsychotic medication. Exclude members with a diabetes diagnosis or had no antipsychotic medication dispensed NOTE: This measure will not be used on duals due to lack of pharmacy data
Numerator	Eligible members who had either a glucose test or HbA1c test, in the measurement year.
Denominator	Members 18-64 years of age with schizophrenia or bipolar disorder, who are prescribed antipsychotic medication
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.1.6
Statistical Testing	Chi-square Logistic Regression

Measure 1.1.7 : Diabetes Monitoring for People with Diabetes and Schizophrenia	
Domain	Quality of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs Quality of Care for Beneficiaries
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Diabetes Monitoring for People with Diabetes and Schizophrenia (SMD) Members 18-64 years of age with schizophrenia or schizoaffective disorder and diabetes who had both an LDL-C and HbA1c, in the measurement year.
Eligible Population	Members 18-64 years of age with schizophrenia and diabetes in the measurement year. NOTE: This measure will not be used on duals due to lack of pharmacy data
Numerator	Eligible members who had an HbA1c test and an LDL-C test in the measurement year.
Denominator	Members 18-64 years of age with schizophrenia and diabetes in the measurement year.
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.1.7
Statistical Testing	Chi-square Logistic Regression

Measure 1.1.8: Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia	
Domain	Quality of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs Quality of Care for Beneficiaries
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia (SMC) Members 18-64 years of age with schizophrenia or schizoaffective disorder and cardiovascular disease, who had an LDL-C test in the measurement year.
Eligible Population	Members 18-64 years of age with schizophrenia or schizoaffective disorder and cardiovascular disease.
Numerator	Eligible members who had an LDL-C test in the measurement year.
Denominator	Members 18-64 years of age with schizophrenia or schizoaffective disorder and cardiovascular disease.
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.1.8
Statistical Testing	Chi-square Logistic Regression

Measure 1.1.9: Follow-up Care for Children Prescribed ADHD Medication	
Domain	Quality of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs Quality of Care for Beneficiaries
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Follow-up Care for Children Prescribed ADHD Medication (ADD) All children (ages 6-12) (with and without BH disorders) who were newly prescribed ADHD medication who had a least three follow-up care visits within a 10 month period, one of which was within 30 days of when the first ADHD drug was dispensed. Initiation Phase: Percentage of members ages 6-12 newly prescribed ADHD medication who had a follow-up visit within 30 days of the prescription being dispensed (initiation phase), in the measurement year. Continuation and Management Phase: Percentage of members ages 6-12 newly prescribed ADHD medications who remained on the medication for 210 days and who in addition to the 30 day visit had at least 2 follow-up visits within 270 days after the initiation phase ended.
Eligible Population	Children between the ages of 6 and 12 who are newly prescribed medication for ADHD
Numerator	Initiation Phase: Eligible members who had a follow-up visit within 30 days of ADHD medication being dispensed Continuation and Management Phase: Eligible members who had at least 2 follow-up visits within 270 days of ADHD medication being dispensed, in addition to the visit in initiation phase
Denominator	Initiation Phase: Children between the ages of 6 and 12 who are newly prescribed medication for ADHD Continuation and Management Phase: Eligible members who had a follow-up visit within 30 days of ADHD medication being dispensed (members have met the numerator critieria on the initiation phase)
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.1.9
Statistical Testing	Chi-square Logistic Regression

Measure 1.1.10: Metabolic Monitoring for Children and Adolescents on Antipsychotics	
Domain	Quality of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs Quality of Care for Beneficiaries
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Metabolic Monitoring for Children and Adolescents on Antipsychotics (APM) Children and adolescents 1-17 years of age who had 2 or more antipsychotic prescriptions and had metabolic monitoring. Received both of the following: (a) at least one blood glucose test or HbA1c, (b) at least one LDL-C or cholesterol test (2015 is the first year for this HEDIS® Measure. Specifications for HEDIS® 2015 was applied to 2013, 2014 data years.)
Eligible Population	Children and adolescents 1-17 years of age who have 2 or more antipsychotic prescriptions.
Numerator	Eligible population who received both of the following: (a) at least one blood glucose test or HbA1c, (b) at least one LDL-C or cholesterol test
Denominator	Children and adolescents 1-17 years of age who have 2 or more antipsychotic prescriptions.
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.1.10
Statistical Testing	Chi-square Logistic Regression

Measure 1.1.11: Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics	
Domain	Quality of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs Quality of Care for Beneficiaries
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics (APP) Children and adolescents 1-17 years of age who had a new prescription for an antipsychotic medication and had documentation of psychosocial care as first-line treatment.
Eligible Population	Children and adolescents 1-17 years of age who had a new prescription for an antipsychotic and had documentation of at least a trial of outpatient behavioral health therapy prior to initiation of medication therapy, in the measurement year. Exclude members for whom first line antipsychotic medication may be clinically appropriate.
Numerator	Eligible members with documentation of psychosocial care in the 121 day period from 90 days prior to the medication start date through 30 days after medication start date.
Denominator	Children and adolescents 1-17 years of age who had a new prescription for an antipsychotic and had documentation of at least a trial of outpatient behavioral health therapy prior to initiation of medication therapy, in the measurement year. Exclude members for whom first line antipsychotic medication may be clinically appropriate.
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.1.11
Statistical Testing	Chi-square Logistic Regression

Measure 1.1.12 USPSTF: Cervical Cancer Screening	
Domain	Access to Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs Access to Care for Beneficiaries
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	Women who received timely cervical cancer screening. Percent of women with a behavioral health disorder ages 21-65 that received cervical cancer screening within the past 3 years. Percent of women with a behavioral health disorder ages 30-65 that received cervical cancer screening within the past 5 years
Eligible Population	Women between the ages of 21-65;
Numerator	1) Female respondents age 21 to 65 who reported having a pap in the past 3 years 2) Female respondents age 30 to 65 who reported having a pap in the past 5 years
Denominator	1) Female respondents age 21 to 65 2) Female respondents age 30 to 65
Comparison Group	Pre intervention (2014) vs Post intervention (2017-2020)
Data Source(s)	New Hampshire BRFSS
Measure ID	1.1.12
Statistical Testing	Chi square

Measure 1.1.13: Breast Cancer Screening	
Domain	Access to Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs Access to Care for Beneficiaries
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Breast Cancer Screening (BCS) Women that received timely breast cancer screening. The percent of women ages 40 and older that received a mammogram within the past 2 years.
Eligible Population	Women ages 52-74 as of measurement year with 2 years of prior eligibility. Two populations identified – one population with BH disorders and one without.
Numerator	Eligible members with one or more mammogram anytime on or between October 1 two years prior to the measurement year and December 31 of the measurement year
Denominator	Women ages 52-74 with and without BH disorders as of the measurement year with 2 years of prior eligibility.
Comparison Group	Propensity score matched group of members without behavioral health disorders. Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.1.13
Statistical Testing	Chi-square Difference in Difference logistic regression

Measure 1.1.14: USPSTF: Colorectal Cancer Screening	
Domain	Access to Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs Access to Care for Beneficiaries
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	NH BRFSS respondents age 50 to 75 who reported having a sigmoidoscopy or colonoscopy within the past years
Eligible Population	NH BRFSS respondents age 50 to 75
Numerator	Survey respondents who reported having a sigmoidoscopy or colonoscopy within the past 3 years
Denominator	Survey respondents age 50 to 75
Comparison Group	Pre intervention (2014) vs Post intervention (2017-2020)
Data Source(s)	New Hampshire BRFSS
Measure ID	1.1.14
Statistical Testing	Chi square

Measure 1.1.16 Adolescent Well Care Visit	
Domain	Access to Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs Access to Care for Beneficiaries
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Adolescent Well Care (AWC) The percentage of adolescent Medicaid enrollees (age 12-21) who had one or more comprehensive well care visits with a primary care provider or OB/GYN within the measurement year.
Eligible Population	Members between the age of 12 and 21. Two populations identified – one population with BH disorders and one without.
Numerator	Eligible members with at least one comprehensive well care visits with a primary care provider or OB/GYN within the measurement year.
Denominator	Members between the age of 12 and 21 with and without BH disorders
Comparison Group	Propensity score matched group of members without behavioral health disorders. Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounter Data
Measure ID	1.1.16
Statistical Testing	Chi-square Difference in Difference logistic regression

Measure 1.1.18 Emergency Department (ED) Visits	
Domain	Service Utilization
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs Quality to Care for Beneficiaries
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	1) HEDIS® Measure -- Ambulatory Care (AMB) – Emergency Department Visits (Non-mental health or chemical dependency services) 2) HEDIS® Measure -- Ambulatory Care (AMB) – Emergency Department Visits for mental health or chemical dependency services Frequent (4+ annually) ED visits for people with a behavioral health disorder. The percentage of Medicaid beneficiaries with behavioral health disorders who had 4+ visit(s) to an ED, in the calendar year.
Eligible Population	All Members - two populations identified – one population with BH disorders and one without.
Numerator	1) Members with 4 or more non mental health or chemical dependency ED visits that did not result in an in-patient stay 2) Members with 4 or more mental health or chemical dependency ED visits that did not result in an in-patient stay
Denominator	All Members with and without BH disorders with exclusions applied
Comparison Group	1) Propensity score matched group of members without behavioral health disorders. Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020) 2) Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounter Data
Measure ID	1.1.18
Statistical Testing	Chi-square Logistic Regression For #1 – Difference in Difference logistic regression

Measure 1.1.19 Potentially Preventable Emergency Department (ED) Visits	
Domain	Service Utilization
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs Quality to Care for Beneficiaries
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	ED Visit Potentially Preventable (Treatable in Primary Care) – see NH provided description (AMBCARE.12_HILVL) ED visits that meet NH DHHS criteria of potentially being preventable or servable in primary care. The percentage of Medicaid beneficiaries who had 1+ ED visits for potentially preventable ED visits per 1,000 member months in the measurement year.
Eligible Population	Medicaid members enrolled on the last day of the calendar year; continuous enrollment not required. Two populations identified – one population with BH disorders and one without.
Numerator	Count number of preventable ED
Denominator	Count of member months for members with and without BH disorders
Comparison Group	Propensity score matched group of members without behavioral health disorders. Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounter Data
Measure ID	1.1.19
Statistical Testing	Chi-square Difference in Difference

Measure 1.1.20 Use of Opioids at High Dosage	
Domain	Quality of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.1	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Use of Opioid at High Dosage (UOD) This measure assesses the rate per 1,000 members 18 years of age or older who are receiving prescription opioids for 15 or more days at a high dosage. A lower rate indicates better performance.
Eligible Population	Members 18 years of age and older on a prescription opioid for fifteen days or more. Two populations identified – one population with BH disorders and one without. Exclude members with a cancer or sickle cell disease diagnosis; exclude members in hospice; NOTE: This measure will not be used on duals due to lack of pharmacy data.
Numerator	The number of members whose average milligram morphine dose (MME) was > 120 mg during the treatment period.
Denominator	Eligible population with and without BH disorders
Comparison Group	Propensity score matched group of members without behavioral health disorders. Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounter Data
Measure ID	1.1.20
Statistical Testing	Chi-Square Difference in Difference

Hypothesis 1.2: *Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will have greater access to care at the end of the Demonstration regardless of IDN, geographic location, or market area.*

Measure 1.2.1 Member Experiences of Accessing Care	
Domain	Access to Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.2	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will have greater access to care at the end of the Demonstration regardless of IDN, geographic location, or market area
Measure Description	Explore member's perceptions and experiences accessing care including: barriers to access, unmet need, and experience of accessing care using IDNs. In both 2019 and 2020, approximately 30-35 interviews will be conducted annually across the seven IDNs with beneficiaries who have a behavioral health disorder and who have had at least one health care visit in the previous year, respectively. Interviews will be audiotaped and transcribed for thematic analysis.
Eligible Population	Beneficiaries 18 years and older who have a behavioral health disorder and who have at least one visit in the previous 12 months. Providers who treat or care for beneficiaries who have a behavioral health disorder.
Numerator	NA
Denominator	NA
Comparison Group	Baseline interview data from 2019
Data Source(s)	Semi Structured Interviews
Measure ID	1.2.1
Statistical Testing	Thematic Analysis

Measure 1.2.3 Annual Primary Care Visit	
Domain	Access to Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.2	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will have greater access to care at the end of the Demonstration regardless of IDN, geographic location, or market area
Measure Description	HEDIS® Measure -- Adult Access to Preventive/Ambulatory Health Services (AAP). (HEDIS® measures specifications for each year 2014 forward) This measure looks at whether members 20 years of age or older received preventive or ambulatory services. Percent of members with one or more ambulatory or preventive care visit in the past 12 months
Eligible Population	Members 20 years of age or older as of December 31 of measurement year. Two populations identified – one population with BH disorders and one without.
Numerator	Members 20 years of age or older with one or more ambulatory or preventive care visit during the measurement year. - see HEDIS® AAPs specs for beneficiaries 20 years and older.
Denominator	The eligible population with and without BH disorders
Comparison Group	Propensity score matched group of members without behavioral health disorders. Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.2.3
Statistical Testing	Chi-square Difference in Difference logistic regression

Measure 1.2.4 Behavioral Health Care Visits	
Domain	Access to Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.2	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will have greater access to care at the end of the Demonstration regardless of IDN, geographic location, or market area
Measure Description	Behavioral Health Care Visits Percent of members with one or more in-patient or out-patient visits with a behavioral health provider in the past 12 months. Number of people (ages 12+) with a behavioral health disorder who had one or more in-patient or out-patient visits with a behavioral health provider, in the calendar year divided by the number of people with a behavioral health disorder
Eligible Population	Members 12 and older with a behavioral health disorder
Numerator	Eligible members with an in-patient or out-patient visit with a behavioral health provider in the measurement year
Denominator	Members 12 and older with a behavioral health disorder
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.2.4
Statistical Testing	Chi-square Logistic regression

Measure 1.2.5 Substance Use Treatment Services	
Domain	Access to Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.2	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will have greater access to care at the end of the Demonstration regardless of IDN, geographic location, or market area
Measure Description	HEDIS® Measure – Identification of Alcohol and Other Drug Services (IAD) Percent of members who received alcohol and other drug (AOD) treatment services in the past 12 months. Number of people (ages 12+) with a AOD who received AOD treatment services in the measurement year, divided by the number of people with an AOD diagnosis.
Eligible Population	Members age 12 and older with a AOD diagnosis.
Numerator	Eligible members who received AOD Treatment Services in the measurement year
Denominator	Members age 12 and older with a AOD diagnosis
Comparison Group	Not applicable: Services were not covered until after waiver implementation NH started providing AOD services to Medicaid Expansion population on 9/1/2014. AOD services were offered to Standard Medicaid population beginning 7/1/2017.
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.2.5
Statistical Testing	Chi-square Logistic regression

Measure 1.2.6 Adolescent Well Care Visit	
Domain	Access to Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.2	Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will have greater access to care at the end of the Demonstration regardless of IDN, geographic location, or market area
Measure Description	HEDIS® Measure -- Adolescent Well Care (AWC) The percentage of adolescent Medicaid enrollees (age 12-21) who had one or more comprehensive well care visits with a primary care provider or OB/GYN within the measurement year.
Eligible Population	Members between the age of 12 and 21. Two populations identified – one population with BH disorders and one without.
Numerator	Eligible members with at least one comprehensive well care visits with a primary care provider or OB/GYN within the measurement year.
Denominator	Members between the age of 12 and 21 with and without BH disorders
Comparison Group	Propensity score matched group of members without behavioral health disorders. Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.2.6
Statistical Testing	Chi-square Difference in Difference

Hypothesis 1.3: *Population health will improve as a result of the implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.*

Measure 1.3.1 Strategies to Improve Population Health	
Domain	Population Health
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.3	Population health will improve as a result of the implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	Semi-structured interviews will explore how IDN administrators and provider perceived the impact of DSRIP on population health and the strategies they implemented to improve the overall health of NH residence. Key measurement domains include: resources, infrastructure, outreach activities, intervention strategies and challenges. Interviews will be conducted with IDN administrators (1-2 per IDN) and approximately 35 providers (stratified by IDN location) and will be conducted in 2019 and 2020. Interviews will be audiotaped and transcribed for thematic analysis.
Eligible Population	IDN Administrators and IDN Providers
Numerator	NA
Denominator	NA
Comparison Group	Baseline interview data from 2019
Data Source(s)	Semi-Structured Interviews
Measure ID	1.3.1
Statistical Testing	Thematic Analysis

Measure 1.3.2 Improvements in Population Health	
Domain	Population Health
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.3	Population health will improve as a result of the implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	Assessment of improvements in population health based on self-reported health status, behavioral risk factors and preventative health. Confidential and anonymous annual random-digit-dialed telephone survey of NH adults. Key measurement domains include: diet, exercise, weight, tobacco and alcohol use, injuries and preventative screenings.
Eligible Population	Individuals over 18 years of age
Numerator	TBD based on response options for the question and distribution of responses.
Denominator	Respondents who answered the question
Comparison Group	Pre intervention (2014) vs Post intervention (2017-2020)
Data Source(s)	New Hampshire BRFSS
Measure ID	1.3.2
Statistical Testing	Chi Square

Hypothesis 1.4: *The total cost of care will be lower for Medicaid beneficiaries with behavioral health disorders or co-occurring physical and behavioral health disorders after IDNs regardless of IDN, geographic location, or market area.*

Measure 1.4.1 Total Cost of All Care	
Domain	Cost of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.4	The total cost of care will be lower for Medicaid beneficiaries with behavioral health disorders or co-occurring physical and behavioral health disorders after IDNs regardless of IDN, geographic location, or market area.
Measure Description	Total Cost of Care Cost derived from Claims and Encounter Data Total per member per month (PMPM) cost (Physical, Behavioral and Pharmacy Costs) for members with a behavioral health disorder or a co-occurring physical health and behavioral health disorder. Annual total costs divided by the number of member months among members with a behavioral health disorder or a co-occurring physical health and behavioral health disorder, in the measurement year.
Eligible Population	Members with a behavioral health disorder
Numerator	Total member physical, behavioral, and pharmacy costs
Denominator	Member months
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.4.1
Statistical Testing	Mann-Whitney U-test Difference-in-difference Generalized linear models

Measure 1.4.2 Total Cost of All Inpatient Care	
Domain	Cost of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.4	The total cost of care will be lower for Medicaid beneficiaries with behavioral health disorders or co-occurring physical and behavioral health disorders after IDNs regardless of IDN, geographic location, or market area.
Measure Description	Total Cost of In-Patient Care Total per member per month (PMPM) in-patient costs (Physical and Behavioral) for Medicaid beneficiaries with a behavioral health disorder or a co-occurring physical and behavioral health disorder. Annual total inpatient costs divided by the number of member months among beneficiaries with a behavioral health disorder or a co-occurring physical and behavioral health disorder, in the measurement year
Eligible Population	Eligible members
Numerator	Total Cost (Physical and Behavioral) for In-patient stay during measurement year
Denominator	Member months in-patient stay
Comparison Group	Propensity score matched group of members without behavioral health disorders. Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.4.2
Statistical Testing	Mann-Whitney U-test Difference-in-difference Generalized linear models

Measure 1.4.3 Total Cost of All Outpatient Care	
Domain	Cost of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.4	The total cost of care will be lower for Medicaid beneficiaries with behavioral health disorders or co-occurring physical and behavioral health disorders after IDNs regardless of IDN, geographic location, or market area.
Measure Description	Total Cost (Physical and Behavioral) of Outpatient Care Total per member per month (PMPM) outpatient costs for Annual total outpatient costs divided by the number of member months.
Eligible Population	Eligible members
Numerator	Total costs (Physical and Behavioral) for outpatient services in the measurement year.
Denominator	Member months
Comparison Group	Propensity score matched group of members without behavioral health. Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.4.3
Statistical Testing	Mann-Whitney U-test Difference-in-difference Generalized linear models

Measure 1.4.4 Total Cost of Emergency Department (ED) Care	
Domain	Cost of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.4	The total cost of care will be lower for Medicaid beneficiaries with behavioral health disorders or co-occurring physical and behavioral health disorders after IDNs regardless of IDN, geographic location, or market area.
Measure Description	Total Cost (Physical and Behavioral) of ED Care Total per member per month (PMPM) ED costs (Physical and Behavioral) for Medicaid beneficiaries. Annual total ED costs divided by the number of member months among eligible members, in the measurement year.
Eligible Population	Eligible members
Numerator	Total costs of ED outpatient services (including non-behavioral health and behavioral health that do not result in an inpatient stay) during the measurement year
Denominator	Member months for eligible members
Comparison Group	Propensity score matched group of members without behavioral health disorders. Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.4.4
Statistical Testing	Mann-Whitney U-test Difference-in-difference Generalized linear models

Measure 1.4.5 Total Cost of Behavioral Health Care	
Domain	Cost of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.4	The total cost of care will be lower for Medicaid beneficiaries with behavioral health disorders or co-occurring physical and behavioral health disorders after IDNs regardless of IDN, geographic location, or market area.
Measure Description	Total Cost of Behavioral Health Care Total per member per month (PMPM) behavioral health costs for Medicaid beneficiaries with a behavioral health disorder ora co-occurring physical and behavioral health disorder. Annual total behavioral health costs (inpatient, outpatient including treatment services, and ED) divided by the number of member months among beneficiaries with a behavioral health disorder or a co-occurring physical and behavioral health disorder, in the measurement year.
Eligible Population	Members with a behavioral health disorder who received behavioral health services
Numerator	Total cost of behavioral health services during the measurement year
Denominator	Member months for members with a behavioral health disorder and behavioral health services
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.4.5
Statistical Testing	Mann-Whitney U-test Generalized linear models

Measure 1.4.6 Total Cost of Outpatient Behavioral Health Care	
Domain	Cost of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.4	The total cost of care will be lower for Medicaid beneficiaries with behavioral health disorders or co-occurring physical and behavioral health disorders after IDNs regardless of IDN, geographic location, or market area.
Measure Description	– Total Cost of Outpatient Behavioral Health Care Total per member per month (PMPM) outpatient behavioral costs for Medicaid beneficiaries with a behavioral health disorder or a co-occurring physical and behavioral health disorder. Annual total outpatient behavioral health costs including treatment services divided by the number of member months among beneficiaries with a behavioral health disorder or a co-occurring physical and behavioral health disorder, in the measurement year.
Eligible Population	Members with a behavioral health disorder who received outpatient behavioral health services
Numerator	Total cost of outpatient behavioral health services during the measurement year
Denominator	Member months for members with a behavioral health disorder and outpatient behavioral health services
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.4.6
Statistical Testing	Mann-Whitney U-test Generalized linear models

Measure 1.4.7 Total Cost of Inpatient Behavioral Health Care	
Domain	Cost of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.4	The total cost of care will be lower for Medicaid beneficiaries with behavioral health disorders or co-occurring physical and behavioral health disorders after IDNs regardless of IDN, geographic location, or market area.
Measure Description	Total Cost of Inpatient Behavioral Health Care Total per member per month (PMPM) inpatient behavioral health costs for Medicaid beneficiaries with a behavioral health disorder or a co-occurring physical and behavioral health disorder. Annual total psychiatric inpatient behavioral health costs divided by the number of member months among beneficiaries with a behavioral health disorder or a co-occurring physical and behavioral health disorder in the measurement year.
Eligible Population	Members with a behavioral health disorder who received inpatient behavioral health services
Numerator	Total cost of inpatient behavioral health services during the measurement year
Denominator	Member months for members with a behavioral health disorder and inpatient behavioral health services
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.4.7
Statistical Testing	Mann-Whitney U-test Generalized linear models

Measure 1.4.8 Total Cost of Emergency Department (ED) Behavioral Health Care	
Domain	Cost of Care
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.4	The total cost of care will be lower for Medicaid beneficiaries with behavioral health disorders or co-occurring physical and behavioral health disorders after IDNs regardless of IDN, geographic location, or market area.
Measure Description	Total Cost of ED Behavioral Health Care Total per member per month (PMPM) ED costs for Medicaid beneficiaries with a behavioral health disorder or a co-occurring physical and behavioral health disorder. Annual total psychiatric ED behavioral health costs divided by the number of member months among beneficiaries with a behavioral health disorder or a co-occurring physical and behavioral health disorder, in the measurement year.
Eligible Population	Members with a behavioral health disorder who received ED behavioral health services
Numerator	Total cost of ED behavioral health services during the measurement year
Denominator	Member months for members with a behavioral health disorder and ED behavioral health services
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.4.8
Statistical Testing	Mann-Whitney U-test Generalized linear models

Hypothesis 1.5: *The rate of avoidable hospital re-admissions for individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will be lower at the end of the Demonstration than prior to the Demonstration regardless of IDN, geographic location, or market area.*

Measure 1.5.1 Hospital Readmission for Any Cause	
Domain	Service Utilization
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.5	The rate of avoidable hospital readmissions for individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will be lower at the end of the Demonstration than prior to the Demonstration regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure – Plan All-Cause Readmission (PCR) Readmission to hospital for any cause (excluding maternity, cancer, rehabilitation) within 30 days for adult members 18 and older with a behavioral health disorder or a co-occurring physical and behavioral health disorder. Count of the number of hospital readmissions within 30 days of discharge, among adult members 18 and older with a behavioral health disorder or a co-occurring physical and behavioral health disorder, in the measurement year. PCR Medicaid Risk Adjustment is not applied. Medicaid risk adjustment was implemented in 2018 technical specifications.
Eligible Population	Eligible members 18 and older as of index discharge date. HEDIS® exclusions apply.
Numerator	Count of eligible readmissions for any cause within 30 days.
Denominator	For eligible members 18 and older as of index discharge date, count of inpatient stays that meet the HEDIS® specifications. HEDIS® exclusions apply.
Comparison Group	Propensity score matched group of members without behavioral health disorders. Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims, Medicaid Encounters, Data from non-claim discharges from New Hampshire (IMD) Hospital
Measure ID	1.5.1
Statistical Testing	Mann-Whitney U-test Difference-indifference generalized linear models

Measure 1.5.2 Hospital Readmission for Behavioral Health Disorder	
Domain	Service Utilization
Waiver Goal	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis 1.5	The rate of avoidable hospital readmissions for individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will be lower at the end of the Demonstration than prior to the Demonstration regardless of IDN, geographic location, or market area.
Measure Description	Hospital Readmission for Behavioral Health Disorder (modification to HEDIS® PCR) Readmission to hospital for the primary cause of a behavioral health disorder within 30 days for adults 18 and older with a previous stay for a behavioral health disorder. Count of the number of hospital readmissions within 30 days of discharge, among adults 18 and older for a primary behavioral health disorder, in the measurement year.
Eligible Population	Members age 18 and older with an inpatient admission primarily for a behavioral health disorder.
Numerator	The count of inpatient readmissions with a primary behavioral health disorder diagnosis.
Denominator	For eligible members 18 and older as of index discharge date, count of inpatient stays for a primary behavioral health disorder diagnosis.
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims, Medicaid Encounters, Data from non-claim discharges from New Hampshire (IMD) Hospital
Measure ID	1.5.1
Statistical Testing	Mann-Whitney U-test Difference-indifference generalized linear models

Hypothesis 1.6: *The statewide rate of avoidable hospital admissions for individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will be lower at the end of the Demonstration than prior to the Demonstration regardless of IDN, geographic location, or market area.*

<table>
<tr><th colspan="2">Measure 1.6.1 Hospital Admission for Ambulatory Care Sensitive Admissions for Individuals with Behavioral Health Disorders.</th></tr>
<tr><td>Domain</td><td>Service Utilization</td></tr>
<tr><td>Waiver Goal 1.6</td><td>Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs</td></tr>
<tr><td>Hypothesis</td><td>The statewide rate of avoidable hospital admissions for individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will be lower at the end of the Demonstration than prior to the Demonstration regardless of IDN, geographic location, or market area.</td></tr>
<tr><td>Measure Description</td><td>AHRQ Measure – Ambulatory Care Sensitive Admissions (PQI #90, PQI #91, PQI #92. See below AHRC PQI Composite Measure Table)[7]

Table 1. AHRQ PQI Composite Measure
<table>
<tr><td>Overall Composite (PQI #90)</td><td></td></tr>
<tr><td>PQI #01 Diabetes Short-Term Complications Admission Rate</td><td>PQI #11 Bacterial Pneumonia Admission Rate</td></tr>
<tr><td>PQI #03 Diabetes Long-Term Complications Admission Rate</td><td>PQI #12 Urinary Tract Infection Admission Rate</td></tr>
<tr><td>PQI #05 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate</td><td>PQI #13 Angina without Procedure Admission Rate</td></tr>
<tr><td>PQI #07 Hypertension Admission Rate</td><td>PQI #14 Uncontrolled Diabetes Admission Rate</td></tr>
<tr><td>PQI #08 Congestive Heart Failure (CHF) Admission Rate</td><td>PQI #15 Asthma in Younger Adults Admission Rate</td></tr>
<tr><td>PQI #10 Dehydration Admission Rate</td><td>PQI #16 Rate of Lower-Extremity Amputation Among Patients With Diabetes</td></tr>
<tr><td>Acute Composite (PQI #91)</td><td></td></tr>
<tr><td>PQI #10 Dehydration Admission Rate</td><td>PQI #12 Urinary Tract Infection Admission Rate</td></tr>
<tr><td>PQI #11 Bacterial Pneumonia Admission Rate</td><td></td></tr>
<tr><td>Chronic Composite (PQI #92)</td><td></td></tr>
<tr><td>PQI #01 Diabetes Short-Term Complications Admission Rate</td><td>PQI #13 Angina without Procedure Admission Rate</td></tr>
<tr><td>PQI #03 Diabetes Long-Term Complications Admission Rate</td><td>PQI #14 Uncontrolled Diabetes Admission Rate</td></tr>
<tr><td>PQI #05 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate</td><td>PQI #15 Asthma in Younger Adults Admission Rate</td></tr>
<tr><td>PQI #07 Hypertension Admission Rate</td><td>PQI #16 Rate of Lower-Extremity Amputation Among Patients With Diabetes</td></tr>
<tr><td>PQI #08 Congestive Heart Failure (CHF) Admission Rate</td><td></td></tr>
</table>
Hospital Admission for Ambulatory Care Sensitive Admissions. AHRQ programs modified to work with Claims and Encounter data and calculate acute, chronic and composite rates. Individual rates were calculated and totaled per AHRQ specifications to create, acute, chronic and overall composite rates.</td></tr>
</table>

[7] *AHRQ Quality Indicator User Guide: Prevention Quality Indicators (PQI) Composite Measures*. Version 4.3. August, 2011. Retrieved from https://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V43/Composite_User_Technical_Specification_ PQI_4.3.pdf on March 25, 2019.

Eligible Population	Eligible members per individual PQI specification.
Numerator	Calculate per individual PQI specification
Denominator	Calculate per individual PQI specification
Comparison Group	Propensity score matched group of members without behavioral health disorders. Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
Measure ID	1.6.1
Statistical Testing	Mann-Whitney U-test Difference-indifference Poisson regression

Hypothesis 1.8: *Average length of stay for inpatient psychiatric care at New Hampshire Hospital (NHH, NH's state run psychiatric facility) will be lower at the end of the Demonstration than prior to the Demonstration, as options for community-based care increase regardless of IDN, geographic location, or market area.*

Measure 1.8.1 Length of Stay for Inpatient Psychiatric Care	
Domain	Service Utilization
Waiver Goal 1.8	Improve Access to Care, Quality of Care, and Health Outcomes while Reducing Health Care Costs
Hypothesis	Average length of stay for inpatient psychiatric care at New Hampshire Hospital (NHH, NH's state run psychiatric facility) will be lower at the end of the Demonstration than prior to the Demonstration, as options for community-based care increase regardless of IDN, geographic location, or market area.
Measure Description	Length of Stay for New Hampshire Hospital (IMD) Length of stay measured in days for inpatient psychiatric care at NHH during the measurement year.
Eligible Population	Members with a behavioral health disorder who have an inpatient psychiatric stay at NHH.
Numerator	Total number of days at NHH
Denominator	Total number of stays at NHH
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Hospital Discharge Data provided by NH DHHS
Measure ID	1.8.1
Statistical Testing	Mann-Whitney U-test General Linear Model regression

Research Question 2: To what extent has the DSRIP Demonstration improved integration and coordination between providers? To what extent has the DSRIP Demonstration fostered the bi-directional and integrated delivery of physical health services, behavioral health services, SUD services, transitional care, and alignment of care coordination to serve the whole person? Was there any variation between IDNs/geographic regions/market areas?

Hypothesis 2.1: *Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.*

Measure 2.1.1 Fragmented Care	
Domain	Integration and Care Coordination
Waiver Goal	Improve Health Care Integration and Coordination for Beneficiaries
Hypothesis 2.1	Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	Fragmented Primary Care A fragmentation of care index (FCI) was developed based on the 2010 Liu study (Liu,et al.).[8] The FCI, was derived by developing a Continuity-of-Care index (COC). The COC considered the number of visits to unique primary care physicians (PCP) sites, the proportion of visits to each PCP sites, and the total number of visits. The COC varies from 0 (all visits to the same PCP) to 1 (each visit takes place at a different PCP). A member was coded as having fragmented care if COC exceeds a certain "threshold" for the study group. This "threshold" is set after examining the distribution of the COC and is generally set around the 75th percentile for the group distribution. The following provider types are considered primary care: General Practice, Family Practice, Internal Medicine, Pediatrics, and Nurse Practitioners, Federal Qualify Health Care Centers, Rural Health Care Centers and Indian Health Services.
Eligible Population	Eligible members with continuous eligibility during the measurement year
Numerator	Eligible members below the COC threshold set. Threshold was set at the 75th percentile for the combined base year periods.
Denominator	Eligible members with continuous eligibility during the measurement year
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medical Claims and Encounters
Measure ID	2.1.1
Statistical Testing	Mann-Whitney U-Test

[8] Liu CW, Einstadter D, Cebul RD. Care fragmentation and emergency department use among complex patients with diabetes. *Am J Manage Care* 2010; 16(6):413-20.

Measure 2.1.5 Receipt of Necessary Care Composite Score	
Domain	Integration and Care Coordination
Waiver Goal	Improve Health Care Integration and Coordination for Beneficiaries
Hypothesis 2.1	Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	Composite score indicating whether members with a behavioral health disorder saw a specialist as soon as they needed to AND found it easy to get the care, tests, or treatment they needed, in the last 6 months. The numerator will include the number of beneficiaries with a behavioral health disorder who responded that they "always" receive care from a specialist as soon as they needed. The denominator will include all beneficiaries with a behavioral health disorder who responded to the question.
Eligible Population	Beneficiaries ages 18+ with one or more behavioral health disorders, that had a visit with primary care doctor in previous year
Numerator	Number of beneficiaries with a behavioral health disorder who responded that they "always" receive care from a specialist as soon as they needed
Denominator	All beneficiaries with a behavioral health disorder who responded to the question
Comparison Group	Trended over time to compare changes between survey years (2019, 2020, 2021)
Data Source(s)	CAHPS/QHP Experience of Care Survey
Measure ID	2.1.5
Statistical Testing	TBD

Measure 2.1.6 Timely Receipt of Necessary Care Composite Score	
Domain	Integration and Care Coordination
Waiver Goal	Improve Health Care Integration and Coordination for Beneficiaries
Hypothesis 2.1	Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	Composite score indicating whether members with a behavioral health disorder received care right away when needed AND received an appointment for a check-up or routine care as soon as needed, in the last 6 months. The numerator will include the number of beneficiaries with a behavioral health disorder who responded that they "always" receive care right away when necessary AND "always" receive a check-up or routine care when needed. The denominator will include all beneficiaries with a behavioral health disorder who responded to both of the questions.
Eligible Population	Beneficiaries 18+ who have one or more behavioral health disorders
Numerator	Surveyed beneficiaries with a behavioral health disorder who responded that they "always" receive care right away when necessary AND "always" receive a check-up or routine care when needed.
Denominator	All surveyed beneficiaries with a behavioral health disorder who responded to both of the questions
Comparison Group	Trended over time to compare changes between survey years (2019, 2020, 2021)
Data Source(s)	CAHPS/QHP Experience of Care Survey
Measure ID	2.1.6
Statistical Testing	TBD

Measure 2.1.7 Care Coordination Composite Score	
Domain	Integration and Care Coordination
Waiver Goal	Improve Health Care Integration and Coordination for Beneficiaries
Hypothesis 2.1	Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	The care coordination composite score is based on five questions regarding the care provided by the member's personal doctor and the doctor's staff in the last 6 months. Three items relate specifically to the care provided by the personal doctor: how often the personal doctor (a) had the member's medical records or other information about their care, (b) seemed informed and up-to- date about care from specialists, and (c) talked with the member about prescription medication. Two additional questions query the actions of the staff from the personal doctor's office: how often someone from the doctor's office (a) spoke with the member regarding test results and (b) assisted the member in managing care from different providers and services.
Eligible Population	Beneficiaries ages 18+ with one or more behavioral health disorders, that had a visit with primary care doctor in previous year
Numerator	Number of beneficiaries with a behavioral health disorder who responded "always" to each of the five questions regarding care coordination
Denominator	The denominator will include all beneficiaries with a behavioral health disorder who responded to all of the care coordination questions
Comparison Group	Trended over time to compare changes between survey years (2019, 2020, 2021)
Data Source(s)	CAHPS/QHP Experience of Care Survey
Measure ID	2.1.7
Statistical Testing	TBD

Measure 2.1.8 Behavioral Health Composite Score	
Domain	Integration & Coordination of Care
Waiver Goal	Improve Health Care Integration and Coordination for Beneficiaries
Hypothesis 2.1	Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	Three questions will be used to measure behavioral health care received in the last 12 months provided by anyone in the personal provider's office: whether or not members were (a) ask if there was a period of time when they felt sad, empty, or depressed, (b) talked to about whether there were things in the member's life causing them worry or stress, and (c) talked to about a personal or family problem, alcohol or drug use, or an emotional or mental illness.
Eligible Population	Beneficiaries 18+ who have one or more behavioral health disorders
Numerator	Number of beneficiaries with a behavioral health disorder who responded affirmatively to the questions described above in measure description
Denominator	All beneficiaries with a behavioral health disorder who responded to all three of the questions
Comparison Group	Trended over time to compare changes between survey years (2019, 2020, 2021)
Data Source(s)	CAHPS/QHP Experience of Care Survey
Measure ID	2.1.8
Statistical Testing	TBD

Measure 2.1.9 Mental Health Hospitalization Follow-Up (7-days)	
Domain	Integration and Coordination of Care
Waiver Goal	Improve Health Care Integration and Coordination for Beneficiaries
Hypothesis 2.1	Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Follow-Up after hospitalization for mental illness (FUH) This measure looks at the continuity of care for mental illness. It measures the percentage of members 6 years of age and older who were hospitalized for treatment of selected mental disorder or intentional self-harm and who had a follow-up visit with a mental health practitioner within 7 days after their discharge. This measure reports the percentage of discharges for which member received an outpatient visit, an intensive outpatient encounter or partial hospitalization with a mental health practitioner within 7 days after discharge.
Eligible Population	Members over 6 years of age who were hospitalized for treatment of selected mental disorders or intentional harm with continuous enrollment for 7 days after discharge.
Numerator	Members 6 years and older with a follow up visit within 7 days after discharge from a hospital for treatment of selected mental illness.
Denominator	The denominator for this measure is based on discharges not on members. HEDIS® exclusions applied.
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims, Medicaid Encounters, Data from non-claim discharges from New Hampshire (IMD) Hospital
Measure ID	2.1.9
Statistical Testing	Mann-Whitney U-Test Generalized linear models

Measure 2.1.10 Mental Health Hospitalization Follow-Up (30 days)	
Domain	Integration and Coordination of Care
Waiver Goal	Improve Health Care Integration and Coordination for Beneficiaries
Hypothesis 2.1	Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Follow-Up after hospitalization for mental illness (FUH) This measure looks at the continuity of care for mental illness. It measures the percentage of members 6 years of age and older who were hospitalized for treatment of selected mental disorder or intentional self-harm and who had a follow-up visit with a mental health practitioner within 30 days after their discharge. This measure reports the percentage of discharges for which member received an outpatient visit, an intensive outpatient encounter or partial hospitalization with a mental health practitioner within 30 days after discharge.
Eligible Population	Members over 6 years of age who were hospitalized for treatment of selected mental disorders or intentional harm with continuous enrollment for 30 days after discharge.
Numerator	Members 6 years and older with a follow up visit within 30 days after discharge from a hospital for treatment of selected mental illness.
Denominator	The denominator for this measure is based on discharges not on members. HEDIS® exclusions applied.
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims, Medicaid Encounters, Data from non-claim discharges from New Hampshire (IMD) Hospital
Measure ID	2.1.10
Statistical Testing	Mann-Whitney U-Test Generalized linear models

Measure 2.1.11 Mental Illness Emergency Department (ED) Visit Follow-Up (30 days)	
Domain	Integration and Coordination of Care
Waiver Goal	Improve Health Care Integration and Coordination for Beneficiaries
Hypothesis 2.1	Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Follow-up After Emergency Department Visit for Mental Illness (FUM) (Measure first year is HEDIS® 2017 for data year 2016) This measure assesses the percentage of ED visits for members 6 years of age and older with a principal diagnosis of mental illness or intentional self-harm, who had a follow-up visit for mental illness. The percentage of ED visits for which the member received follow-up within 30 days (31 total days)
Eligible Population	Members 6 and older who had a visit to the Emergency Department for with a principal diagnosis of mental illness or intentional self-harm. (*See HEDIS® FUM specifications for 2017; 2017 specifications were applied to earlier data years 2013-2015.)*
Numerator	A visit with any provider with a principal diagnosis of mental health disorder within 30 days following the ED visit – see HEDIS® FUM specifications for 2017 measurement year.
Denominator	Count of ED visits for members age 6 and older with a principal diagnosis of mental illness.
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters,
DSRIP Measure ID	2.1.11
Statistical Testing	Mann-Whitney U-test Generalized linear regression

Measure 2.1.12 Alcohol/Drug Dependence Emergency Department (ED) Visit Follow-Up 30 days)	
Domain	Integration and Coordination of Care
Waiver Goal	Improve Health Care Integration and Coordination for Beneficiaries
Hypothesis 2.1	Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	HEDIS® Measure -- Follow-up After Emergency Department (ED) Visit for Alcohol and Other Drug Dependence (FUA) (First HEDIS® specification 2017 for 2016 data year) This measure assesses the percentage of ED visits for members 13 years of age or older with a principal diagnosis of alcohol or other drug (AOD) abuse or dependence, who had a follow-up visit for AOD. The 30 day rate will be reported: Percentage of ED visits for which member received follow-up within 30 days of the ED visit (31 total days)
Eligible Population	Members 13 and older who had a visit to the Emergency Department for alcohol or other drug dependence with continuous enrollment for 30 days after the ED visit. - see HEDIS® FUA for measurement year 2017 forward. The 2017 specifications were applied to the 2013-2016 data years.
Numerator	A visit with any provider with a principal diagnosis of (AOD) within 30 days of an ED visit for AOD – see HEDIS® FUA specs for each measurement year.
Denominator	The denominator on this measure is based on ED visits, not on members. HEDIS® exclusions applied.
Comparison Group	Pre intervention (2013, 2014, 2015) vs Post intervention (2016, 2017, 2018, 2019, 2020)
Data Source(s)	Medicaid Claims and Encounters
DSRIP Measure ID	2.1.12
Statistical Testing	Mann-Whitney U-test Generalized linear models

Measure 2.1.13 Ratings of Improvement in Care Coordination and Integration	
Domain	Integration and Coordination of Care
Waiver Goal	Improve Health Care Integration and Coordination for Beneficiaries
Hypothesis 2.1	Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	The surveys will address the extent to which DSRIP has achieved integration and coordination between providers including bi-directional integrated delivery of physical and behavioral health services, SUD services, transitional care, and the alignment of care coordination to serve the whole person. The provider survey will be focused on the organizational/operational perspective while the patient survey will be tailored to their experiences/perspectives. Questions and scoring will be drawn from established surveys (e.g., CAHPS, the Picker Institute).
Eligible Population	IDN Providers
Numerator	NA
Denominator	NA
Comparison Group	2019 surveys vs. 2020 surveys
Data Source(s)	Online surveys developed by Muskie School evaluators
Measure ID	2.1.13
Statistical Testing	Chi Square Mann-Whitney U-Test Thematic Analysis

Measure 2.1.14 Patient Experiences of Care Integration and Coordination	
Domain	Integration and Care Coordination
Waiver Goal	Improve Health Care Integration and Coordination for Beneficiaries
Hypothesis 2.1	Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	Explore the influence that integration and coordination has had on health care experiences and health In both 2019 and 2020, approximately 30-35 interviews will be conducted annually across the seven IDNs with beneficiaries who have a behavioral health disorder and who have had at least one health care visit in the previous year, respectively. Interviews will be audiotaped and transcribed for thematic analysis.
Eligible Population	Beneficiaries 18+ who have one or more behavioral health diagnoses and have had at least one health care visit in the past 12 months
Numerator	NA
Denominator	NA
Comparison Group	Baseline interview data from 2019
Data Source(s)	Semi-structured interviews
Measure ID	2.1.14
Statistical Testing	Thematic Analysis

Measure 2.1.15 Practice and Provider Experiences of Care Integration and Coordination	
Domain	Integration and Care Coordination
Waiver Goal	Improve Health Care Integration and Coordination for Beneficiaries
Hypothesis 2.1	Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.
Measure Description	Explore the influence that integration and coordination has had on health care experiences and health. Key interview domains will include: integration and coordination strategies, barriers to integration, information sharing, policies supporting coordination, provider experiences with integration. In both 2019 and 2020, interviews will be conducted with IDN administrators (1-2 per IDN) and approximately 35 providers (stratified by IDN location). Interviews will be audiotaped and transcribed for thematic analysis.
Eligible Population	IDN Administrators and IDN Providers
Numerator	NA
Denominator	NA
Comparison Group	Baseline interview data from 2019
Data Source(s)	Semi-structured interviews
Measure ID	2.1.15
Statistical Testing	Thematic Analysis

Research Question 3: To what extent has the DSRIP Demonstration improved the capacity of the state's behavioral health workforce to provide quality, evidence-based, integrated care?

Hypothesis 3.1: *Capacity to deliver evidenced-based behavioral health treatment will increase as a result of the DSRIP Demonstration statewide and IDN specific project activities.*

Measure 3.1.1 Size and Training of Provider Network	
Domains	Infrastructure
Waiver Goal	Improve capacity of the state's behavioral health workforce
Hypothesis 3.1	Capacity to deliver evidenced-based behavioral health treatment will increase as a result of the DSRIP Demonstration statewide and IDN specific project activities.
Measure Description	Assessment of the size and training of the IDN provider network to care for and treat members with a behavioral health disorder.
Eligible Population	NA
Numerator	NA
Denominator	NA
Comparison Group	Cross year comparisons from 2016 - 2021
Data Source(s)	IDN Documents
Measure ID	2.1.15
Statistical Testing	Descriptive Statistics Chi Square Mann-Whitney U-Test

Research Question 4: To what extent has the DSRIP Demonstration enhanced the state's health IT ecosystem to support delivery system and payment reform? Have changes to the IT ecosystem brought about by the DSRIP Demonstration specifically enhanced the IDNs in regard to the following four key areas: governance, financing, policy/legal issues and business operations?

Hypothesis 4.1: *Health IT infrastructure among the IDNs will improve as a result of the DSRIP Demonstration statewide and IDN specific project activities.*

Measure 4.1.1 Enhancements to IT System	
Domain	Infrastructure
Waiver Goal	Improve Health IT Ecosystem
Hypothesis 4.1	Health IT infrastructure among the IDNs will improve as a result of the DSRIP Demonstration statewide and IDN specific project activities.
Measure Description	Assessment of the health information technology system on four dimensions: (a) governance, (b) financing, (c) policy/legal issues, and (d) business operations. Confidential and anonymous web-based survey with closed- and open- ended questions will be conducted in both 2019 and 2020. Survey respondents will be multiple people in each IDN most knowledgeable about the four major topic areas of IT (e.g., governance, financing, policy/legal issues and business operations), possibly including but not limited to IDN administrators, IDN information technologists, IDN legal staff, and IDN accountants. Content analysis of IDN documents, including quarterly CMS reports and meeting minutes regarding changes to the IT System
Eligible Population	IDN HIT stakeholders
Numerator	NA
Denominator	NA
Comparison Group	2019 vs. 2020 and IDN document review
Data Source(s)	Surveys and IDN Documents
Measure ID	4.1.1
Statistical Testing	Chi Square Mann-Whitney U-Test Thematic Analysis

Measure 4.1.2 Perceptions of the Enhanced IT System	
Domain	Infrastructure
Waiver Goal	Improve Health IT Ecosystem
Hypothesis 4.1	Health IT infrastructure among the IDNs will improve as a result of the DSRIP Demonstration statewide and IDN specific project activities.
Measure Description	Semi-structured interviews will explore how various stakeholder groups perceive the enhanced health IT ecosystem to support delivery system and payment reform regarding governance, financing, policy/legal issues, and business operations. In both 2019 and 2020, approximately 7-10 interviews will be conducted with IDN HIT staff and/or stakeholders, as well as IDN Administrators (1-2 from each IDN), 30-35 providers and 30-35 beneficiaries. Interviews will be audiotaped and transcribed for thematic analysis.
Eligible Population	IDN HIT staff and stakeholders, IDN Administrators, Beneficiaries
Numerator	NA
Denominator	NA
Comparison Group	Baseline interview data from 2019
Data Source(s)	Semi-structured interviews
Measure ID	4.1.2
Statistical Testing	Thematic analysis

Measure 4.1.3 Perceptions of the Usability and Utility of the Enhanced IT System	
Domain	Infrastructure
Waiver Goal	Improve Health IT Ecosystem
Hypothesis 4.1	Health IT infrastructure among the IDNs will improve as a result of the DSRIP Demonstration statewide and IDN specific project activities.
Measure Description	Semi-structured interviews will explore how various stakeholder groups perceive the enhanced health IT ecosystem in supporting health care delivery, integration, and coordination. In both 2019 and 2020, approximately 30-35 interviews will be conducted annually across the seven IDNs with beneficiaries who have a behavioral health disorder and who have had at least one health care visit in the previous year, respectively. Additionally, 30-35 providers and 7-10 HIT stakeholders will be interviewed across both years. Interviews will be audiotaped and transcribed for thematic analysis.
Eligible Population	Beneficiaries ages 18+ with one or more behavioral health disorders, that had a visit with primary care doctor in previous year, HIT stakeholders, IDN providers
Numerator	NA
Denominator	NA
Comparison Group	Baseline interview data from 2019
Data Source(s)	Semi-Structured Interviews
Measure ID	4.1.3
Statistical Testing	Thematic Analysis

Hypothesis 4.2: *Health IT strategies implemented during the DSRIP Demonstration will result in improved information exchange across settings and enhanced care management for beneficiaries with behavioral health disorders.*

Measure 4.2.1 Care Coordination Composite Score	
Domain	Integration and Coordination of Care
Waiver Goal	Improve Health IT Ecosystem
Hypothesis 4.2	Health IT strategies implemented during the DSRIP Demonstration will result in improved information exchange across settings and enhanced care management for beneficiaries with behavioral health disorders.
Measure Description	The care coordination composite score is based on five questions regarding the care provided by the member's personal doctor and the doctor's staff in the last 6 months. Three items relate specifically to the care provided by the personal doctor: how often the personal doctor (a) had the member's medical records or other information about their care, (b) seemed informed and up-to-date about care from specialists, and (c) talked with the member about prescription medication. Two additional questions query the actions of the staff from the personal doctor's office: how often someone from the doctor's office (a) spoke with the member regarding test results and (b) assisted the member in managing care from different providers and services.
Eligible Population	Beneficiaries ages 18+ with one or more behavioral health disorders, that had a visit with primary care doctor in previous year
Numerator	Number of beneficiaries with a behavioral health disorder who responded "always" to each of the five questions regarding care coordination
Denominator	All beneficiaries with a behavioral health disorder who responded to all of the questions regarding care coordination
Comparison Group	Trended over time to compare changes between survey years (2019, 2020, 2021)
Data Source(s)	CAHPS/QHP Experience of Care Survey
Measure ID	4.2.1
Statistical Testing	TBD

Measure 4.2.2 Ratings of Improvement in Care Coordination and Integration	
Domain	Integration and Coordination of Care
Waiver Goal	Improve Health IT Ecosystem
Hypothesis 4.2	Health IT strategies implemented during the DSRIP Demonstration will result in improved information exchange across settings and enhanced care management for beneficiaries with behavioral health disorders.
Measure Description	The surveys will address the extent to which DSRIP has achieved integration and coordination between providers including bi-directional integrated delivery of physical and behavioral health services, SUD services, transitional care, and the alignment of care coordination to serve the whole person. The provider survey will be focused on the organizational/operational perspective while the patient survey will be tailored to their experiences/perspectives.
Eligible Population	Beneficiaries ages 18+ with one or more behavioral health disorders, that had a visit with primary care doctor in previous year; IDN providers
Numerator	NA
Denominator	NA
Comparison Group	Providers : Baseline interview data from 2019 Beneficiaries: Trended over time to compare changes between survey years (2019, 2020, 2021)
Data Source(s)	CAHPS survey, Muskie Surveys
Measure ID	4.2.2
Statistical Testing	TBD

Measure 4.2.3 Perceptions of Improved Information Exchange	
Domain	Integration and Care Coordination
Waiver Goal	Improve Health IT Ecosystem
Hypothesis 4.2	Health IT strategies implemented during the DSRIP Demonstration will result in improved information exchange across settings and enhanced care management for beneficiaries with behavioral health disorders.
Measure Description	Semi-structured interviews will explore how various stakeholder groups perceive the enhanced health IT ecosystem to support information sharing across settings and the use of information to enhance case management. In both 2019 and 2020, approximately 7-10 interviews will be conducted with IDN HIT staff and/or stakeholders, as well as IDN Administrators (1-2 from each IDN), 30-35 providers and 30-35 beneficiaries. Interviews will be audiotaped and transcribed for thematic analysis.
Eligible Population	Beneficiaries ages 18+ with one or more behavioral health disorders, that had a visit with primary care doctor in previous year; IDN administrators, IDN providers, HIT staff/ stakeholders
Numerator	NA
Denominator	NA
Comparison Group	Baseline interview data from 2019
Data Source(s)	Semi-Structured Interviews
Measure ID	4.2.3
Statistical Testing	Thematic Analysis

Research Question 5: To what extent has the DSRIP Demonstration improved IDNs' readiness to transition to or implement Alternative Payment Models (APMs)? Are IDNs making adequate preparations in data infrastructure, financial infrastructure, and other required changes needed to achieve the goal of 50% of Medicaid provider payments to providers using APMs by the end of the Demonstration period? Have the IDNs engaged with the state and managed care plans in support of that goal?

Hypothesis 5.1: *DSRIP Demonstration activities have improved the IDNs' ability to make the necessary changes to their systems to transition to or implement APMs and achieve the DSRIP goal.*

Measure 5.1.1 Transitioning to Alternative Payment Models	
Domain	Infrastructure
Waiver Goal	Transition to Alternative Payment Models
Hypothesis 5.1	DSRIP Demonstration activities have improved the IDNs' ability to make the necessary changes to their systems to transition to or implement APMs and achieve the DSRIP goal.
Measure Description	Assessment of transition to alternative payment models (e.g. transition plans, policies, number of new payment models implemented, payments made to providers). Analysis of IDN reports, including CMS quarterly reports and notices of training and hiring within the IDN.
Eligible Population	NA
Numerator	NA
Denominator	NA
Comparison Group	Cross year comparisons from 2016 - 2021
Data Source(s)	IDN Documents
Measure ID	5.1.1
Statistical Testing	Descriptive Statistics Chi Square Thematic Analysis

Measure 5.1.2 Experiences Transitioning and Implementing APMS	
Domain	Infrastructure
Waiver Goal	Transition to Alternative Payment Models
Hypothesis 5.1	DSRIP Demonstration activities have improved the IDNs' ability to make the necessary changes to their systems to transition to or implement APMs and achieve the DSRIP goal.
Measure Description	Semi-structured interviews will explore how IDN administrators perceive the transition to and implementation of APMs. Interviews will be conducted with IDN administrators (1-2 per IDN) and providers (30-35 stratified by IDN). Interviews will be audiotaped and transcribed for thematic analysis.
Eligible Population	IDN Administrators, IDN providers
Numerator	NA
Denominator	NA
Comparison Group	Baseline interview data from 2019
Data Source(s)	Semi-Structured Interviews
Measure ID	5.1.2
Statistical Testing	Thematic Analysis

APPENDIX

B. Survey Instruments

IDN Administrator Survey

Care Integration

The following questions are designed to further our understanding of how you think care integration strategies are working within the DSRIP Demonstration.

1. Using the following scale, please rate whether you believe the following strategies have been successful at promoting care integration under the DSRIP demonstration?

	Very Successful	Somewhat Successful	Neutral	Somewhat Unsuccessful	Not at all Successful	N/A
a. Striving for greater flexibility in provider roles	○	○	○	○	○	○
b. Coordination of services across disciplines	○	○	○	○	○	○
c. Policies to support information sharing between organizations	○	○	○	○	○	○
d. Supporting interdisciplinary and team-based work	○	○	○	○	○	○
e. Making organizational culture adjustments	○	○	○	○	○	○
f. Developing clinical guidelines for shared care	○	○	○	○	○	○
g. Improved mechanisms for follow-up after referral	○	○	○	○	○	○
h. Improving reimbursement policies	○	○	○	○	○	○
i. Transitioning to Alternative Payment model	○	○	○	○	○	○
j. Increased health information sharing between patients and providers	○	○	○	○	○	○
k. Increased health information sharing between settings	○	○	○	○	○	○

Resources and Capacity Building

The following questions are designed to further our understanding of resources, capacity building and technical assistance form the state.

2. Using the following scale, please indicate how important the following resources are to the success of your DSRIP project.

	Extremely Important	Very Important	Moderately Important	Slightly Important	Not at all Important
a. Staffing Infrastructure (enough staff in the right positions)	○	○	○	○	○
b. Financial Resources	○	○	○	○	○
c. Leadership from DHHS	○	○	○	○	○
d. Leadership within IDN	○	○	○	○	○
e. Involved and Dedicated Community Networks	○	○	○	○	○
f. HIT enhancements	○	○	○	○	○
g. Physical Infrastructure	○	○	○	○	○
h. Improving Clinical Knowledge of Providers	○	○	○	○	○

3. How helpful do you, your staff, and providers find the DSRIP Statewide Learning Collaborative meetings, which were conducted as part of the Demonstration?

extremely helpful	very helpful	moderately helpful	slightly helpful	not at all helpful	unsure
○	○	○	○	○	○

4. From your perspective, how valuable have the project implementation support and technical assistance (TA) provided by NH DHHS and its consultants been in supporting Demonstration activities?

extremely valuable	very valuable	moderately valuable	slightly valuable	not at all valuable	unsure
○	○	○	○	○	○

5. What have been the most effective types of technical assistance provided to your IDN?
6. What have been the least effective types of technical assistance provided to your IDN?

7.

Sustainability and Impact

The last questions are designed to allow us to gauge if you think this project has an impact and how sustainable changes made will be.

8. In your view, is DSRIP changing the way that care is delivered in New Hampshire for people with behavioral health disorders?
    - o Yes
        - If yes, how?
    - o No
        - If no, why do you think it has remained the same?
9. In your opinion, how likely is it that the implemented changes in HIT infrastructure will be sustained after the DSRIP Demonstration has ended?

extremely likely	very likely	moderately likely	slightly likely	not at all likely	unsure
○	○	○	○	○	○

10. Have you experienced any challenges as your IDN transitions to implementing Alternative Payment Models (APMs)?
    - o Yes
        - Please describe the challenges.
    - o No
11. As your IDN transitions to implementing Alternative Payment Models, do you see potential benefits of this transition?
    - o Yes
        - Please describe the potential benefits.
    - o No
12. In relation to the DSRIP project, what resources do you believe your IDN will need to sustain its work after the demonstration is over? (Finance-related, training, systems, etc.)
13. Is there anything else you would like to tell us about the DSRIP Demonstration from your view as an IDN administrator?

DSRIP HIT Stakeholder Survey

Background

1. Please identify the IDN you are affiliated with, and/or your participation in the state HIT workgroup, or how you have been involved in HIT infrastructure within the state since DSRIP began (select all that apply):

    - o IDN1 – Region 1 Integrated Delivery Network – Mary Hitchcock
    - o IDN2 – Region 2 IDN – Concord Hospital
    - o IDN3 – Greater Nashua IDN – Southern New Hampshire health
    - o IDN4 – Network4Health – Catholic Medical Center
    - o IDN5 – Region 5 IDN – Community Health Services Network
    - o IDN6 – Region 6 – Strafford County
    - o IDN7 – Region 7 IDN – North Country Health Consortium
    - o HIT Quality Work Group/ HIT Task Force etc. specific to DSRIP
    - o Other: _____

14. Using the following scale, please tell us how frequently you are engaged in the following activities for HIT-related activities for the IDN.

	Annually	Monthly	Bi-weekly	Weekly	Daily	Not engaged
a. Meetings	○	○	○	○	○	○
b. Planning sessions	○	○	○	○	○	○
c. Trainings	○	○	○	○	○	○
d. Strategic planning of workflows and protocols	○	○	○	○	○	○
e. Implementation of workflows and protocols	○	○	○	○	○	○

15. How have you been involved in the HIT work related to capturing, managing, sharing and storing patient data within the DSRIP IDNs? (Select all that apply)
    - o Planning system infrastructure changes
    - o Building system infrastructure
    - o Implementation of system
    - o Support of system
    - o I have not been involved

Software

The following questions are designed to determine your views and knowledge of software implementation and use throughout NH and within individual IDNs.

16. Using the following scale, please tell us the status of implementation of the following software packages at the applicable worksite(s) within your IDN association.

	Software Has Been Implemented	In the Process of Implementation	Planning to Implement	Not Implementing	Not Sure
a. Shared Care Plan Software	○	○	○	○	○
b. Direct Secure Messaging Software	○	○	○	○	○
c. Event Notification Services Software	○	○	○	○	○

17. Using the following scale, please share your personal assessment on the ease of implementing each software package, as applicable.

	Very easy	Easy	Neither Easy or Difficult	Difficult	Very Difficult
a. Shared Care Plan Software	○	○	○	○	○
b. Direct Secure Messaging Software	○	○	○	○	○
c. Event Notification Services Software	○	○	○	○	○

Workflow

The following questions are designed to determine your views on how HIT activities and enhancements have impacted clinical workflows and coordination of care.

18. Using the following scale, please rate whether you agree or disagree with the following statements.

Advances in HIT infrastructure within the IDNs are having a positive, direct impact on:	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Agree
a. Enhanced care coordination for persons with behavioral health diagnosis	○	○	○	○	○
b. Increased health information sharing between patient and provider(s)	○	○	○	○	○
c. Enhanced health information sharing between settings (i.e., between PCP and Behavioral Health provider; or BH provider and hospital)	○	○	○	○	○
d. Increased electronic monitoring of patient health by providers/ staff	○	○	○	○	○

19. As part of the DSRIP Demonstration, PCPs and Behavioral Health providers are required to report data for the Comprehensive Core Standardized Assessment (CCSA) within the IDN. Are you aware of any of the components of the CCSA?
    - o Yes
    - o No (if no, skip to question 9)
20. To your knowledge, what are the reasons(s) that an IDN may be under-reporting or not completing the CCSAs? (Choose all that apply)
    - o Data elements within the CCSA measure are not being collected
    - o Providers are unaware of the reporting requirement
    - o Providers do not fully understand the CCSA measure
    - o Current HIT infrastructure is not robust enough to support data collection points needed
    - o There are too many data collection points for the CCSA
    - o I don't know why there might be under-reporting or non-completion of the CCSA
    - o Other_____

21. Using the following scale, please indicate your agreement with the following statements about the implementation of strategies designed to enhance HIT infrastructure in NH.

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Agree
a. The use of electronic health records for data collection has been expanded.	○	○	○	○	○
b. Connection and active use of Direct Messaging, DH-Connect, and EHR vendor inter-vendor connectivity has occurred.	○	○	○	○	○
c. The Shared Care Plan has been successfully implemented.	○	○	○	○	○

22. Using the following scale, please rate whether you agree or disagree with the following statements.

The following factors have directly influenced the successful implementation of DSRIP HIT strategies:					
	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Agree
a. Patient needs	○	○	○	○	○
b. State/ DHHS policies	○	○	○	○	○
c. Organizational leadership within IDN	○	○	○	○	○
d. Provider buy-in	○	○	○	○	○
e. Adequate funding	○	○	○	○	○
f. Input from HIT Task Force, Work Groups, Committees, etc.	○	○	○	○	○

Open Ended

This final section is designed to gather further details about successes in HIT infrastructure development and ongoing challenges that need to be addressed in the future. Again, please think about the DSRIP Demonstration work while answering these questions.

23. What do you consider to be your greatest success(es) in DSRIP-related HIT infrastructure development?
24. Please briefly describe the biggest challenge(s) you faced while planning and/or implementing HIT systems. How did you overcome them?
25. If not indicated in your answer to question 12, have you experienced any challenges specifically related to data sharing? If yes, please explain.
26. What gaps still exist in the state's HIT ecosystem?
27. What legal or policy issues have been addressed as part of the IDN HIT enhancement activities?
28. Is there anything else you would like to share about the DSRIP efforts to enhance HIT infrastructure in New Hampshire?

DSRIP Provider Survey

Demographics

1. Please identify the IDN affiliate for which you are responding:
    - IDN1 – Region 1 Integrated Delivery Network – Mary Hitchcock
    - IDN2 – Region 2 IDN – Concord Hospital
    - IDN3 – Greater Nashua IDN – Southern New Hampshire health
    - IDN4 – Network4Health – Catholic Medical Center
    - IDN5 – Region 5 IDN – Community Health Services Network
    - IDN6 – Region 6 – Strafford County
    - IDN7 – Region 7 IDN – North Country Health Consortium
2. Select your age group
    - 18-30
    - 31-39
    - 40-49
    - 50-59
    - 60 or older
3. To which gender do you most identify?
    - Female
    - Male
    - Non-binary / third gender
    - Prefer not to answer
    - Prefer to self-describe (3a: please self-describe)
4. What sector do you work in?
    - Health Care
    - Social Service
    - Government
    - Other (4a: please describe the sector you work in)
5. What is your current role within your organization?
    - MD
    - DO
    - RN
    - NP
    - Social Worker
    - Behavioral Health Care Provider
    - Medical Assistant
    - Administrative Staff
    - Director (e.g. Executive, Practice, Program)
    - Program Manager
    - Other (5a: please describe your current role)
6. What is your job title?
7. How many years have you worked in your position?
    - 0-1
    - 1-3
    - 4-10
    - More than 10

8. Do you have any certifications or licenses relevant to your current role? (list up to 3)
9. In relation to DSRIP, are you a part of a multidisciplinary care team?
    - ○ Yes
    - ○ No

Care Integration

10. Using the following scale, please rate whether the following strategies have been successful at promoting care integration under the DSRIP demonstration.

	Not at all successful	Not very successful	Neutral	Successful	Very Successful	Not applicable
a. Striving for greater flexibility in provider roles	○	○	○	○	○	○
b. Coordination of services across sectors	○	○	○	○	○	○
c. Policies to support information sharing between organizations	○	○	○	○	○	○
d. Supporting interdisciplinary and team-based work	○	○	○	○	○	○
e. Making organizational culture adjustments	○	○	○	○	○	○
f. Developing clinical guidelines for shared care	○	○	○	○	○	○
g. Improved mechanisms for follow-up after referral	○	○	○	○	○	○
h. Improving reimbursement policies	○	○	○	○	○	○
i. Transitioning to Alternative Payment Model	○	○	○	○	○	○
j. Increased health information sharing between patients and providers	○	○	○	○	○	○
k. increased health	○	○	○	○	○	○

information sharing between settings						

11. To your knowledge, have there been challenges associated with promoting care integration within your IDN?
    - ○ Yes
    - ○ No
12. Using the following scale, please rate whether you agree or disagree with the following statements:

Barriers to behavioral health care integration that I continue to experience/have experienced under the DSRIP demonstration include:						
	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree	Unsure
a. Insufficient budget or lack of financial resources	○	○	○	○	○	○
b. Difficulties with reimbursement	○	○	○	○	○	○
c. Insufficient training for providers	○	○	○	○	○	○
d. Time constraints on patient visits	○	○	○	○	○	○
e. Insufficient time for administrative tasks	○	○	○	○	○	○
f. Long appointment wait times for patients	○	○	○	○	○	○
g. Unmotivated providers and staff	○	○	○	○	○	○
h. High staff turnover rates	○	○	○	○	○	○
i. Limited relationships with community partners	○	○	○	○	○	○
j. Long physical distances between providers	○	○	○	○	○	○
k. Lack of collaboration between providers	○	○	○	○	○	○
l. lack of data sharing between providers, organizations and community partners	○	○	○	○	○	○
m. Issues with databases and registries	○	○	○	○	○	○

n. Lack of policies and guidelines to support care integration	○	○	○	○	○	○

13. What do you think is the primary barrier to care integration in your IDN?
14. What do you think is the primary facilitator to care integration in your IDN?
15. Overall how would you rate the current level of care integration for patients with behavioral health conditions within your IDN? 1 is “totally uncoordinated care” and 10 is “perfectly coordinated care”

1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○

Information Sharing

16. Using the following scale, please rate whether you agree or disagree with the following statements about the strategies implemented to facilitate information sharing as a part of the DSRIP demonstration.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree	Unsure
a. Enhancements to HIT infrastructure improves communication across organizations	○	○	○	○	○	○
b. Systems deliver information reliably between providers	○	○	○	○	○	○
c. Use of HIT promotes timely communications to patients	○	○	○	○	○	○

17. Are there any additional factors that have facilitated information sharing as a part of the DSRIP Demonstration? If so, please describe.
18. To your knowledge, have there been challenges associated with enhancing mechanisms for information sharing under the DSRIP Demonstration?
    - ○ Yes
    - ○ No
19. Using the following scale, please rate whether you agree or disagree with the following statements.

Major barriers to information-sharing between providers that I continue to experience under the DSRIP demonstration include:						
	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree	Unsure
a. Lack of time	○	○	○	○	○	○
b. Perceived lack of benefit	○	○	○	○	○	○
c. Not knowing whom to contact	○	○	○	○	○	○
d. Uncommon goals	○	○	○	○	○	○
e. Lack of understanding about professional roles	○	○	○	○	○	○
f. Perceived medical hierarchy	○	○	○	○	○	○
g. Quality of discharge summary	○	○	○	○	○	○
h. Systems for delivering information reliably between providers	○	○	○	○	○	○

20. Are you currently experiencing any additional barriers around information-sharing between providers? If so, please describe.
21. Are you currently utilizing any of the following programs as part of the enhanced Health Information Technology (HIT) system under the DSRIP Demonstration? (Select all that apply.)
    - ○ Shared Care Plan Software
    - ○ Direct Secure Messaging Software
    - ○ Notification Software
22. For programs checked in the previous question, please share your personal assessment on the ease of utilizing each software package

	N/A	Very Easy	Easy	Neutral	Difficult	Very Difficult
a. Shared Care Plan Software	○	○	○	○	○	○
b. Direct Secure Messaging Software	○	○	○	○	○	○
c. Notification Software	○	○	○	○	○	○

23. As part of the DSRIP Demonstration, Primary Care and/or Behavioral Health provider partners must complete a Comprehensive Core Specialized Assessment (CCSA) for Medicaid patients age 12 and older. Are you completing the CCSA for these patients? (*The CCSA asks about demographics, medical history, substance use [including tobacco use and SBIRT screening]), housing, family & support services [e.g. home health aides, community services, legal services], education, employment, functional status [e.g. transportation assistance, housekeeping, meals], pediatric developmental screening, and depression screening.)*
    - ○ Yes
    - ○ No
    - ○ Not applicable because I am not a primary care or behavioral health provider
24. To your knowledge, have there been challenges associated with implementing the CCSA?
    - ○ Yes
    - ○ No
25. What have been the challenges for providers in implementing CCSA? (Choose all that apply)
    - ○ Data elements cannot be collected from patients due to time constraint
    - ○ There are too many data collection points on the CCSAs
    - ○ Providers do not fully understand the CCSA measure
    - ○ Providers are unaware of the reporting requirement
    - ○ Providers do not see the utility of the CCSA data
    - ○ Current HIT infrastructure in not robust enough to support data collection points needed
    - ○ Other (25a: please describe)

Resources

26. Please select the top three resources you believe providers need in order to implement evidence-based care for patients with behavioral health disorders. (choose only 3)
    - ○ Less regulatory/reimbursement constraints
    - ○ Simplified billing process
    - ○ Additional training and education opportunities
    - ○ Enhanced workforce capacity

- Data-compatible systems to support information sharing
- Organizational supports for providers
- Peer supports for providers
- Other (26a: please describe)

Open-Ended Questions

27. What has been your greatest success in relation to promoting care integration and/or information sharing over the past year?
28. What has been the primary challenge to promoting care integration and/or information sharing over the past year?
29. Is there anything else you would like to share about the DSRIP efforts?

New Hampshire DSRIP Beneficiary Survey

Please answer each question by marking the box to the left of your answer.

You are sometimes told to skip over some questions in this survey. When this happens you will see an arrow with a note that tells you what question to answer next, like this:

1 ☑ Yes → If *Yes*, go to #1
2 ☐ No

Your Health Care in the Last 12 Months

These questions ask about **your own** health care. Do **not** include care you got when you stayed overnight in a hospital. Do **not** include the times you went for dental care visits.

1. In the last 12 months, did you have an illness, injury, or condition that **needed care right away** in a clinic, emergency room, or doctor's office?

   1 ☐ Yes
   2 ☐ No → If *No*, go to #3

2. In the last 12 months, when you **needed care right away**, how often did you get care as soon as you needed?

   1 ☐ Never
   2 ☐ Sometimes
   3 ☐ Usually
   4 ☐ Always

3. In the last 12 months, did you make any appointments for a **check-up or routine care** at a doctor's office or clinic?

   1 ☐ Yes
   2 ☐ No → If *No*, go to #5

4. In the last 12 months, how often did you get an appointment for a **check-up or routine care** at a doctor's office or clinic as soon as you needed?

   1 ☐ Never
   2 ☐ Sometimes
   3 ☐ Usually
   4 ☐ Always

5. In the last 12 months, **not** counting the times you went to an emergency room, how many times did you go to a doctor's office or clinic to get health care for yourself?

   1 ☐ None → If *None*, go to #8
   2 ☐ 1 time
   3 ☐ 2
   4 ☐ 3
   5 ☐ 4
   6 ☐ 5 to 9
   7 ☐ 10 or more times

6. Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your health care in the last 12 months?

   00 ☐ 0 Worst health care possible
   01 ☐ 1
   02 ☐ 2
   03 ☐ 3
   04 ☐ 4
   05 ☐ 5
   06 ☐ 6
   07 ☐ 7
   08 ☐ 8
   09 ☐ 9
   10 ☐ 10 Best health care possible

7. In the last 12 months, how often was it easy to get the care, tests, or treatment you needed?

   1 ☐ Never
   2 ☐ Sometimes
   3 ☐ Usually
   4 ☐ Always

Your Personal Doctor

8. A personal doctor is the one you would see if you need a check-up, want advice about a health problem, or get sick or hurt. Do you have a personal doctor?

   1☐ Yes
   2☐ No → **If *No*, go to #26 on Page 3**

9. In the last 12 months, how many times did you visit your personal doctor to get care for yourself?

   1☐ None → **If *None*, go to #26**
   2☐ 1 time
   3☐ 2
   4☐ 3
   5☐ 4
   6☐ 5 to 9
   7☐ 10 or more times

10. In the last 12 months, when you visited your personal doctor, how often did he or she have your medical records or other information about your care?

    1☐ Never
    2☐ Sometimes
    3☐ Usually
    4☐ Always

11. In the last 12 months, did your personal doctor order a blood test, x-ray, or other test for you?

    1☐ Yes
    2☐ No → **If *No*, go to #14**

12. In the last 12 months, when your personal doctor ordered a blood test, x-ray, or other test for you, how often did someone from your personal doctor's office follow up to give you those results?

    1☐ Never → **If *Never*, go to #14**
    2☐ Sometimes
    3☐ Usually
    4☐ Always

13. In the last 12 months, when your personal doctor ordered a blood test, x-ray, or other test for you, how often did you get those results as soon as you needed them?

    1☐ Never
    2☐ Sometimes
    3☐ Usually
    4☐ Always

14. Specialists are doctors like surgeons, heart doctors, allergy doctors, skin doctors, and other doctors who specialize in one area of health care. In the last 12 months, did you see a specialist for a particular health problem?

    1☐ Yes
    2☐ No → **If *No*, go to #16**

15. In the last 12 months, how often did your personal doctor seem informed and up-to-date about the care you got from specialists?

    1☐ Never
    2☐ Sometimes
    3☐ Usually
    4☐ Always

16. In the last 12 months, did you make any appointments to see a specialist?

    1☐ Yes
    2☐ No → **If *No*, go to #18**

17. In the last 12 months, how often did you get an appointment to see a specialist as soon as you needed?

    1☐ Never
    2☐ Sometimes
    3☐ Usually
    4☐ Always

18. In the last 12 months, did you take any prescription medicine?

    1☐ Yes
    2☐ No → **If *No*, go to #20**

19. In the last 12 months, how often did you and someone from your personal doctor's office talk about all the prescription medicines you were taking?

1 ☐ Never
2 ☐ Sometimes
3 ☐ Usually
4 ☐ Always

20. In the last 12 months, did you get care from more than one kind of health care provider or use more than one kind of health care service?

1 ☐ Yes
2 ☐ No → **If *No*, go to #23**

21. In the last 12 months, did you need help from anyone in your personal doctor's office to manage your care among these different providers and services?

1 ☐ Yes
2 ☐ No → **If *No*, go to #23**

22. In the last 12 months, how often **did you get the help that you needed** from your personal doctor's office to manage your care among these different providers and services?

1 ☐ Never
2 ☐ Sometimes
3 ☐ Usually
4 ☐ Always

23. In the last 12 months, did anyone in your personal doctor's office ask you if there was a period of time when you felt sad, empty or depressed?

1 ☐ Yes
2 ☐ No

24. In the last 12 months, did you and anyone in your personal doctor's office talk about things in your life that worry you or cause you stress?

1 ☐ Yes
2 ☐ No

25. In the last 12 months, did you and anyone in your personal doctor's office talk about a personal problem, family problem, alcohol use, drug use, or a mental or emotional illness?

1 ☐ Yes
2 ☐ No

About You

26. In general, how would you rate your overall health?

1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Poor

27. In general, how would you rate your overall **mental or emotional** health?

1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Poor

28. What is your age?

1 ☐ 18 to 24
2 ☐ 25 to 34
3 ☐ 35 to 44
4 ☐ 45 to 54
5 ☐ 55 to 64
6 ☐ 65 to 74
7 ☐ 75 or older

29. Are you male or female?

1 ☐ Male
2 ☐ Female

30. What is the highest grade or level of school that you have completed?

- [1] ☐ 8th grade or less
- [2] ☐ Some high school, but did not graduate
- [3] ☐ High school graduate or GED
- [4] ☐ Some college or 2-year degree
- [5] ☐ 4-year college graduate
- [6] ☐ More than 4-year college degree

31. Are you of Hispanic or Latino origin or descent?

- [1] ☐ Yes, Hispanic or Latino
- [2] ☐ No, not Hispanic or Latino

32. What is your race? Mark one or more.

- [1] ☐ White
- [2] ☐ Black or African American
- [3] ☐ Asian
- [4] ☐ Native Hawaiian or Other Pacific Islander
- [5] ☐ American Indian or Alaska Native
- [6] ☐ Other

33. Did someone help you complete this survey?

- [1] ☐ Yes
- [2] ☐ No → **If *No*, Go to END**

34. How did that person help you? Mark one or more.

- [1] ☐ Read the questions to me
- [2] ☐ Wrote down the answers I gave
- [3] ☐ Answered the questions for me
- [4] ☐ Translated the questions into my language
- [5] ☐ Helped in some other way

END: *Thank you! Please return the completed survey in the postage-paid envelope to:*

Office of Survey Research
University of Massachusetts Medical School
333 South Street
Shrewsbury, MA 01545-9803

If you have any questions, please call this toll-free number: 1-888-368-7157.

APPENDIX

C. Interview Guides

IDN Administrator Interview Guide

1. Could you briefly describe your role as the IDN administrator?
   PROBE: Does it differ from other IDNs?

Now, we want to ask you about your general experience with implementing the IDN in your region.

2. In your opinion, what is the IDN doing well at this point in the demonstration?
   PROBE: If you had to pick your number one success so far, what would it be?
3. Given your experience, what is the IDN not doing well (if anything)?
   PROBE: What has been the most significant challenge that you have encountered?

Now we're going to talk about how the DSRIP demonstration has impacted care integration. When we talk about care integration, we are talking about integrating physical health care, behavioral health services including substance use disorder (SUD) treatment, and community or social services.

4. What changes related to care integration have been implemented under the DSRIP demonstration, either at the practice-level or across providers within your region?
   PROBE: CCSA (Comprehensive Core Standardized Assessment), addressing social determinants of health, using multidisciplinary care teams, closed loop referrals
5. What does the multidisciplinary care team look like in your IDN (e.g. structure, who is included)?
6. How have multidisciplinary care teams changed the way you work in your region, if at all?
7. How is your IDN using technology to promote care integration across disciplines as well as sectors (e.g., health care, government, legal, policy, finance)?
   PROBE: Monitor population health, identify target populations
8. What have been successful strategies for facilitating or improving collaboration across IDNs?
   PROBE: Learning collaborative, resources, infrastructure, outreach activities, policy

Next, we'd like to ask you a few questions about strategies you've implemented to build capacity throughout your region to support the demonstration.

9. How has your IDN been able to build capacity to support increased access to mental health treatment and substance use disorder (SUD) treatment?
   PROBE: Successes and challenges with maintaining or growing workforce/ infrastructure; strategies to overcome challenges
10. What is your IDN doing differently than what you were doing 5 years ago prior to the implementation of the Demonstration?
    PROBE: How have strategies you implemented in your region had to evolve over the course of the Demonstration?
11. How are you utilizing HIT strategies to improve capacity within your IDN?
    PROBE: Health care delivery and integration; information sharing; care integration and delivery

Our next set of questions will focus on transitioning to and implementing Alternative Payment Methods (APMs).

12. At what stage in transitioning to alternative payment models is your IDN in?
    PROBE: Challenges or successes related to implementing APMs
13. As the IDN administrator, what are you doing to support the transition to alternative payment models in your region?
    PROBE: Working with MCOs (Managed Care Organizations) to implement APMs
    PROBE: Supporting community partners' transition to APMs

We would like to finish our discussion by asking you a few questions on your plans for program sustainability.

14. What strategies or practices related to care integration do you see as contributing to the sustainability of this project?
    PROBE: Example of a promising practice
15. From what you have learned thus far, do you have any recommendations for how to expand / spread successful strategies (promising practices) within and across IDNs?
16. Is there anything else you would like to share with me that I might have missed?

HIT Stakeholder Interview Guide

1. How have you been involved in the HIT work related to the NH DSRIP Demonstration?
2. What organizational characteristics of your IDN had the most influence, positive or negative, on the ability to implement HIT strategies at your IDN?
   PROBE: membership characteristics, leadership support, partner organizations
3. What has been your experience with…?
   a. Shared Care Plan Software
   b. Direct Secure Messaging Software
   c. Event Notification Services Software
   d. Quality Reporting / Securely Capturing Data
4. What strategies to improve HIT infrastructure have you been most successful in implementing? Why?
5. Have you encountered difficulties in developing and implementing strategies to enhance HIT under the DSRIP Demonstration?
   IF YES: How did you overcome challenges or barriers?
   PROBE: provider reluctance, contract processes, data sharing, etc.
6. How have you collaborated with HIT staff at other IDNs to share best practices and resolve issues?
7. To your knowledge, how have improvements to the HIT system supported…?
   a. Health care delivery
      PROBE: Successful/challenging strategies
   b. Information sharing
      PROBE: Successful/challenging strategies
   c. Care integration and delivery
      PROBE: Successful/challenging strategies
   d. Care management and coordination for persons with behavioral health diagnosis/diagnoses
      PROBE: Successful/challenging strategies
8. How are community-specific needs being addressed through improvements to your IDN's HIT system?
   PROBE: Health care delivery and integration, information sharing, care integration and delivery, care management and coordination for the behavioral health population
9. To your knowledge, how are DSRIP HIT strategies addressing the integration of behavioral health care with medical care?
   PROBE: Policy, legal, financial, business operations
10. Thinking about enhancements to the HIT system for DSRIP and usability, what is going well as far as utilizing the new system(s) in place?
11. What factors, both positive and negative, may be influencing utilization of the enhanced system?
    PROBE: What are some of the barriers to using the enhanced HIT system? Are those barriers different among IDNs and providers?
12. What are some notable successes to expanding the state's HIT infrastructure?
13. What are some notable challenges to expanding the state's HIT infrastructure?

14. Are there gaps in the state's Health IT system?
15. (IF YES TO #14)
    a. Can you briefly discuss current gaps in the Health IT system?
    b. In your opinion, what improvements to the state's Health IT system are still needed to reduce these gaps?
16. Is there anything else you would like to tell me that I might have missed?

Provider Interview Guide

1. In general, what has been your experience with the DSRIP demonstration so far? PROBE: working with the IDN, NH DHHS.
2. What challenges have you encountered implementing the DSRIP Demonstration strategies?
3. Could you briefly describe how you managed and/or overcome these challenges?

Thank you for that information. Now, we will talk about how you think the DSRIP demonstration has impacted care integration for individuals receiving services.

4. To your knowledge, has the DSRIP demonstration changed integration and communication between providers who deliver physical health care, behavioral health care treatment, and community services?
   IF YES:
   a. Can you briefly describe these changes?
   b. What strategies, if any, have been successful in promoting care integration for individuals diagnosed with behavioral health disorders?
      PROBE: resources, infrastructure, outreach activities, policy, workflows
5. Over the past twelve months, have you observed any improvements in care integration for individuals with behavioral health diagnosis/es? If so, can you provide examples?
6. Have you experienced any barriers to improving care integration for individuals with behavioral health disorders?
   PROBE: information-sharing between providers
7. Do you have any recommendations for what providers need in order to improve care integration?
   PROBE: Resources, infrastructure, outreach activities, policy, workflows

We're now going to talk about the usability and utility of the enhanced Health Information Technology (HIT) system.

8. Do you utilize any of the following programs:
   a. Shared Care Plan Software
   b. Direct Secure Messaging Software
   c. Notification Services Software
   d. Quality Reporting/ Securely Captured Data

   IF YES: What has been your experience with the enhanced HIT system?
   IF NO: If you are not using any of these programs, what have been some of the barriers to using the enhanced health IT system?
9. Have you noticed any gaps within the current HIT infrastructure?
   IF YES:
   a. If so, what are the gaps?
   b. Do you have any recommendations to address these gaps?
10. Are the HIT improvements implemented by IDN addressing your specific needs?
    PROBE: information sharing, care integration and delivery, care management and integration for BH population

11. Are you engaging your patients through outreach activities as a result of your participation in the DSRIP demonstration?
    IF YES:
        a. What have been the most effective outreach activities?
        b. What outreach activities have been least effective?
12. How have changes-- if any- to care integration and delivery impacted your patients' care?
    PROBE: seamless care delivery, warm hand offs or referrals, improved patient access to services.
13. What resources do providers need in order to implement evidenced-based care for behavioral health?
    PROBE: examples of evidence-based care: cognitive behavioral therapy, family therapy, 12 step programs, medication-assisted treatment, etc.
14. How has the transition to Alternative Payment Models (APMs) been going?
15. As a provider, where have you experienced challenges and successes in entering into APMs with the IDN?
    PROBE: impact on workload
16. Is there anything else you would like to tell me that I might have missed?

Beneficiary Interview Guide

The first few questions focus on getting your point of view about the services you've been receiving over the past 12 months from your primary care provider for medical care.

1. Within the last twelve months, have you had any difficulty or challenges in getting the help or treatment you need from your primary care provider (PCP)?
2. Is your primary care provider aware of your mental health needs and/or substance use disorder?
   IF YES: Does your primary care provider communicate with your other providers?
   PROBE: How do you know this is happening?
3. Thinking back in the last year, when you see your PCP or any of your behavioral health providers, have they talked to you about the following?
   IF YES, PROBE: who asked, did they make referral?
   a. Your medical history
   b. Tobacco use and/or substance use
   c. Housing: where you live, and/or if you live in a safe place
   d. Employment
   e. Education
   f. Depression and/or anxiety; feelings of despair\
   g. Help you might need for day-to-day activities such as transportation, preparing meals, housekeeping, getting dressed, and personal hygiene
   h. Available support services for you and your family such as home health aides, community services, legal services

The next few questions focus on your experience in receiving mental health treatment and/or substance use disorder services over the past 12 months.

4. How were you referred to treatment for your mental health needs and/or substance use disorder?
   PROBE: Warm transfer (someone called for you)
   PROBE: Were you given a name/number?
5. Where do you go to get the help or treatment you need for your mental health needs and/or substance use disorder?
   PROBE: Is it your PCP or elsewhere?
6. What has been your experience in getting the help or treatment you need for your mental health needs and/or substance use disorder in the past twelve months? PROBE: Location, hours of availability, wait times or wait lists for appointment, not meeting with qualified staff, provider not accepting new patients
7. How do you feel about the quality of the care you receive for your mental health needs and/or substance use disorder?
8. Have you been seeing a provider for mental health services and/or substance use disorder for over a year?

IF YES: Have you noticed any changes in the way that you have received services over time?
PROBE: For example, in the last year, have you been referred to a new provider or started seeing someone new, or has someone helped you organize your health care?

9. If you have been receiving services for your mental health needs and/or a substance use disorder for more than twelve months, have you noticed any improvement(s) in your ability to get help or treatment over time?
PROBE: Can you contact your provider/ provider's office any time of day/after hours care/ contact via email or phone. Timing of shift in care.

The next question will focus on your use of technology when communicating with your provider(s).

10. Does your primary care / medical provider use the internet, such as a web portal, as a way of communicating with you?
PROBE: Examples of other solutions
IF YES: Do you use these resources? What do you use these resources for? PROBE: Scheduling or cancelling appointments, getting lab results, getting referrals to other providers, communicating with your provider.
IF YES: How have they impacted your communications with your primary care provider and the management of your health?
IF NO: Would this be something you would use if available to you?

Before we finish up today, I want to ask if you have any recommendations on how health care organizations and/or providers might improve care for individuals who need treatment for mental health issues and/or substance use disorders. I especially want you to think about how providers can listen to, inform and involve patients in their own care.

11. Do you have any suggestions on how the services you receive for your mental health treatment and/or substance use disorder could be improved?
12. Is there anything else you would like to tell me about the services you receive for your mental health treatment and/or substance use disorder?
13. Is there anything else you would like to tell me that I might have missed?

APPENDIX

D. Qualitative Codebook

IDN Administrator Interview Codebook

Parent Node	Child Node	Definition
Access to care		The ease with which an individual can obtain needed medical services.
Cost of care		To providers: the expense incurred to deliver health care services to patients. To payers: the amount they pay to providers for services rendered. To patients: the amount they pay out-of-pocket for health care services.
Infrastructure		The resources, staffing and workforce, HIT, alternate payment models needed/desired for Demonstration and positive health outcomes
Integration of care		The systematic coordination of general and behavioral healthcare, characterized by a high degree of collaboration and communication among health professionals
Population health		The health outcomes of a group of individuals, including the distribution of such outcomes within the group
Quality of care		The extent to which health care services provided to individuals and patient populations improve desired health outcomes. “In order to achieve this, health care must be safe, effective, timely, efficient, equitable and people-centered.” (WHO)
Service utilization		Quantification or description of the use of services by persons for the purpose of preventing and curing health problems, promoting maintenance of health and well-being, or obtaining information about one's health status and prognosis.
APM transition		Training, education, or communication with partners about the alternative payment model (APM)
	APM status	Status of community partners implementing an APM
	Other	
Building infrastructure		Any mention of infrastructure building that supports services provided, services used, how services are

Parent Node	Child Node	Definition
		provided (i.e. integration of physical and behavioral health, care coordination)
	Care coordination	Ways care has been coordinated for individuals with mental health needs and/or SUD and the impact on members
	Expanded services/ service utilization	Service use and/or expansion of services (i.e. care coordination for SUD, providing services in new locations, new treatment programs)
	Integrating physical and behavioral health	Ways that physical and behavioral health are being integrated (i.e. facilitation of relationships between primary care and behavioral health partners, new and existing programs, impact on members)
	Other	
Challenges		Challenges identified regarding implementation of the IDN and work with community partners
	Late start	Description of challenges associated with delays to Demonstration
	Other	
Collaboration		Partnerships and relationship building activities between IDNs, between IDNs and partners, and between partner organization
	IDN and partner collaborations	Demonstration of how the IDN and community partners collaborate (or not) on IDN goals (i.e. examples of collaboration such as development of universal consent and authorization forms)
	Partner collaboration	Demonstration of how community partners collaborate and interact with each other (i.e. communication, communication, examples of collaboration)
	Relationships with other IDNs	Interaction with other IDNs
	Other	
Community projects		Any mention of the IDN community projects
Context		Factors that have influenced the implementation of DSRIP (IDN and/or community partners) (i.e.

Parent Node	Child Node	Definition
		implementation of EMR during launch of DSRIP)
	Existing models	The extent to which IDNs are implementing DSRIP in the context of existing care models and/or are building off of these models to implement DSRIP (i.e. Collaborative Care Model)
	State-level policies and laws	State-level policies and laws that may influence DSRIP implementation (i.e. data sharing, reimbursement rate for providers, confidentiality issues)
	Other	
Education and training		Education and training for partners on government requirements and guidance (i.e. APM)
Establishing new workflows		Mention of new workflows within or across organizations to support care coordination and care transitions (i.e. development/ implementation of comprehensive core standardized assessment, development of the shared care plan)
Governance structure		How the IDN is structured in relationship to the community partners
	IDN staffing	Staffing structure of IDN (i.e. organization location and role of IDN lead, other IDN staff)
	Operations team_board	Description of the IDN operations team and/or board
	Other	
HIT		Any mention of HIT-related issues for the IDN and/or partners related to care coordination, integration, or patient monitoring
	Data sharing	Ways that data sharing is occurring to support care coordination, integration, or patient monitoring (i.e. event notification allows community providers to monitor patient panels, direct secure messaging supports secure communication, no queue portal allows for secure messaging, quality aggregation service to calculate and report clinical quality measures, partner hesitation in sharing data)

Parent Node	Child Node	Definition
	Enhanced HIT system	Description of the enhanced HIT system to support delivery system and payment reform
	Other	
Quotes		
Stakeholder engagement		Building relationships with community partners
	IDN and community partner relationships	Status of relationship between IDN and community partners (i.e. communication, understanding of goals/expectations, level of commitment and engagement)
	Partner characteristics	Size of organizations (i.e. large hospitals, small organizations), staffing issues at partner organizations, prior experience with APMs
	Other	
State guidance		Guidance or clarity from the state about DSRIP-related issues such as legal concerns about sharing data.
Successes		Positive feedback about implementation of the IDN and work with community partners
Sustainability		IDN program sustainability - financial support and structure for DSRIP-related activities (i.e. payments to providers, sustainability after the waiver ends)
Unsure		
Workforce		Any mention of workforce issues in the state/regionally (i.e. primary care providers, behavioral and mental health providers, SUD providers)
	Capacity building	Ways to support workforce development (i.e. provider trainings, advanced licensure, contracting for quality coaches, cross training for PCPs around behavioral health, incentives)
	Provider supply	Any mention of provider availability (i.e. new providers to support service use and/or expanded services, lack of providers, challenges in retaining providers, recruitment)
	Other	
Workload of demonstration		IDN experience of the NH DSRIP in terms of workload and activities to

Parent Node	Child Node	Definition
		implement the initiative (IDN planning, implementation, operation)
	Coordinating community partners	IDN experience with coordinating meetings and commitment of partners to attend
	Funding	Funding for IDN activities (including IDN staffing)
	IDN operations	Administrative activities of the IDN: Reporting requirements (i.e. learning curve, time involved); Contracting with community partners; Hiring staff; Time involved for IDN administration
	Other	

HIT Stakeholder Interview Codebook

Parent Node	Child Node	Definition
Access to care		The ease with which an individual can obtain needed medical services.
Cost of care		To providers: the expense incurred to deliver health care services to patients. To payers: the amount they pay to providers for services rendered. To patients: the amount they pay out-of-pocket for health care services.
Infrastructure		The resources, staffing and workforce, HIT, alternate payment models needed/desired for Demonstration and positive health outcomes
Integration of care		The systematic coordination of general and behavioral healthcare, characterized by a high degree of collaboration and communication among health professionals
Population health		The health outcomes of a group of individuals, including the distribution of such outcomes within the group
Quality of care		The extent to which health care services provided to individuals and patient populations improve desired health outcomes. “In order to achieve this, health care must be safe, effective, timely, efficient, equitable and people-centered.” (WHO)
Service utilization		Quantification or description of the use of services by persons for the purpose of preventing and curing health problems, promoting maintenance of health and well-being, or obtaining information about one's health status and prognosis.
Challenges		Challenges identified regarding implementation of the IDN and work with community partners
	Clinical_IT divide	The disconnection between the clinical teams and the IT teams
	Legal issues_concerns	Uncertainty and/or concerns about certain laws and regulations impacting NH DSRIP implementation of strategies i.e. 42CFR Part 2 (confidentiality of SUD patient records)

Parent Node	Child Node	Definition
	Similar overlapping systems	Various requirements for different projects that overlap but are not the same
	Other	
Collaboration with IDNs		The ways in which the IDNs work with each other on HIT-related issues
Direct secure messaging		Information related to direct secure messaging (DSM) system in which providers communicate with patients and each other. This includes the software components and organizations' use of the technology
	Implementation	Status of implementation of the Direct Secure Messaging by partner organizations
	Utilization	Level of utilization of the Direct Secure Messaging by partner organizations
	Other	
Event notification		Information related to the use and adoption of the Events Notification System (ENS), which is used amongst organizations. This includes the CMT software component
	Implementation	Status of implementation of the Event Notification System by partner organizations
	Utilization	Level of utilization of the Event Notification System by partner organizations
	Other	
HIT approaches with partners		How the IDN has worked with partners on HIT projects and issues
	One-on-one support	Examples of HIT IDN staff providing support on an individual basis, including one-on-one support with a partner organization
	Training_education	Ways that the IDN has provided training/education to partner organization, including topics covered (i.e. legal requirements related to sharing data, importance of data collected/reported)
	Other	
Improvements in care		Ways in which clinical care has advanced

Parent Node	Child Node	Definition
	Care integration	Ways that patient care has been integrated or coordinated between organizations/providers (i.e. behavioral health and medical care)
	Community-specific needs	Ways in which the program is able to address the individual and specific needs of the community they serve
	Healthcare delivery	Ways in which the HIT has improved the care that patients receive and that clinicians can offer
	Information sharing	Ways in which the information on a patient has been shared between stakeholders including providers and community service organizations within the IDN
	Other	
Interoperability		Enables secure exchange of electronic health information within systems without special effort on the part of the user
Organizational characteristics		Internal IDN Context including partner organizations
	Buy-in	Level of engagement/buy-in of partner organizations
	EMR-related	Factors related to Electronic Medical Records
	HIT capacity	The level of information technology expertise within partner organizations, including HIT knowledge, HIT staffing, and HIT resources (i.e. software)
	Leadership	Leadership qualities (positive/negative) of IDN and partnership organizations, including level of buy-in
	Organizational size	Organizational size of partner organizations (i.e. small agency, large hospital, etc.)
	Paper-based	Methods for communicating that are paper-based, such as mail, paper records, fax, etc.
	Partner ownership_merger	Partner organization ownership/relationship with other organizations i.e. some facilities joining together
	Rural_urban	The geographic characteristics of the IDN's populations that are served (i.e.

Parent Node	Child Node	Definition
		densely populated or sparsely populated and spread out)
	Other	
Quality reporting_data		Information related to the reporting requirements for the program (e.g. quality measures). This could include the data aggregator, MaHec
	Implementation	Status of implementation of Quality Reporting/Data by partner organizations
	Measure definition	The way the clinical quality measures are defined and specified in the requirements
	Needs assessment	Experience related to implementing the needs assessment as part of NH DSRIP
	Utilization	Level of utilization of the Quality Reporting/Data by partner organizations
	Other	
Quotes		
Shared care plan		Information related to the creation and adoption of the Shared Care Plan, including the CMT software component
	Implementation	Status of implementation of the Shared Care Plan by partner organizations
	Utilization	Level of utilization of the Shared Care Plan by partner organizations
	Other	
State guidance		Guidance or clarity from the state about DSRIP-related issues such as legal concerns about sharing data.
State HIT		The information technology and infrastructure of the State
	Expansion challenges	Things that have impeded the expansion of the State's HIT system
	Expansion successes	Ways in which the State has been able to expand their HIT infrastructure
	Gaps in state HIT system	Inconsistencies or lack of HIT infrastructure/support at the State level
Other		
Successes		Positive feedback about implementation of the IDN and work with community partners
Unsure		

Provider Stakeholder Interview Codebook

Parent Node	Child Node	Definition
Access to care		The ease with which an individual can obtain needed medical services.
Cost of care		To providers: the expense incurred to deliver health care services to patients. To payers: the amount they pay to providers for services rendered. To patients: the amount they pay out-of-pocket for health care services.
Infrastructure		The resources, staffing and workforce, HIT, alternate payment models needed/desired for Demonstration and positive health outcomes
Integration of care		The systematic coordination of general and behavioral healthcare, characterized by a high degree of collaboration and communication among health professionals
Population health		The health outcomes of a group of individuals, including the distribution of such outcomes within the group
Quality of care		The extent to which health care services provided to individuals and patient populations improve desired health outcomes. “In order to achieve this, health care must be safe, effective, timely, efficient, equitable and people-centered.” (WHO)
Service utilization		Quantification or description of the use of services by persons for the purpose of preventing and curing health problems, promoting maintenance of health and well-being, or obtaining information about one's health status and prognosis.
APM transition		Training, education, or communication with partners about the alternative payment model (APM)
Challenges		Challenges identified regarding implementation of the IDN and work with community partners
Collaboration_providers		Partnerships, communication, and relationship building activities between providers and across agencies (includes warm hand-offs, referrals, etc)

Parent Node	Child Node	Definition
HIT		Any mention of HIT-related issues for the IDN and/or partners related to care coordination, integration, or patient monitoring
	Barriers to using enhanced system	Challenges associated with the HIT software implemented as a part of the IDN. For example, EHR systems.
	Direct secure messaging	Information related to direct secure messaging (DSM) system in which providers communicate with patients and each other. This includes the software components and organizations' use of the technology
	Event notification	Information related to the use and adoption of the Events Notification System (ENS), which is used amongst organizations. This includes the CMT software component
	Gaps in current HIT system	Provider opinions on where HIT system can improve, whether system wide or statewide. Include recommendations here.
	Securely capturing data_data reporting	Information related to the reporting requirements for the program (e.g. quality measures). This could include the data aggregator, MaHec
	Shared care plan	Information related to the adoption of the Shared Care Plan, including the CMT software component
	Other	
Patient engagement		Providers doing outreach activities and communicating with their patients
Quotes		
Resources for providers		Concrete tools for providers such as training, education, software (also code software to HIT node)
State or IDN guidance		Guidance or clarity from the state and_or IDN about DSRIP-related issues such as legal concerns about sharing data, how to implement DSRIP goals, etc
Successes		Positive feedback about implementation of the IDN and work with community partners
Unsure		

Parent Node	Child Node	Definition
Workflows		Staff processes developed, modified, or impacted by Demonstration
Workforce		Any mention of workforce issues in the state/regionally (i.e. primary care providers, behavioral and mental health providers, SUD providers)
	Capacity building	Ways to support workforce development (i.e. provider trainings, advanced licensure, contracting for quality coaches, cross training for PCPs around behavioral health, incentives)
	Provider supply	Any mention of provider availability (i.e. new providers to support service use and/or expanded services, lack of providers, challenges in retaining providers, recruitment)
	Other	

Beneficiary Interview Codebook

Parent Node	Child Node	Definition
Access to care		The ease with which an individual can obtain needed medical services.
	MH_SUD	The ease with which an individual can obtain needed medical services for mental health and/or SUD services.
	Physical	The ease with which an individual can obtain needed medical services for physical health.
Cost of care		To providers: the expense incurred to deliver health care services to patients. To payers: the amount they pay to providers for services rendered. To patients: the amount they pay out-of-pocket for health care services.
Infrastructure		The resources, staffing and workforce, HIT, alternate payment models needed/desired for Demonstration and positive health outcomes
Integration of care		The systematic coordination of general and behavioral healthcare, characterized by a high degree of collaboration and communication among health professionals
	Changes_MH_SUD	Changes in BH care as it relates to integration with other aspects of health care, over the last 12 months
	Changes_physical	Changes in collaboration/ communication between physical care and BH care in last 12 months
	No changes	
Population health		The health outcomes of a group of individuals, including the distribution of such outcomes within the group
Quality of care		The extent to which health care services provided to individuals and patient populations improve desired health outcomes. “In order to achieve this, health care must be safe, effective, timely, efficient, equitable and people-centered.” (WHO)
Service utilization		Quantification or description of the use of services by persons for the purpose of preventing and curing health problems, promoting maintenance of health and well-being, or obtaining

Parent Node	Child Node	Definition
		information about one's health status and prognosis.
Barriers to care		Difficulties in receiving quality health care services in a timely manner, for reasons such as lack of providers, proximity to care, confusing systems, expense etc
CCSA screening		Comprehensive Core Standardized Assessment, a screening of patients that is a requirement under DSRIP; answers beyond tallying Y/N if they have been asked about the components within CCSA.
HIT		If & how interviewee utilizes technology (patient portal, etc) to communicate with providers and health system and stay informed and involved in health care
Provider last 12 months		All interviewees had to respond positively to seeing a provider in last 12 months; child nodes delineate provider types.
	Identified primary provider	Refers to the provider type that the interviewee identified as primary for purposes of this interview
	Provider type	Types of provider(s) that interviewee has seen over the last 12 months
Quotes		
Recommendations on patient-centered care		Interviewee recommendations on how to improve or enhance patient-centered care
Referrals		How/when/who referred; experiences w/ referrals
Source of help or treatment		Where patient goes if they need treatment or help with any type of medical care
	Hypothetical	Interviewee ideas on what they would do if they need to seek care in the future
	Experienced	Experiences of interviewee in finding care they need
Tally_no self-reported current MH_SUD		Tracking how many interviewees self-reported no current MH/SUD diagnoses
Unsure		

APPENDIX

E. Summary of Changes from CMS Approved Evaluation Plan

Deviations from CMS Approved Plan

Time Line Changes

Substantial changes to the original CMS-approved Evaluation Plan projected time line have occurred. Work plans and data collection timelines were revised to reflect the CMS Interim and Final Summative Report deadlines, as stated in New Hampshire's STC for the Independent Evaluator.

Hypotheses Removed from Interim Report

As indicated in the Changes to Measures table below, three measures removed from the evaluation were the single measure under one hypothesis each; consequently removing their corresponding hypothesis. With guidance from CMS, New Hampshire DHHS and the Independent Evaluator will revisit the feasibility of assessing these hypotheses using other data sources for the final summative report. The hypotheses removed are:

Hypothesis 1.7: Rate of Medicaid beneficiaries waiting for inpatient psychiatric care will decrease over the course of the Demonstration regardless of IDN, geographic location, or market area.

Hypothesis 1.9: Average wait times for outpatient appointments at community mental health centers will be lower at the end of the Demonstration than prior to the Demonstration regardless of IDN, geographic location, or market area.

Hypothesis 1.10: The number of referrals and follow-up plans from primary care and other non- psychiatric providers to appropriate services will increase during the Demonstration regardless of IDN, geographic location, or market area.

Changes to Measures

The following table indicates which measures were updated from the CMS approved Evaluation Plan.

Table E1. Changes to Measures

Measure ID	Measure Name	Change	Note
1.1.12	Cervical Cancer Screening	Data Source	Because of long look back period preceding claims data availability, using NH BRFSS data
1.1.13	Breast Cancer Screening	Specification Updated	Identifies two eligible populations: with and without BH disorders
1.1.14	Colorectal Cancer Screening	Data Source	Because of long look back period preceding claims data availability, using NH BRFSS data
1.1.15	USPSTF: Cholesterol Screening	Removed	Cholesterol screening no longer a recommendation of the USPSTF

Table E1. Changes to Measures			
Measure ID	Measure Name	Change	Note
1.1.16	Adolescent Well-Care Visit	Specification Updated	Identifies two eligible populations: with and without BH disorders
1.1.17	Smoking/Tobacco Cessation Counseling	Removed	Data not available; data will be gathered from BRFSS in measure 1.3.2 Improvements in Population Health
1.1.18	Emergency Department (ED) Visits	Specification Updated	Identifies two eligible populations: with and without BH disorders
1.1.19	Potentially Preventable Emergency Department (ED) Visits	Specification Updated	Identifies two eligible populations: with and without BH disorders
1.1.20	Opioid Dosage for People Without Cancer	Removed/ Replaced	Removed and replaced with HEDIS UOD measure: Use of Opioids at High Dosage. This replacement measure, similar to others in the evaluation, Identifies two eligible populations: with and without BH disorders
1.2.2	Access to Care (Smoking/Tobacco Cessation)	Removed	Tobacco/Smoking Cessation- see measure 1.1.17- data not available; data gathered from BRFSS in measure 1.3.2 Improvements in Population Health
1.2.3	Annual Primary Care Visit (Adult and 12-19)	Specification Updated	Identifies two eligible populations: with and without BH disorders
1.2.5	Substance Use Treatment Services	Specification Updated	Changed to adhere to HEDIS specification of AOD as denominator
1.2.6	Adolescent Well care Visit	Moved	Moved from Hypothesis 1.1 (quality of care) to Hypothesis 1.2 (access to care)
1.2.6	Adolescent Well-Care Visit	Specification Updated	Identifies two eligible populations: with and without BH disorders
1.5.1	Hospital Re-Admission for Any Cause	Specification Updated	No risk adjustment applies because there was no risk adjustment for Medicaid prior to 2018
1.7.1	Rate of Individuals Waiting for Inpatient Psychiatric Care	Removed	Currently the EHR data to calculate this measure is unavailable. If data becomes available, measure will be included in the evaluation. **This removes Hypothesis 1.7 from the evaluation, as it was its only measure**.
1.9.1	Community Mental Health Center (CMHC) Referral or New Patient Appointment	Removed	Removed measure at NH's request; CMCH EMR data does not go back to the 2013 baseline period, and large number of dually eligible individuals and services that are not billed make data unreliable. **This removes Hypothesis 1.9 from the evaluation as it was its only measure**
1.10.1	Referrals and Follow-Up Plans from Primary care and other Non-Psychiatric	Removed	Unable to gather this data from claims or EHR to calculate this measure. **This**

Table E1. Changes to Measures			
Measure ID	Measure Name	Change	Note
	Providers to Appropriate Services		removes Hypothesis 1.10 from the evaluation, as it was its only measure.
2.1.2	Transmission of Records	Removed	Currently the EHR data to calculate this measure is unavailable. If data becomes available, measure will be included in the evaluation.
2.1.3	Alcohol/Drug Abuse Screening and Follow-Up	Removed	Currently the EHR data to calculate this measure is unavailable. If data becomes available, measure will be included in the evaluation.
2.1.4	Substance Use and Depression Screening	Removed	Currently the EHR data to calculate this measure is unavailable. If data becomes available, measure will be included in the evaluation.
2.1.11	Mental Illness Emergency Department (ED) Visit Follow-Up (30 days)	Specification Updated	Use HEDIS measure FUM
2.1.14	Alcohol/Drug Dependency Emergency Department (ED) Visit Follow-Up (30 days)	Specification Updated	Use HEDIS measure FUA

Changes to the Comparison Group Methodology

Given that the providers and provider relationships created by the IDN structures did not exist and the ability to recreate these provider structures would be difficult, if not impossible, IDN attribution in the pre-periods 2013 and 2014 were based on geographic location. IDN attribution for 2015-2017 uses the NH beneficiary attribution files provided by NH DHHS. Identifying beneficiaries for the pre-Demonstration period with a behavioral health disorder applied the same claims-based algorithm used by NH DHHS in their attribution algorithm.

Three criteria are used:

1. Beneficiaries receiving care at community mental health centers, or
2. Beneficiaries with a primary diagnosis code for a behavioral health disorder as defined by NH DHHS; or
3. Beneficiaries with a prescription for a therapeutic medication for a behavioral health disorder as defined by NH DHHS.

Members who meet one or more of the eligibility criteria are considered to have a behavioral health disorder and are considered to be part of the study group. The analysis also included a comparison group for falsification tests that is comprised of Beneficiaries who have had no behavioral health disorders, as this population is not expected to be impacted by the

Demonstration. Similar to the study group, these individuals were identified through claims and eligibility data. The specific eligibility criteria are outlined in more detail below in Table E2.

Table E2: Claims-based Behavioral Health Disorder Criteria for Identification of 2013 and 2014 Comparison Group

Criteria 1:
Beneficiaries receiving care at a community mental health center

Members who are indicated as eligible recipients of behavioral health care received at Community Mental Health Centers (CMHC). Members meeting this criterion were identified based on the assignment of one of the following codes in the Medicaid Management Information System (MMIS; Medicaid claims and encounter data).
Codes are based on CMHC submission to Managed Care Organizations or paid fee-for-service claims with the following modifiers:

- U1 - Severe/Persistent Mental Illness (SPMI)
- U2 - Severe Mental Illness (SMI)
- U5 - Low Utilizer of Mental Health Services
- U6 - Serious Emotionally Disturbed Child
- U7 - Emotion Disturb Child/Interagency

Criteria 2:
Beneficiaries with a primary diagnosis code for a behavioral health disorder as defined by NH DHHS

Members who have a Medicaid claim on which the primary diagnosis code is for a behavioral health disorder. The following ICD-10 codes identify members with mental health disorders:

- F20-F29 Schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders
- F30-F34 Mood (affective) disorders
- F41-F44 Anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders
- F53 Puerperal psychosis
- F60 Specific personality disorders
- F63 Impulse disorders
- F68 Other disorders of adult personality and behavior
- F84.0 Autistic disorder
- F84.9 Pervasive developmental disorders, unspecified
- F90 Attention-deficit hyperactivity disorders
- F91 Conduct disorders
- F93 Emotional disorders with onset specific to childhood
- F94 Disorders of social functioning with onset specific to childhood and adolescence

The following ICD-10 codes identify members with SUDs:

- F10 Alcohol related disorders (excluded: F10.21 Alcohol dependence, in remission)
- F11 Opioid related disorders (excluded: F11.21 Opioid dependence, in remission)
- F15 Other stimulant related disorders (excluded: F15.21 Other stimulant dependence, in remission)
- F16 Hallucinogen related disorders (excluded: F16.21 Hallucinogen dependence, in remission)

- F12 Cannabis related disorders (excluded F12.21 Cannabis dependence, in remission)
- F13 Sedative, hypnotic, or anxiolytic related disorders (excluded: F13.21 Sedative, hypnotic, or anxiolytic dependence, in remission)
- F14 Cocaine related disorders (excluded: F14.21 Cocaine dependence, in remission)
- F18 Inhalant related disorders (excluded: F18.21 Inhalant dependence, in remission)
- F19 Other psychoactive substance related disorders (excluded: F19.21 Other psychoactive substance dependence, in remission)
- F55 Abuse of non-psychoactive substances
- K29.2 Alcoholic gastritis
- K70.1 Alcoholic hepatitis

Criteria 3: Beneficiaries with a prescription for a therapeutic medication for a behavioral health disorder as defined by NH DHHS.

Members who have a Medicaid pharmacy claim for a behavioral health disorder. The following specific therapeutic class codes identify these members:

- H2D Barbiturates
- H2E Non-Barbiturates, Sedative-Hypnotic
- H2F Anti-Anxiety Drugs
- H2G Anti-Psychotics, Phenothiazines
- H2H Monoamine Oxidase (MAO) Inhibitors
- H2M Bipolar Disorder Drugs
- H2S Serotonin Specific Reuptake Inhibitor(SSRI)
- H2U Tricyclic Antidepressant & Related Non-Selective Reuptake Inhibitor
- H2V Anti-Narcolepsy/Anti-Hyperkinesis
- H2W Tricyclic Antidepressant/Phenothiazine Combination
- H2X Tricyclic Antidepressant/Benzodiazepine Combination
- H7B Alpha-2 Receptor Antagonists Antidepressant
- H7C Serotonin-Norepinephrine Reuptake-Inhibitor (SNRIs)
- H7D Norepinephrine & Dopamine Reuptake Inhibitors (NDRIs)
- H7E Serotonin-2 Antagonist/Reuptake Inhibitor (SARIs)
- H7J Monoamine Oxidase (Mao) Inhibitors -Non-Selective & Irreversible
- H7O Antipsychotic, Dopamine Antagonist, Butyrophenones
- H7P Antipsychotic, Dopamine Antagonist, Thioxanthenes
- H7X Antipsychotic, Atypical, D 2 Partial Agonist/Serotonin Mix
- H7Y Treatment For Attention Deficit Hyperactivity Disorder, Norepinephrine Reuptake Inhibitor Type
- H7Z Serotonin Specific Reuptake Inhibitor (SSRIs)/Antipsychotic, Atypical, Dopamine & Serotonin Antagonist Combination
- H8B Hypnotics, Melatonin Receptor Agonists
- H8D Hypnotics, Melatonin & Herb Combination
- H8F Hypnotics, Melatonin Combination Other
- H8G Sedative-Hypnotic, Non-Barbiturate/Dietary Supplement
- H8H Serotonin-2 Antagonist, Reuptake Inhibitor/Dietary Supplement Combinations
- H8I Selective Serotonin Reuptake Inhibitor (SSRIs)/Dietary Supplement Combinations
- H8M Treatment For Attention Deficit Hyperactivity Disorder -Selective Alpha-2 Adrenergic Receptor Agonist
- H8P Serotonin Specific Reuptake Inhibitor (SSRI) & 5Ht1A Partial Agonist Antidepressant
- H8Q Narcolepsy/Sleep Disorder Agents
- H8T Serotonin Specific Reuptake Inhibitor (SSRI) & Serotonin Receptor Modifier Antidepressant

• H7R Antipsychotic, Dopamine Antagonist, Diphenylbutylpiperidines • H7S Antipsychotic, Dopamine Antagonist, Dihydroindolones • H7T Antipsychotic, Atypical, Dopamine, & Serotonin, Antagonists • H7U Antipsychotic, Dopamine & Serotonin Antagonist	• H8W Antipsychotic-Atypical, D3 • J5B Adrenergic, Aromatic, Non-Catecholamine • C0D Anti-alcoholic Preparations • H3T Narcotic Antagonists • H3W Narcotic Withdrawal Therapy Agents

ATTACHMENTS

I. CMS Approved Evaluation Plan

NEW HAMPSHIRE BUILDING CAPACITY FOR TRANSFORMATION - *DELIVERY SYSTEM REFORM INCENTIVE PAYMENT (DSRIP) DEMONSTRATION WAIVER*

EVALUATION DESIGN

August 2017

NH Department of Health and Human Services
Office of Quality Assurance and Improvement

This program is operated under an 1115 Research and Demonstration Waiver initially approved by the Centers for Medicare & Medicaid Services (CMS) on January 5, 2016.

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1. OVERVIEW

A. Synopsis of the New Hampshire Delivery System Reform Incentive Payment Demonstration Program

On January 5, 2016, the Centers for Medicare and Medicaid Services (CMS) approved New Hampshire's request for expenditure authority to operate its section 1115(a) Medicaid demonstration entitled Building Capacity for Transformation, a Delivery System Reform Incentive Payment (DSRIP) program (hereinafter "DSRIP Demonstration"). The NH DSRIP Demonstration aims to transform the way physical and behavioral health care are delivered to Medicaid beneficiaries with behavioral health disorders, and/or substance use disorders (SUDs) and/or substance misuse (hereinafter "behavioral health disorders"). Specifically, the DSRIP Demonstration will work to improve health care quality, population health, and reduce avoidable hospital use, while lowering health care costs.

Under the DSRIP Demonstration, the state will make performance-based funding available to seven regionally-based Integrated Delivery Networks (IDNs) that serve Medicaid beneficiaries with behavioral health needs. The IDNs will: (1) deliver integrated physical and behavioral health care that better addresses the full range of individuals' needs, (2) expand capacity to address emerging and ongoing behavioral health needs in an appropriate setting, and (3) reduce gaps in care during transitions across care settings by improving coordination across providers and linking Medicaid beneficiaries with community supports. The demonstration is approved through December 31, 2020.

Through the course of the demonstration period, each IDN is required to implement six projects to address the needs of Medicaid beneficiaries with behavioral health disorders. For each project, the IDN will develop detailed plans and focused milestones. Project performance will be measured by IDNs based on milestones and metrics that track project planning, implementation progress, clinical quality and utilization indicators, and progress toward transition to Alternative Payment Models (APMs). Details on the development and measurement of these milestones and metrics as well as progress toward transition to APMs is detailed in NH DSRIP Project and Metrics Specification Guide.[1]

The IDN projects include:

1. **Statewide Projects**

Each IDN will be required to implement two Statewide Projects designed to address the following critical elements of New Hampshire's vision for transformation:

- **Behavioral Health Work Force Capacity Development Project** - to develop a workforce equipped to provide high-quality, integrated care throughout the state; and
- **Health Information Technology Planning and Development Project** - to establish an HIT infrastructure that allows for the exchange of information among providers and supports a robust care management approach for beneficiaries with behavioral health disorders.

2. Integrated Behavioral Health and Primary Care Competency Project Core Competency Project

Each IDN will be required to implement an Integrated Behavioral Health and Primary Care Competency Project to ensure that behavioral health disorders are routinely and systematically addressed in the primary care setting and that primary care issues are routinely addressed in behavioral health setting. Through this project, primary care providers and behavioral health providers will partner to implement an integrated care model that reflects the highest possible levels of collaboration and integration as defined within the Substance Abuse and Mental Health Services Administration (SAMHSA) Levels of Integrated health care. Implementing this model will better enable providers to prevent and quickly detect, diagnose, treat and manage behavioral and medical disorders using standards of care that include:

- Core standardized assessment framework that includes evidence-based universal screening for depression and substance use disorders,
- Health promotion,
- Integrated electronic medical records,
- Multi-disciplinary care teams that provide care management, care coordination and care transition support,
- Electronic assessment, care planning and management tool that enables information sharing among providers.

3. Community Driven Projects

Each IDN is required to select three community-driven projects from a project menu established by the state. The IDN Community Driven menu of projects gives IDNs the flexibility to undertake work reflective of community-specific priorities identified through a behavioral health needs assessment and community engagement, to change the way that care is provided in a variety of care delivery settings and at various stages of treatment and recovery for sub-populations, and to use a variety of approaches to change the way care is delivered. IDNs will be required to conduct a behavioral needs assessment as part of development of the IDN Project Plans. The IDN project menu is divided into three categories; IDNs will select one project within each of the following categories:

- **Care Transitions Projects:** Support beneficiaries with transitions from institutional setting to community.
- **Capacity Building Projects:** Expand availability and accessibility of evidence supported programs across the state and supplement existing workforce with additional staff and training.
- **Integration Projects:** Promote collaboration between primary care and behavioral health care.

These projects are designed to facilitate the attainment of NH DSRIP Demonstration goals and objectives. The goal is to employ these services across the state to ensure a full spectrum of care is accessible for individuals with active behavioral health disorders and those who are undiagnosed or at risk. Details regarding the project specifications and metrics can be found in the NH DSRIP Project and Metrics Specification Guide, previously submitted to CMS.

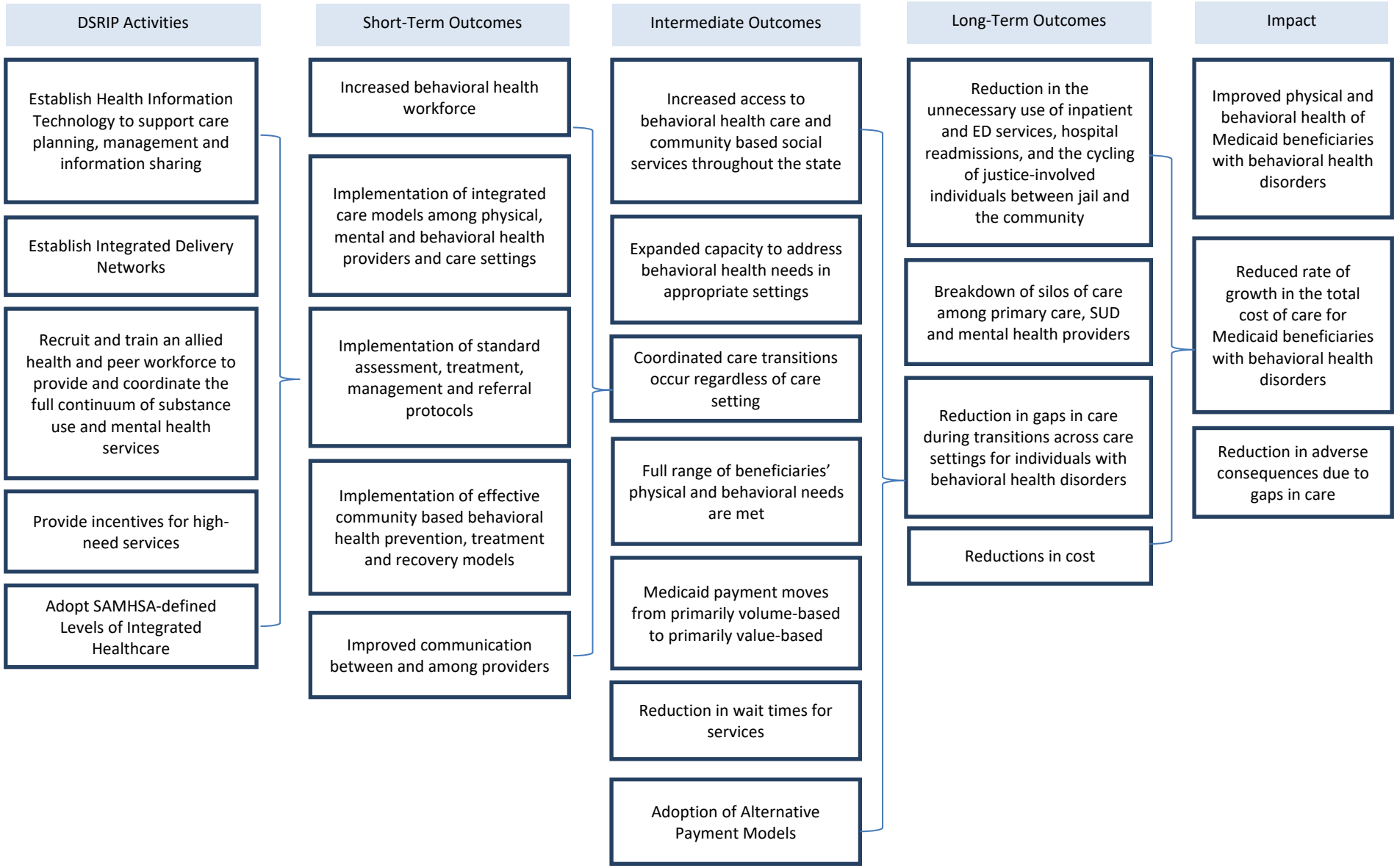
B. Goals, Objectives, and Key Components

The goal of the NH DSRIP Demonstration is to support the development and maintenance of an integrated care delivery system (IDNs) to improve the physical and behavioral health of Medicaid beneficiaries with behavioral health needs and reduce the total cost of care of that population. To achieve that goal, the NH DSRIP Demonstration will deploy a number of strategies. These include:

1. **Workforce Building**: Increase community-based behavioral health service workforce capacity through the education, recruitment, and training of a professional, allied health, and peer workforce with knowledge and skills to provide and coordinate the full continuum of substance use and mental health services.
2. **Access**: Increase access to behavioral health care and appropriate community-based social support services throughout all of NH's regions by establishing IDNs.
3. **Technology**: Establish robust technology solutions to support care planning and management and information sharing among providers and community-based social support service agencies.
4. **Incentives**: Incentivize the provision of high-need services, such as medication-assisted treatment for SUD, substance misuse, peer support, and recovery services.
5. **Recovery Models**: Increase the state's use of SAMHSA-recommended recovery models that will reduce unnecessary use of inpatient and emergency department (ED) services, hospital readmissions, the cycling of justice-involved individuals between jail and the community due to untreated behavioral health disorders, and wait times for services.
6. **Integration**: Promote the integration of physical and behavioral health provider services in a manner that breaks down silos of care among primary care and behavioral health providers, following existing standards (i.e., State Innovation Model (SIM) planning process; SAMHSA-defined standards for Levels of Integrated health care).
7. **Care Transitions**: Enable coordinated care transitions for all members of the target population regardless of care setting (e.g., Community Mental Health Centers (CMHC), primary care, inpatient hospital, corrections facility, SUDs clinic, crisis stabilization unit) to ensure that the intensity level and duration of transition services are fully aligned with an individual's documented care plan.
8. **Alternative Payment Models** (APMs): Ensure that IDNs participate in APMs that move Medicaid payment from primarily volume-based to primarily value-based payment over the course of the demonstration period.

Figure 1: NH DSRIP Logic Model below illustrates the relationship between the NH DSRIP Demonstration goals and the strategic objectives, identifies the expected outcomes of the Demonstration, and provides a framework for the development of the evaluation.

FIGURE 1: NH DSRIP LOGIC MODEL



2. Evaluation Design

A. Purpose

The NH DSRIP Demonstration Evaluation Design, prepared as required by the CMS Special Terms and Conditions (STCs)[2] and subject to CMS approval, describes the methods that will be used by the NH Department of Health and Human Services (NH DHHS) to evaluate the extent to which the NH DSRIP Demonstration achieved its intended goals and objectives. The specific aims of the NH DSRIP Demonstration evaluation are to:

- Assess the implementation of the IDN statewide and site specific projects;
- Examine how DSRIP activities have enhanced the state's infrastructure including: increasing behavioral health workforce capacity, enhancing health IT solutions, and transitioning APMs;
- Evaluate the impact of the Demonstration on the cost efficiency and quality of care provided to Medicaid beneficiaries with behavioral health disorders;
- Examine how Demonstration activities and the IDNs influence access to care for Medicaid beneficiaries with behavioral health disorders; and
- Assess how IDNs impact the physical and behavioral health outcomes of Medicaid beneficiaries with behavioral health disorders.

As described above, the NH DSRIP Demonstration strategy involves the creation of IDNs across the state and the implementation of specific evidence-supported projects and statewide planning efforts completed by the IDNs that will lead toward an increase in capacity for the treatment of behavioral health disorders, improved integration of physical and behavioral care, and improved transitions of care across settings. In addition, the IDNs will engage in a phased transition to APMs to transform the Medicaid system by building relationships between all types of health care providers and improve health information technology.

B. Overview of Study Methodology

Implementation of a multilevel, multi-sector project to build capacity to transform health care delivery systems and payment models is challenging and requires significant engagement from a diverse group of stakeholders, as well as coordination among numerous activities across multiple settings. To ensure a robust and multi-dimensional understanding of the IDNs' implementation strategies and corresponding impact on delivery systems and patient outcomes, the proposed evaluation plan is designed to systematically examine the resources, activities, and processes affecting access to behavioral health care and social supports, treatment integration, and care coordination.

The evaluation of the DSRIP Demonstration will employ a rigorous mixed-methods design that incorporates both quantitative and qualitative measurement, including secondary administrative and electronic health data, stakeholder interviews and surveys, and document review. The evaluation includes a quasi-experimental, one-group pretest-posttest design, as well as qualitative thematic analysis, to:

- Provide feedback to IDNs for improvement in access and delivery of physical and

behavioral health care in their region; and

- Provide a summative assessment of the implementation experience and success of the intervention strategies implemented by the IDNs.

The evaluation design focuses on examining the impact of IDNs on the health outcomes of Medicaid beneficiaries with behavioral health disorders and the factors external and internal to the IDNs that may have influenced implementation. The latter will include documenting and comparing implementation tactics within and across IDN sites and evaluating strategies used to overcome barriers to delivering integrated care, enhancing capacity to address behavioral health, and enhancing care coordination across care settings. Evaluation activities will also focus on documenting and tracking the impact of strategies aimed at improving state infrastructure, including increasing behavioral health workforce capacity; enhancing information technology solutions to support care ongoing care planning, management, and coordination; and the transition to and implementation of APMs.

C. Research Questions, Hypotheses, and Measures

The DSRIP Demonstration evaluation design focuses on five research questions and corresponding hypotheses that explore and describe the effectiveness and impact of the demonstration through a set of short-term and intermediary performance measures collected at appropriate times throughout the demonstration period. Each research question and corresponding hypothesis, described below, includes one or more evaluation measures. The methods used to test the hypotheses and answer the research questions are described in Section F. The source of data and technical specifications for the measures are described in Appendix A.

Research Question 1: Was the DSRIP Demonstration effective in achieving the goals of better care for individuals (including access to care, quality of care, health outcomes), better health for the population, or lower cost through improvement? Was there any variation between IDNs/geographic regions/market areas? To what degree can improvements be attributed to the activities undertaken under DSRIP?

Hypothesis 1.1*: *Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.

Process measures: Experiences of Health Care with DSRIP: Beneficiaries Perceptions of Quality of Care; Providers Opinions of How IDN Activities have Improved Care Delivery; IDN Administrators Perceptions of the Implementation Experience and Views on How the IDNs and Project Activities have Impacted the Quality of Care, Plans, Payment Structures and Delivery Expenditures

Outcome measures: Experiences of Health Care with DSRIP, Antidepressant Medication Management, Follow-Up After Hospitalization for Mental Illness, Alcohol/Drug Dependence Treatment, Initiation and Engagement of Alcohol and Other Drug Dependence Treatment, Adherence to Antipsychotic Medications for Individuals with Schizophrenia, Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications,

Diabetes Screening for People with Diabetes and Schizophrenia, Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia, Follow-up Care for Children Prescribed ADHD Medication, Metabolic Monitoring for Children and Adolescents on Antipsychotics, Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics, Intimate Partner Violence Screening, Hypertension Screening, Obesity Screening and Referral (Adult and Children), Tobacco Use Screening and Intervention, Cholesterol Screening, Adolescent Well Care Visit, Smoking/Tobacco Cessation Counseling, Emergency Department (ED) Visits, Potentially Preventable Emergency Department (ED) Visits, Opioid Dosage for People Without Cancer

Hypothesis 1.2*: *Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will have greater access to care at the end of the demonstration regardless of IDN, geographic location, or market area.

Process measures: Member Experiences of Accessing Care: Beneficiaries Perceptions and Experiences Accessing Care

Outcome measures: Timely Access to Care, Number of Primary Care Visits, Number of Behavioral Health Care Visits, Percent Beneficiaries with One or More Annual Primary Care Visit, Percent with Annual Behavioral Health Care Visits, Percent Beneficiaries who received SUD Treatment Services, Percent of Adolescent Beneficiaries with Well-Care Visits.

Hypothesis 1.3:* *Population health will improve as a result of the implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.

Process measures: Strategies to Improve Population Health: Necessary Resources, Infrastructure Development, Outreach Efforts, Factors Contributing to Successful Intervention Strategies, Challenges Encountered

Outcome measures: Changes in Self-Reported Health Status, Health Related Quality of Life, Tobacco Use, Alcohol Consumption.

Hypothesis 1.4*: *The total cost of care will be lower for Medicaid beneficiaries with behavioral health disorders or co-occurring physical and behavioral health disorders after IDNs are operating regardless of IDN, geographic location, or market area.

Outcome measures: The primary outcome will be average costs for attributed individuals; total costs will be further broken apart to examine specific costs expected to be impacted by the demonstration. The following costs will be calculated for analysis: Total Cost of All Care, Total Cost of All Inpatient Care, Total Cost of All Outpatient Care, Total Cost of Emergency Department (ED) Care, Total Cost of Behavioral Health Care, Total Cost of Outpatient Behavioral Health Care, Total Cost of Inpatient Behavioral Health Care, Total Cost of Emergency Department (ED) Behavioral Health Care

Hypothesis 1.5*: *The rate of avoidable hospital re-admissions for individuals within IDNs with behavioral health disorders or co-occurring physical and behavioral health disorders will be lower at the end of the demonstration than prior to the regardless of IDN, geographic location, or market area.

Outcome measures: Hospital Re-Admission for Any Cause for Individuals with Behavioral Health Disorders, Hospital Re-Admission for Behavioral Health Disorder

Hypothesis 1.6*: *The statewide rate of avoidable hospital admissions for individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will be lower at the end of the demonstration than prior to the regardless of IDN, geographic location, or market area.

Outcome measures: Hospital Admission for Ambulatory Care Sensitive Admissions for Individuals with Behavioral Health Disorders.

Hypothesis 1.7*: *The rate of Medicaid beneficiaries waiting for inpatient psychiatric care will decrease over the course of the Demonstration regardless of IDN, geographic location, or market area.

Outcome measures: Rate of Individuals Waiting for Inpatient Psychiatric Care

***Hypothesis 1.8:** The average length of stay for inpatient psychiatric care at New Hampshire Hospital (NHH, NH's state run psychiatric facility) will be lower at the end of the Demonstration than prior to the Demonstration, as options for community-based care increase regardless of IDN, geographic location, or market area.*

Outcome measures: Length of Stay for NHH Inpatient Psychiatric Care

***Hypothesis 1.9:** The average wait times for outpatient appointments at a community mental health center will be lower at the end of the demonstration than prior to the regardless of IDN, geographic location, or market area.*

Outcome measures*:* Community Mental Health Center Referral or New Patient Appointment (Timeliness)

Hypothesis 1.10: *The number of referrals and follow-up plans from primary care and other non-psychiatric providers to appropriate services will increase during the regardless of IDN, geographic location, or market area.*

Outcome measures: Number of primary care/other provider referrals, number of follow-up plans.

Research Question 2: To what extent has the DSRIP Demonstration improved integration and coordination between providers? To what extent has the DSRIP Demonstration fostered the bi-directional and integrated delivery of physical health services, behavioral health services, SUD services, transitional care, and alignment of care coordination to serve the whole person? Was there any variation between IDNs/geographic regions/market areas?

Hypothesis 2.1**:** *Integration and coordination between providers within the IDNs will improve as a result of implementation of the DSRIP regardless of IDN, geographic location, or market area.*

Outcome measures: Fragmented Care, Transmission of Records, Alcohol/Drug Abuse Screening, Substance Use and Depression Screening, Receipt of Necessary Care Composite Score, Timely Receipt of Health Care Composite Score, Care Coordination Composite Score, Behavioral Health Composite Score, Mental Illness Hospitalization Visit Follow-up, Mental Illness ED Visit Follow-Up, Alcohol/Drug Dependence ED Visit Follow-Up, Ratings of Improvement in Care Coordination and Integration

Process measures: Patient Experiences of Care Integration and Coordination: Successes Resulting from Integration and Coordination Strategies, Barriers to Integration and Care Coordination, Information Sharing, Policies Supporting Coordination, Provider and Patient Experiences of Improved Care; Practice and Provider Experiences of Care Integration and Coordination: Integration and Coordination Strategies, Barriers to Integration, Information Sharing, Policies Supporting Coordination, Provider Experiences with Integration

Research Question 3: To what extent has the DSRIP Demonstration improved the capacity of the state's behavioral health workforce to provide quality, evidence-based, integrated care?

Hypothesis 3.1**:** *Capacity to deliver evidenced-based behavioral health and/or SUD treatment will increase as a result of the DSRIP Demonstration statewide and IDN specific project activities.*

Outcome measures: Size and Training of the Provider Network: Number of MSWs, APRNs, and psychologists in the workforce to do integrated care and addiction care; Number of SUD peers trained in Intentional Peer Support and Mental Health First Aid; Number of Trainings Provided; Number of New Provider Certification or Licensure; Number of New Hires

Research Question 4: To what extent has the DSRIP Demonstration enhanced the state's health IT ecosystem to support delivery system and payment reform? Have changes to the IT ecosystem brought about by the DSRIP Demonstration specifically enhanced the IDNs in regard to the following four key areas: governance, financing, policy/legal issues and business operations?

Hypothesis 4.1*: *Health IT infrastructure among the IDNs will improve as a result of the DSRIP Demonstration statewide and IDN specific project activities.

Outcome measures: Enhancements to the IT System, Perceptions of the Enhanced IT System, Perceptions of the Usability and Utility of the Enhanced IT System

Process measures: Stakeholder Perceptions of Governance Challenges and Successes, Financing Structures, Business Operations Implementation, Policy and Legal Issues

Hypothesis 4.2*: *Health IT strategies implemented during the DSRIP Demonstration will result in improved information exchange across settings and enhanced care management for beneficiaries with behavioral health disorders.

Outcome measures: Care Coordination Composite Score, Ratings of Improvement in Care Coordination and Integration, Perceptions of Improved Information Exchange, CAHPS Information Technology Item Set

Process measures: Information Sharing, How IT Infrastructure has Helped Coordinate Care, Barriers to Using Health IT for Care Coordination, Leveraging Health IT for Care Management

Research Question 5: To what extent has the DSRIP Demonstration improved IDNs' readiness to transition to or implement Alternative Payment Models (APMs)? Are IDNs making adequate preparations in data infrastructure, financial infrastructure, and other required changes needed to achieve the goal of 50% of Medicaid provider payments to providers using APMs by the end of the demonstration period? Have the IDNs engaged with the state and managed care plans in support of that goal?

Hypothesis 5.1*: *DSRIP Demonstration activities have improved the IDNs' ability to make the necessary changes to their systems to transition to or implement APMs and achieve the DSRIP goal.

Outcome measures: Number of IDNs transitioned to/implementing APMs, Projected percentage of payments made to providers under APM

Process measures: IDN Perceived Challenges Associated with Implementing APMs, IDN Perceived Benefits of Implementing APMs

D. Study Population

The population under study for this evaluation includes all Medicaid beneficiaries of all ages with behavioral health disorders or co-occurring physical and behavioral health disorders with full Medicaid benefits. Behavioral health disorders range from moderate depression and anxiety to substance use and severe mental illness.

Study Group

The study group for this evaluation will include all New Hampshire Medicaid fee-for-service and Medicaid Care Management Program beneficiaries, both children and adults, and adults receiving care through New Hampshire's Premium Assistance section 1115 demonstration, who have a behavioral health disorder and are served by an IDN during the Demonstration period (all beneficiaries residing in-state are served by IDNs). Because of the differences in financing and cost-sharing for Premium Assistance Program enrollees, the evaluation will also include a series of analyses that examine the Premium Assistance Program separately from traditional Medicaid. Individuals who do not have an eligible behavioral health disorder will be excluded from the study population. This other group will be used as a control for any overarching policy and clinical practice environmental changes occurring within the state and its Medicaid program over the course of the evaluation period.

Behavioral health disorders will be defined based on three criteria: beneficiaries receiving care at community mental health centers, or who have a primary diagnosis code for a behavioral health disorder, or who have therapeutic medication for a behavioral health disorder. Members who meet one or more of the eligibility criteria are considered to have a behavioral health disorder. Members who meet one or more of these criteria at any time during the Demonstration, from the date of first qualification to the end of the Demonstration, will be considered part of the study group.

The eligibility criteria include:

1. Members who are indicated as eligible recipients of behavioral health care received at Community Mental Health Centers (CMHC). Members meeting this criterion can be identified based on the assignment of one of the following codes in the Medicaid Management Information System (MMIS; Medicaid claims and encounter data). Codes are based on CMHC submission to Managed Care Organizations or paid fee-for-service claims.
    - U1 - Severe/Persistent Mental Illness (SPMI)
    - U2 - Severe Mental Illness (SMI)
    - U5 - Low Utilizer of Mental Health Services
    - U6 - Serious Emotionally Disturbed Child
    - U7 - Emotion Disturb Child/Interagency
2. Members who have a Medicaid claim on which the primary diagnosis code is for a behavioral health disorder.

    The following ICD-10 codes will be used to identify members with mental health disorders:

- F20-F29 Schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders
- F30-F34 Mood (affective) disorders
- F41-F44 Anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders
- F53 Puerperal psychosis
- F60 Specific personality disorders
- F63 Impulse disorders
- F68 Other disorders of adult personality and behavior
- F84.0 Autistic disorder
- F84.9 Pervasive developmental disorders, unspecified
- F90 Attention-deficit hyperactivity disorders
- F91 Conduct disorders
- F93 Emotional disorders with onset specific to childhood
- F94 Disorders of social functioning with onset specific to childhood and adolescence

The following ICD-10 codes identify members with SUDs.

- F10 Alcohol related disorders (excluded: F10.21 Alcohol dependence, in remission)
- F11 Opioid related disorders (excluded: F11.21 Opioid dependence, in remission)
- F12 Cannabis related disorders (excluded F12.21 Cannabis dependence, in remission)
- F13 Sedative, hypnotic, or anxiolytic related disorders (excluded: F13.21 Sedative, hypnotic, or anxiolytic dependence, in remission)
- F14 Cocaine related disorders (excluded: F14.21 Cocaine dependence, in remission)
- F15 Other stimulant related disorders (excluded: F15.21 Other stimulant dependence, in remission)
- F16 Hallucinogen related disorders (excluded: F16.21 Hallucinogen dependence, in remission)
- F18 Inhalant related disorders (excluded: F18.21 Inhalant dependence, in remission)
- F19 Other psychoactive substance related disorders (excluded: F19.21 Other psychoactive substance dependence, in remission)
- F55 Abuse of non-psychoactive substances
- K29.2 Alcoholic gastritis
- K70.1 Alcoholic hepatitis

3. Members who have a Medicaid pharmacy claim for a behavioral health disorder. The following specific therapeutic class codes identify these members.
    - H2D Barbiturates
    - H2E Non-Barbiturates, Sedative-Hypnotic
    - H2F Anti-Anxiety Drugs
    - H2G Anti-Psychotics, Phenothiazines
    - H2H Monoamine Oxidase (MAO) Inhibitors
    - H2M Bipolar Disorder Drugs
    - H2S Serotonin Specific Reuptake Inhibitor(SSRI)
    - H2U Tricyclic Antidepressant & Related Non-Selective Reuptake Inhibitor
    - H2V Anti-Narcolepsy/Anti-Hyperkinesis
    - H2W Tricyclic Antidepressant/Phenothiazine Combination
    - H2X Tricyclic Antidepressant/Benzodiazepine Combination
    - H7B Alpha-2 Receptor Antagonists Antidepressant
    - H7C Serotonin-Norepinephrine Reuptake-Inhibitor (SNRIs)
    - H7D Norepinephrine & Dopamine Reuptake Inhibitors (NDRIs)
    - H7E Serotonin-2 Antagonist/Reuptake Inhibitor (SARIs)
    - H7J Monoamine Oxidase (Mao) Inhibitors -Non-Selective & Irreversible
    - H7O Antipsychotic, Dopamine Antagonist, Butyrophenones
    - H7P Antipsychotic, Dopamine Antagonist, Thioxanthenes
    - H7R Antipsychotic, Dopamine Antagonist, Diphenylbutylpiperidines
    - H7S Antipsychotic, Dopamine Antagonist, Dihydroindolones
    - H7T Antipsychotic, Atypical, Dopamine, & Serotonin, Antagonists
    - H7U Antipsychotic, Dopamine & Serotonin Antagonist
    - H7X Antipsychotic, Atypical, D 2 Partial Agonist/Serotonin Mix
    - H7Y Treatment For Attention Deficit Hyperactivity Disorder, Norepinephrine Reuptake Inhibitor Type
    - H7Z Serotonin Specific Reuptake Inhibitor (SSRIs)/Antipsychotic, Atypical, Dopamine & Serotonin Antagonist Combination
    - H8B Hypnotics, Melatonin Receptor Agonists
    - H8D Hypnotics, Melatonin & Herb Combination
    - H8F Hypnotics, Melatonin Combination Other

- H8G Sedative-Hypnotic, Non-Barbiturate/Dietary Supplement
- H8H Serotonin-2 Antagonist, Reuptake Inhibitor/Dietary Supplement Combinations
- H8I Selective Serotonin Reuptake Inhibitor (SSRIs)/Dietary Supplement Combinations
- H8M Treatment For Attention Deficit Hyperactivity Disorder -Selective Alpha-2 Adrenergic Receptor Agonist
- H8P Serotonin Specific Reuptake Inhibitor (SSRI) & 5Ht1A Partial Agonist Antidepressant
- H8Q Narcolepsy/Sleep Disorder Agents
- H8T Serotonin Specific Reuptake Inhibitor (SSRI) & Serotonin Receptor Modifier Antidepressant
- H8W Antipsychotic-Atypical, D3
- J5B Adrenergic, Aromatic, Non-Catecholamine
- C0D Anti-alcoholic Preparations
- H3T Narcotic Antagonists
- H3W Narcotic Withdrawal Therapy Agents

Subpopulation Group

Outcomes for a subpopulation of beneficiaries with co-occurring physical and behavioral health disorders will also be analyzed as part of this evaluation. The subpopulation will include beneficiaries in the study group who also have a primary or secondary diagnosis for one of the following physical health conditions that commonly co-occur in individuals with behavioral health disorders: diabetes, asthma, chronic obstructive pulmonary disease, and cardiovascular disease. Subpopulation group members will be identified through claims using HEDIS 2017 value sets inclusion and exclusion criteria. Beneficiaries who do not have a qualifying behavioral health disorder and eligible co-occurring physical health condition will be excluded from the subpopulation group.

Comparison Groups

The entire population of the state falls within the catchment areas of the IDNs. Since Medicaid beneficiaries with behavioral health disorders are required to seek care within their IDN, there is no direct comparison group available for this evaluation. In designing the evaluation plan a variety of potential comparison groups were considered including the creation of a point in time comparison group of individuals with new behavioral health or substance use disorders. The creation of a comparison group of new diagnosis is not feasible for a number of reasons including:

- Using claims data to determine a new diagnosis is problematic as identifying individuals with a truly new diagnosis requires complete medical histories on individuals; and

- The sample size of members with new diagnoses will likely be substantially smaller than the study group, making it difficult to examine statistical differences between the two groups.

Therefore, the state is proposing a one-group quasi-experimental pretest-posttest design with multiple observation points. Given the lack of a feasible control group, a pre-posttest design is the most appropriate and robust study design. However, the state will work with the independent evaluator to further explore the possibility of identifying the most appropriate comparison group.

The pre-intervention comparison group will be selected based on the same eligibility requirements as the study group. Each eligible pre-intervention comparison group member will be attributed to an IDN using the same method used for attribution during the study period based on claims/encounters and member residence geography. Below is a description of the attribution steps, in hierarchical order:

1. Member has a recent relationship with a Nursing Facility in an IDN based on claims.
2. Member has a recent relationship with a Community Mental Health Center in an IDN, based on MCO reported CMHC association and claims for non-MCO members.
3. Member has a recent relationship with a primary care provider in an IDN, based on claims/encounters.
4. Member has a recent relationship with a behavioral health provider in an IDN, based on claims/encounters.
5. Member is attributed to an IDN based on the relationship between the member's current residence and the IDN defined geographic region/market area.

The analysis will also include a comparison group for falsification tests that will be comprised of beneficiaries who have no behavioral health disorders, as this population is not expected to be impacted by the Demonstration. The individuals within this group will be identified using eligibility and claims data. The study group and the comparison groups will be examined for differences in outcomes, effectiveness of care, utilization, and cost of care. For a more detailed description of the proposed falsification tests refer to the Research Methods and Data Analysis Section.

E. Data Sources and Collection Plan

The evaluation will include multiple sources and forms of qualitative and quantitative research methods and data to comprehensively evaluate the DSRIP Demonstration research hypotheses. These data include administrative data (e.g., Medicaid claims and encounter data), survey and in-depth interview data collected specifically for this evaluation, and documentation provided by the IDNs and in quarterly operational reports.

A summary of the data sources, samples, and analytic methods for this evaluation is contained in the table below, followed by a detailed description of the proposed data sources and data collection activities.

Table 1. Summary of Data Strategy and Analysis Plan, by Data Source		
Data Source for Measurement	**Sample**	**Analysis Method**
Behavioral Risk Factor Surveillance System (BRFSS)	Medicaid beneficiaries ≥18	Mann-Whitney U-test, pre-DSRIP vs. post-DSRIP and regression annually
Data from Non-Claim Discharges from New Hampshire Hospital	Medicaid beneficiaries of all ages who have a behavioral health disorders	Mann-Whitney U-test, pre-DSRIP vs. post-DSRIP and regression annually
HEDIS Measures	Medicaid beneficiaries of all ages who have a behavioral health disorders	Mann-Whitney U-test, pre-DSRIP vs. post-DSRIP and regression annually
Medical Management Information System (MMIS) – Medicaid Claims and Encounter data	Medicaid beneficiaries of all ages who have a behavioral health disorders	Mann-Whitney U-test, pre-DSRIP vs. post-DSRIP and regression annually
Premium Assistance Program Encounter data	Medicaid beneficiaries of all ages who have behavioral health disorders	Mann-Whitney U-test, pre-DSRIP vs. post-DSRIP and regression annually
IDN Documents	All Documents related to the IDN workforce size and training	Document review
IDN Electronic Health Records	Medicaid beneficiaries of all ages who have a behavioral health disorders	Mann-Whitney U-test, pre-DSRIP vs. post-DSRIP and regression annually
Stakeholder Interviews	1. Medicaid beneficiaries ≥18 who have a behavioral health disorder and had at least 1 visit in the previous 12 months	1. Thematic analysis
	2. Medical and community providers in IDNs who treat beneficiaries with a behavioral health disorders	2. Thematic analysis
	3. Medicaid administrator(s), NH DHHS administrator(s), Medicaid and NH DHHS legal staff, managed care organization administrators, IDN administrators	3. Thematic analysis
Stakeholder Surveys	1. Medicaid beneficiaries ≥18 who have a behavioral health disorder and had at least 1 visit in the previous 12 months	1. Mann-Whitney U-test, pre-DSRIP vs. post-DSRIP and annually
	2. Medical and community providers in	2. Mann-Whitney U-test,

	IDNs who treat beneficiaries with a behavioral health disorder	pre-DSRIP vs. post-DSRIP and annually
	3. IDN and Medicaid stakeholders who are knowledgeable about the health information technology system	3. Pre-DSRIP vs. post-DSRIP comparison

Administrative Data

The DSRIP Demonstration evaluation will synthesize information from several sources of administrative data to assess the impact of the demonstration on health and health care outcomes and address evaluation hypotheses 1.1-1.5. These data sources are: Medicaid claims and encounter data, IDN electronic health record (EHR) data, non-claim discharges from New Hampshire Hospital, and HEDIS data. Appendix A lists each of the research hypotheses, data sources, and associated outcome and process measures. The Independent Evaluator will have access to a unique identification number for each person that is linked across the administrative data sets.

Use of fee-for-service claims and managed care encounters will be limited to final, paid status claims/encounters. Interim transaction and voided records will be excluded as these types of records introduce a level of uncertainty that can impact reported rates.

Medicaid Management Information System

Claims and Encounter Data - The Medicaid Management Information System (MMIS) is the repository for all state-based Medicaid claims and encounters data, in accordance with CMS standards and protocols. Claims and encounter data contain service utilization data, such as health care visits, the types of care received, and payments for each service provided. Access to Medicaid claims and encounters will be required to optimize the information available to calculate various measures. In general, Medicaid encounters are received and processed by the state's fiscal agent on a weekly basis with a historical 'run-out' of three months.

Member Demographics - In addition to service utilization data, the DSRIP Demonstration evaluation will require access to supplemental Medicaid data contained in the state's MMIS, such as member demographics, eligibility/enrollment, and provider information. Demographic and financial data will be used for the calculation of specific measures. For example, members' age is used to define the comparison group relative to the distribution of the population in the study group. Additionally, fields such as gender will be used for the prenatal and postpartum measures. Finally, key financial data will be used when assessing gaps in coverage.

Eligibility/Enrollment - The eligibility/enrollment file will also be used to create the study and comparison groups, as well as to assess health insurance type (i.e., fee-for-service, Medicaid Managed Care Program or Premium Assistance), and enrollment gaps.

Provider - Provider data, such as IDN, office location, and specialty, will be used to assess the availability of services for both study and comparison groups.

Premium Assistance Program Encounter Data

Encounter Data – New Hampshire has established a Memorandum of Understanding (MOU) with the NHHPP's Premium Assistance Program (PAP) qualified health plans (QHPs) to provide encounter data to the state. The QHPs submit data to NH DHHS using the format and quality requirements of the state's Comprehensive Health Care Information System (CHIS), New Hampshire's All Payer Claims Database. Existing CHIS data quality assurance processes will be employed to ensure the data are complete and of high quality. Since the CHIS data normally contain encrypted identifiers, the QHPs will submit to NH DHHS a separate duplicate feed of PAP members that contains identifiers, including member Medicaid ID, to allow linkage of the data to Medicaid membership and claims.

Qualified Health Plans on a monthly basis submit encounter data to DHHS in a detailed format that provides the same information as managed care encounter data. This data is currently being stored in the DHHS Enterprise Data Warehouse. The data will eventually be migrated to use the MMIS as the repository.

IDN Electronic Health Records

Although the majority of measures for this study will be generated from claims using HEDIS specifications, in some cases electronic health records (EHR) may also be required or be the appropriate source of data. One of the primary goals of the statewide HIT workgroup is to work with IDNs to establish minimum standards of quality and consistency around a defined set of EHR metrics. To the extent possible, EHRs will be used to generate data on the standardization and implementation of screening assessments and counseling, provision of services, and health outcomes. They will also be used to assess the sharing of records across providers.

Data from the Electronic Health Record would be ideal to measure wait time for metrics such as inpatient psychiatric care (hypothesis 1.7), however, that data is not yet available in a manner appropriate for evaluation. The Independent Evaluator and the state will need to select and employ one of the following options:

1) The preferred option is to establish a system of data collection for wait time that would track the number of Medicaid beneficiaries, both adults and youth, waiting for inpatient psychiatric care in any hospital in the state, (including voluntary and involuntary admissions, and ED boarding), each day during the quarter/year, and how long each member has waited. Given that this tracking system would have to be developed, the need to collect baseline data would create a delay in measurement of change in the metric. The entity(ies) that implements the tracking system may include managed care organizations (MCOs), hospitals, and/or another entity not yet identified.
2) Should the first option not be feasible, a second option would be to use the best available data which is the daily bed availability data reported by New Hampshire Hospital. This system tracks the time from when adults and youth are referred specifically to their inpatient units to the time they are admitted. However, this data is limited to individuals specifically referred to New Hampshire Hospital units and it does not fully represent all Medicaid beneficiaries waiting for inpatient psychiatric admission to other facilities.

Data from Non-Claim Discharges from New Hampshire Hospital

Discharge data from New Hampshire Hospital for stays that do not generate a Medicaid claim due to the IMD exclusion for payment will be used to generate annual estimates of the number and length of inpatient psychiatric stays and re-admissions during the pre-Demonstration and Demonstration period. The Independent Evaluator will access special extracts from this data source in order to examine all outcomes.

Health Care Effectiveness Data and Information Set and the DSRIP Outcome Measure Set

HEDIS is a tool used by more than 90% of America's health plans to measure performance on important dimensions of care and service. HEDIS consists of 81 measures across five domains of care. Nine of the Demonstration outcome measures are drawn from HEDIS measures to address Hypothesis 1.1 (see Appendix A). For this evaluation, HEDIS measures calculated by NH DHHS for IDN outcome measurement will be used to analyze outcomes in the sample population both at the state level and the IDN level in cases when the sample population is the same.

NH Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is the nation's premier system of health-related telephone surveys that collect state data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services. The NH BRFSS is an annual random-digit-dialed telephone survey of NH adults (18+) conducted by NH DHHS and supported by a grant from the Centers for Disease Control and Prevention. The primary focus of the survey is on behaviors that are linked with population morbidity and mortality (e.g. diabetes, heart disease, stroke, and injury) and on topics including diet, exercise, weight, tobacco and alcohol use, injuries and preventative medical care. The survey estimates the health status and the prevalence of various risk factors among respondents, including Medicaid beneficiaries. NH BRFSS data will be used to assess trends in population health measures. NH BRFSS data from 2014 will serve as baseline for select population health measures. Data from NH BRFSS surveys to be conducted in 2017 and 2020 will be used to examine changes in population health over the course of the intervention. The NH BRFSS includes a question to distinguish source of health care coverage.

Stakeholder Surveys

Stakeholder surveys will be used to assess aspects of the DSRIP Demonstration that cannot be gathered from administrative health and health care record data. Four groups will be surveyed: Medicaid beneficiaries, health care and community-based providers, IDN administrators, and health information technology (HIT) stakeholders. Survey topics include: Improvements in Care Coordination and Integration, Perceptions of the IDNs, Health Information Technology, Enhancements to the Information Technology System, and Demographic Characteristics.

Beneficiaries will be surveyed on improvements in their care coordination and integration, experiences with health care access, quality of care, and perceptions of the IDNs and HIT. Sample questions for this survey have been drawn from the Consumer Assessment of health care Providers and Systems (CAHPS) Clinician and Group survey and its supplements. The CAHPS is a set of surveys maintained by the US Agency for health care Research and Quality (AHRQ) and used widely by health care providers and agencies to assesses and improve current practice.

Sample questions for this survey have been drawn from the US Agency for Healthcare Research and Quality (AHRQ)'s Consumer Assessment of health care Providers and Systems (CAHPS) Clinician and Group survey and CMS's Adult Qualified Health Plan Enrollee Experience Survey.

IDN administrators and providers will be surveyed on improvements in care coordination and integration. IDN HIT stakeholders will be surveyed on enhancements to the information technology system. The Independent Evaluator will develop surveys and work with the IDNs to identify administrators and HIT stakeholders based on the statewide HIT assessment completed by the IDNs, and synergize the surveys with the resulting statewide HIT plan, as appropriate.

Beneficiaries and providers will be stratified and then randomly selected to participate in the survey. Beneficiaries will be stratified by IDN, evidence of a behavioral health disorder, gender, and age. Providers will be stratified based on IDN and type of provider (e.g., medical doctor, case manager, psychologist, community service provider, etc.). IDN administrators and HIT stakeholders will be identified by the Independent Evaluator; after identifying the number of key administrators and HIT stakeholders, the Independent Evaluator will determine whether a sampling frame is necessary and if so, how the sample should be stratified. Stratified random sampling of this type ensures that members of all key groups of interest are selected to participate in the survey.

Survey data will be anonymous and confidential. To ensure privacy, data from the surveys will not be linkable to the administrative or other forms of data used in this evaluation. The surveys will include closed-answer (e.g., yes/no, Likert scale) and open-ended questions. Draft surveys, except for the CAHPs/QHP surveys will be developed specifically for this evaluation and designed for each stakeholder group. The Independent Evaluator will review the drafts and finalize the surveys upon approval by NH DHHS. NH DHHS will submit the survey questions to CMS for review prior to administration. Surveys will be conducted through an online survey platform (e.g., Qualtrics) and through the mail as paper-and-pencil surveys. Mailed surveys will include a stamped and addressed return envelope to facilitate participation. Pre-survey letters will be sent to selected participants. Three follow-up letters will be sent to remind respondents to participate. All mailings will be created and sent from the Independent Evaluator's office.

Key Stakeholder Interviews

Semi-structured interviews will be utilized to gather in-depth data from stakeholders on aspects of the DSRIP Demonstration that cannot be gathered from administrative health and health care record data or stakeholder surveys. Four groups will be interviewed: Medicaid beneficiaries, health care and community-based providers, IDN administrators, and HIT stakeholders. Primary domains of interest include: experiences with health care, experiences with care coordination and integration, perceptions of the health information technology systems during the DSRIP Demonstration, transitioning to APMs, and information on demographics and practice characteristics. The same stratified random sampling selection process used for the stakeholder surveys will be used for the stakeholder interviews.

Semi-structured interviews will be conducted by phone or face-to-face, last approximately 45 to 60 minutes, and be audio-taped. All audio-tapes will be transcribed verbatim; pseudonyms will be assigned in order to protect the confidentiality of respondents. The state and its employees

will not conduct any of the interviews, transcribe interviews, or have access to the audio-tapes or transcripts. The tapes will be destroyed after transcription.

Below is an overview of the topics included in the interviews. Interview questions will be finalized by the Independent Evaluator and approved by NH DHHS. NH DHHS will submit the interview questions to CMS for review prior to administration.

Beneficiary Interviews: Interviews will be conducted with approximately 10 beneficiaries per IDN (stratified by IDN), for a total of approximately 70 beneficiary interviews, and will focus on documenting member experiences with health care access and the quality of their care during the Demonstration. Topics will include: experience with IDNs, usual source of care, barriers to access, and perceptions of care coordination and integration. The interview will include questions such as:

1. How were you referred to treatment for your behavioral health or substance use disorder?
2. Are the services you received convenient in terms of location and hours?
3. Is your primary care provider aware of your behavioral health and/or substance use disorder? Do they correspond with your other providers?
4. How do you perceive the quality of the care you receive for your behavioral health and/or substance use disorder?
5. Does your provider have an online web portal or other technology based solutions? If so, do you utilize these resources and how have they impacted your communications with your provider and the management of your health?

Provider Interviews: Provider interviews will be conducted with approximately 35 providers stratified by IDN, and focus on documenting providers' experiences with care coordination and integration during the DSRIP Demonstration, as well as perceptions of the impact of HIT systems in assisting with ongoing management of patient care. The interview will include questions such as:

1. What strategies were successful at promoting integration and care coordination?
2. What are some of the barriers to care coordination and integration for behavioral health and substance use disorders?
3. What were some of the barriers to information-sharing between providers?
4. What resources do providers need to implement evidenced-based care for behavioral health and substance use disorders?

IDN Administrator and Other Stakeholder Interviews: Semi-structured interviews will be conducted with two administrators per IDN and focus on documenting the IDN implementation experience. The interview will include questions such as:

1. What were the successes and challenges regarding IDN planning, implementation and operation?
2. What is the plan for program sustainability? What are the challenges associated with ongoing program maintenance and expansion and required policy changes?
3. What strategies were successful at helping to transition to APMs?

4. What are the benefits and challenges associated with implementing APMs within and across geographic region/market area?
5. How has HIT improved care coordination, integration, and ongoing patient monitoring?

Health Information Technology (HIT) Stakeholder Interviews: Interviews with HIT stakeholders will focus on gathering in-depth information on perceptions of the DSRIP HIT enhancement strategies, including whether HIT has enhanced governance, finance, policy/legal issues, and business operations. Approximately 20 interviews will be conducted with stakeholders, including Medicaid data administrator(s), DHHS staff, and MCO administrators. The interview will include questions such as:

1. What were some notable successes and challenges to expanding the state's HIT infrastructure?
2. What organizational characteristics had the most influence, positive or negative, on the ability to implement HIT strategies in the IDNs?
3. What HIT strategies where the most challenging to implement? Why?
4. What difficulties were encountered in developing HIT data sharing strategies?
5. What strategies were used to address policy, legal, and business operations issues?

IDN Data

The NH DHHS has a contracted relationship with the Administrative Lead organizations of each IDN to ensure that data capturing, compiling, analyzing, and submission to NH DHHS is part of the IDNs' compliance with the DSRIP Demonstration. These contracts allow for the secure and managed exchange of client, clinical, and performance data between NH DHHS and the IDN Administrative Leads. The Independent Evaluator will work with NH DHHS and the IDN Administrative Leads to access the data needed to complete the evaluation. The Independent Evaluator must maintain the security of the data at all times in accordance with NH DHHS requirements.

In addition to the measure data submitted to NH DHHS by the IDNs, data on performance, HIT improvements, and the hiring and training of personnel will be used to examine enhancements to the HIT system and the size and training of the IDNs' provider networks.

F. Research Methods and Data Analysis

The variety of outcomes and potential implications of the DSRIP Demonstration requires the use of both quantitative and qualitative data analysis techniques. The implementation and reporting of both of these methods for the evaluation will meet traditional standards of scientific and academic rigor, as appropriate and feasible for each aspect of the evaluation: evaluation design, data collection and analysis, and the interpretation and reporting of findings. The Demonstration evaluation will use the best available data, use controls and adjustments where appropriate and available, and report the limitations of data and the limitations' effects on interpreting the results. All research hypotheses and methods will incorporate results from sensitivity, specificity, and power analyses to ensure the validity of the evaluation findings.

The specific choice of methods is dependent upon the measure under discussion and the theoretical and empirical implications for policy-relevant and defensible results. For this reason, the specific methods are detailed within each of the measures used in the evaluation (See Appendix A). If the Demonstration continues beyond its originally allotted timeframe, the measures will be analyzed according to the aforementioned techniques.

Quantitative Analysis

To measure DSRIP Demonstration outcomes, the Demonstration evaluation includes a pre-post design to assess the statewide impact of the Demonstration on outcome measures by examining trends in cost, utilization, and quality of care for Medicaid beneficiaries with behavioral health disorders enrolled in IDNs before and after the implementation of the Demonstration. Although an interrupted time series design is often considered to be a more robust quasi-experimental design, that methodology is not feasible for this evaluation because the majority of study outcomes are based on annualized HEDIS measures. Collecting the recommended minimum measurement time points for a time-series design (i.e., eight pre- and eight post-intervention measurement points) is not possible because only a small number of the proposed outcome measures can be produced quarterly. In order to reduce the plausibility of maturation and regression threats, we are incorporating multiple pre and post measurement points.

The DSRIP Demonstration evaluation will use quantitative methods to assess the receipt of services, estimates of health care visits and costs of visits, and analyze closed-ended survey questions. Quantitative analytic methods will also be used to compare outcomes and the extent of existing health and health care differences between sub-populations as well as between IDNs. Below is a description of the analytic strategies that will be used to examine the research hypotheses.

Descriptive Statistics: Descriptive analyses will examine results for selected measures for each year in the pre and post periods. For example, bivariate analyses will be used to explore trends in beneficiaries' access to care, utilization of services and cost of care. Three descriptive quantitative analysis methods will be used to examine health and health care outcomes: McNemar's chi-square, Mann-Whitney U Test, and Wilcoxon Signed Rank Test. These nonparametric tests are appropriate when data are (1) categorical or (2) continuous but do not meet the assumptions (e.g., normality) used by parametric tests. Parametric analyses (e.g., t-tests, etc.) may be used as appropriate. The Independent Evaluator will test whether continuous measures (e.g., number of visits, etc.) meet the assumptions of parametric analyses. If these measures do not meet the assumptions of parametric tests, non-parametric methods (e.g., Mann-Whitney U) will be used to analyze the data. The non-parametric tests will be used to assess whether any differences found between the pre- and post-test periods are statistically significant (i.e., unlikely to have occurred in the data through random chance alone). The traditionally accepted risk of error ($p \leq 0.05$) will be used for all comparisons.

Multivariate Analysis: A pre-post design will be used to examine the statewide impact of the Demonstration on outcome measures Key outcomes will be calculated annually for a three year pre-intervention period (calendar years 2013, 2014, and 2015) and annually for the five year demonstration period (calendar years 2016, 2017, 2018, 2019, and 2020). Regression models accounting for members in more than one year (clustering) will be used to assess the rate of change over time in study outcomes for the study group. To assess change over time, the evaluation will use Poisson or negative binomial regression models for the utilization measures,

generalized linear models for the cost measures, and logistic regression for the quality measures. Age, gender, risk level, and IDN will be controlled for in the models examining cost and utilization measures. Statistically significant results will be reported based on $p \leq 0.05$.

Total cost of care will include all costs (administration and medical) that were paid by NH Medicaid. Cost of care for specific services will be estimated for managed care encounters based on a list of standard costs for each service type (CPT codes and revenue codes). Standard costs for various types of service can either be purchased or generated from analysis of fee-for-service claims. The specific method used will be determined by the evaluator after reviewing the claims/encounter data. Costs will compare those incurred in the pre-DSRIP Demonstration period to those incurred during the DSRIP Demonstration period, as well as between beneficiaries with and without a behavioral health disorder, where specified and appropriate. All health care costs will be inflated or deflated to a base year set by the Independent Evaluator. The Independent Evaluator will seek recommendations from subject matter experts on which specific measures to use to inflate or deflate the Demonstration's Medicaid data.

Additional regression analyses will be used to explore the impact at the individual IDN level as well as across IDNs. Multilevel modeling may also be conducted to examine the impact of the DSRIP Demonstration, accounting for member and IDN characteristics (e.g., provider density). Regression methods have a long history of generating empirically robust results when the evaluation model is correctly specified. The Independent Evaluator will utilize clinical subject matter experts when building multivariate models and identifying relevant control variables.

Validation: Because all eligible individuals are automatically enrolled in the Demonstration, the Independent Evaluator will be limited to a non-experimental study design, with limited opportunity to designate a control group. Because of this, it will be difficult to isolate whether changes observed over time are attributable to the Demonstration, or to pre-existing trend or co-occurring environmental factors. We propose two strategies for addressing this challenge and enhancing the validity of the study.

First, to control for external context and examine whether any changes in beneficiary outcomes can be attributed to DSRIP, the evaluator will assess changes in outcomes of interest over time for a group of individuals without behavioral or substance use disorders. This analysis will compare the study group to beneficiaries without behavioral health conditions on outcomes that we would not expect to be impacted by the demonstration using a difference-in-difference (DID) approach.

DID is an econometric technique used to control for time trends in the outcomes of interest by comparing two groups over a study period. The difference-in-difference design will help to control for factors external to the Demonstration by examining whether a group not affected by the DSRIP experiences comparable changes in health care use and quality. For this evaluation, the model will rely on measures of outcome variables before and after implementation of the Demonstration for beneficiaries with (study group) and without (comparison group) behavioral health disorder diagnoses. Because behavioral health metrics will not be particularly relevant to the non-Demonstration Medicaid population, the state will limit the DID analysis to a select number of physical care metrics including preventative screenings, cholesterol screening, emergency department visits, avoidable hospital admissions and costs of care for non-behavioral health services.

A second approach under consideration is the use of falsification tests in which the Independent Evaluator will analyze the change in metrics that would not be anticipated and would be related to the Demonstration. However, the comprehensive and integrative nature of the DSRIP is such that the state expects to see improvements in a wide range of health care process and outcome measures. For example, improved management of behavioral health issues should ultimately lead to increased use of preventive care screenings and lower costs. Thus, it is hard to identify variables that would be appropriate for falsification testing; however, this will be discussed further with the Independent Evaluator to determine if there are variables that could be used.

Additional Analysis: When appropriate, supplemental analyses will be conducted to further investigate and understand the impact of the DSRIP Demonstration. These analyses may include the stratification of results by beneficiary type, key demographic, or IDN characteristics. For example, as part of the pre-posttest and exploratory analysis, when applicable, the state will stratify measures that include multiple diagnoses to examine the impact of the intervention on key outcomes by disorder type for analysis. Moreover, because of the differences in financing and cost-sharing for NHHPP enrollees in QHPs, the evaluation will include a series of analyses examining the NHHPP population separately from traditional Medicaid beneficiaries. When possible, evaluation results will incorporate national or state-defined standards and/or benchmarks for comparison purposes. In addition, the Independent Evaluator will collect data and perform an actuarial analysis to monitor compliance with NH DHHS' budget neutrality agreement with CMS. Together, the findings from these sub-group analyses will further inform the state regarding the impact of the DSRIP Demonstration.

Qualitative Analysis

Qualitative methods are the preferred method for capturing in-depth data on topics that cannot be easily reduced to closed-ended questions or numeric estimates. The evaluation relies on qualitative methods to investigate stakeholder experiences of the DSRIP Demonstration as well as to describe changes in the size and training of the IDNs' workforces. Two qualitative methods will be used:

1. **Thematic Analysis:** These analyses examine semi-structured interview data for patterns across interviews. Themes will be defined based on their appearance in the data and not on a pre-defined structure. For example, beneficiaries may describe the Demonstration as improving the coordination of care in six unique ways and impeding their care in four ways.
2. **Document Review:** This method is useful for gaining in-depth data, including changes in the workforce and its training on behavioral health disorders during the course of the demonstration as well as APM implementation across IDNs.

Thematic analysis will be conducted separately on each semi-structured interview transcript, for each group of interviewees using an inductive approach. Patterns in the transcripts will be identified and grouped into themes. Themes will be checked against the original transcripts for validity. Document review will be conducted on an ongoing basis, separately for each IDN. Items addressing improvements to the workforce size or training will be noted and additional information on those changes will be sought, as necessary. Review of quarterly operational reports will also be conducted on an ongoing basis, and will focus on any recommended changes to state policy and procedures.

To ensure inter-coder reliability and the reliability of the analyses, both methods will utilize at least two coders. Neither method is intended to support comparison between groups of interviewees or follow principles of statistical significance.

G. Limitations

The DSRIP Demonstration evaluation is limited by the lack of a true comparison group. All Medicaid beneficiaries are subject to participation in the demonstration and will receive care impacted by the development and implementation of HIT and IDNs across the state. As a result, comparisons can only be made among beneficiaries subject to the demonstration. Furthermore, outcomes may improve for all beneficiaries regardless of the presence of a behavioral health disorder. Therefore, the DSRIP Demonstration evaluation may show improvements in outcomes when compared to baseline but no improvements in comparison to people without behavioral health disorders.

The evaluation is also limited by its reliance on diagnostic codes, eligibility codes for CMHCs, and prescription drug codes to identify the beneficiary population with behavioral health disorders. These codes may not capture all behavioral health disorders, especially if they are not ascertained by clinicians. Reliance on these codes may reduce outcome differences between the beneficiary populations with and without behavioral health disorders, resulting in misleading findings on the impact of the demonstration.

Additionally, not all the data available for this evaluation is ideal. In some cases, the 'best available' data was selected that addresses the hypothesis as closely as possible. In other cases, the state will work with the Independent Evaluator to explore options for identifying best available data and for developing the ideal data, and select the best option.

The DSRIP Demonstration proposes to effect a dynamic change in the health care delivery system for people with behavioral health disorders. Systemic change does not occur quickly and, in this case, will likely take longer than the five years for which the Demonstration has been approved. Therefore, all findings must be interpreted with sensitivity toward the scope of the attempted change in the system and its long-term potential beyond the Demonstration period.

Finally, given the high levels of need for expansion and improvement in behavioral health in New Hampshire, especially among Medicaid beneficiaries, multiple state efforts are currently being implemented to address these shortfalls.

3. Evaluation Implementation

A. Selection of the Independent Evaluator

Based on state protocols, NH DHHS will follow established policies and procedures to procure an independent entity or entities to conduct the NH DSRIP Demonstration evaluation. Upon CMS approval of this evaluation design, the state will undertake a competitive procurement for the Independent Evaluator. In a competitive bidding process, a Request for Proposals (RFP) will be developed and issued by NH DHHS. This RFP will describe the scope of work, the major tasks, and contract deliverables, with a bidder's conference or Q&A session to be held to address questions from potential bidders. Proposals received will undergo review by a panel of NH DHHS staff using a scoring system developed for this RFP. Applicants will be evaluated on the basis of related work experience, staffing level and expertise, data analytic capacity, knowledge of state programs and populations, environment and resources, and resource requirements. The independent entity selected for the evaluation will be screened to assure independence and freedom from conflict of interest. The assurance of such independence will be a required condition by the state in awarding the evaluation contract. It is expected that a contract will be finalized and work will begin by late fall of 2017.

B. Evaluation Cost Estimates

As required by the CMS STC 72, NH DHHS will procure an Independent Evaluator to conduct the evaluation. The cost of conducting the evaluation will be a key variable in the competitive bid process. DHHS estimates a cost of two million dollars, based on actual costs of operating current NH 1115 waiver evaluations while considering the complexity and rigor of the DSRIP Evaluation Design. The table below displays the proposed budget shell that will be used during the procurement of an Independent Evaluator for submitting total costs for the Demonstration. Costs will be broken out by staff, estimated hours, costs, and anticipated subcontractors.

Proposed Budget Template for NH DSRIP			
Staff Title	***Year***		
	Loaded Rate	***Hours***	***Total***
Executive Director, Research & Analysis			
Project Director, Research & Analysis			
Project Director			
Project Manager			
Project Support			
Analyst			
Database Developer			
Reports Team			
Subtotal Direct and Indirect Costs			
Subcontractor - Statistician			
Subcontractor –Survey Vendor			
Subcontractor – Actuarial Vendor			
Annual Total			

C. Reporting

Following the annual evaluation of the NH DSRIP Demonstration and subsequent synthesis of the results, NH DHHS and the Independent Evaluator will prepare a report of the findings and describe how the results compare to the research hypotheses. Both the Interim Evaluation Report and the Final Evaluation Report will be produced in alignment with the STCs and the schedule of deliverables listed in the timeline below.

Each evaluation report will present findings in a clear, accurate, concise, and timely manner. At a minimum, the interim final evaluation reports will include the following sections:

1) The **Executive Summary** concisely states the goals for the Demonstration, the evaluation questions and hypotheses tested in the report, and updates on questions and hypotheses scheduled for future reports. In presenting the key findings, budget neutrality and cost-effectiveness will be placed in the context of policy-relevant implications and recommendations.

2) The **Demonstration Description** section focuses on programmatic goals and strategies, and expected outcomes. This section succinctly traces the development of the program from the recognition of need to the present degree of implementation. This section will also include a discussion of the state's roll-out of the NH DSRIP Demonstration along with its successes and challenges.

3) The **Study Design** section contains much of the new information in the report. Its five sections include: evaluation design with the research hypotheses and associated outcomes, measures and type of study design; impacted populations and stakeholders; data sources that include data collection fields, documents, and collection agreements; analysis techniques with controls for differences in groups or with other state interventions, including sensitivity analyses when conducted; and limitations for the study.

4) The **Findings and Conclusions** section is a summary of the key findings and outcomes for each research question and hypothesis. This section focuses on the successes, challenges, and lessons learned from the implementation of the Demonstration.

5) The **Interactions with Other State Initiatives** section contains a discussion of this Demonstration within an overall Medicaid context and consideration for the long-range planning efforts by the state. This discussion includes the interrelations between the Demonstration and other aspects of the state's Medicaid program, including interactions with other Medicaid waivers, and any other major efforts affecting service delivery, health outcomes, and the cost of care under Medicaid.

All reports, including the DSRIP Demonstration Evaluation Design, will be posted on the state Medicaid Website within 30 days of the approval of each document to ensure public access to evaluation documentation and to foster transparency. The state will work with CMS to ensure the transmission of all required reports and documentation occurs within approved communication protocols.

D. Projected Evaluation Design Timeline

Table 2. NH DSRIP Demonstration Evaluation Design Projected Timeline	
Deliverable	**Date**
NH DHHS submits draft NH DSRIP Evaluation Design to CMS for comments and posts to the state's website for public comment	10/18/2016
NH DHHS receives comments from CMS (no later than 60 business days of receipt of draft Evaluation Design)	By 1/10/2017
NH DHHS submits final Evaluation Design (no later than 60 calendar days of receipt of CMS comments) and posts to the state's website	By 2/1/2017
NH DHHS procures an independent evaluator	By 11/1/2017
NH DHHS submits draft Interim Evaluation Report to CMS for comment (90 calendar days following completion of DY 4)	By 3/31/2019
NH DHHS receives comments from CMS (within 60 business days)	By 6/21/2019
NH DHHS submits final Interim Evaluation Report to CMS (within 60 calendar days of receipt of comments)	By 8/21/2019
NH DHHS submits draft Final Evaluation Report to CMS for comment	By 9/30/2021
NH DHHS receives comments from CMS (within 60 business days)	By 12/23/2021
NH DHHS submits Final Evaluation Report to CMS (within 60 calendar days after receipt of comments)	By 2/23/2022

E. Evaluation Implementation Timeline

The following timeline has been prepared for the NH DSRIP Demonstration evaluation outlined in the preceding sections. This timeline should be considered preliminary and subject to change based upon approval of the evaluation design and implementation of the Demonstration. A final detailed timeline will be developed upon selection of the Independent Evaluator procured to conduct the evaluation.

Table 3. New Hampshire DSRIP Demonstration Evaluation Timeline

Task	2017				2018				2019				2020				2021				2022	
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2
Prepare and Implement Study Design																						
1. Prepare methodology and analysis plan																						
2. Arrange for how to receive data (i.e., Medicaid claims and encounters, IDN Health Records, HEDIS, etc.)																						
3. Work with DHHS to design data collection system for wait times to inpatient psychiatric stays																						
Data Collection																						
1. Obtain NH Medicaid member, provider, and eligibility/enrollment data																						
2. Obtain NH Medicaid claims and encounters																						
3. Obtain HEDIS Data																						
4. Obtain NH Hospital Discharge Data																						
5. Obtain IDN Documentation																						
6. Conduct stakeholder surveys																						
7. Conduct stakeholder interviews																						
8.Satisfaction surveys																						
Data Analysis																						
1. Analyze Medicaid claims and encounters, HEDIS and hospital discharge data																						
2. Analyze IDN Documentation																						
3. Analyze surveys																						
4. Analyze interviews																						
Dissemination																						
1. Progress reports																						
2. Interim evaluation report																						
3. Final evaluation report																						

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3. Somers, M., Zhu, P., Jacob, R. & Bloom, H. (2013). The validity and precision of the comparative interrupted time series design and the difference-in-difference design in educational evaluation. Retrieved April 21, 2017 from: http://www.mdrc.org/sites/default/files/validity_precision_comparative_interrupted_time_series_design.pdf

APPENDIX A. RESEARCH QUESTIONS, HYPOTHESES, MEASURES, AND ANALYSES

Note: Throughout the Appendix, Medicaid Claims and Encounters includes encounters from Premium Assistance Program members in Qualified Health Plans.

Research Question #1: *Was the DSRIP Demonstration effective in achieving the goals of better care for individuals (including access to care, quality of care, health outcomes), better health for the population, or lower cost through improvement? Was there any variation between IDNs/geographic regions/market areas? To what degree can improvements be attributed to the activities undertaken under DSRIP?*

Hypothesis 1.1: Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will receive higher quality of care after IDNs are operating regardless of IDN, geographic location, or market area.

Measure 1.1.1	**Experiences of Health Care with DSRIP**
Definition:	Semi-structured interviews will explore beneficiaries' perceptions about the impact of DSRIP on health care quality and outcomes.
Technical Specifications:	Approximately 20-25 interviews will be conducted with beneficiaries who have a behavioral health disorder and who have had at least one health care visit in the previous year, respectively. Interviews will be audiotaped and transcribed for thematic analysis.
Exclusion Criteria:	Members <18 years old; members who do not have a behavioral health disorder; members with behavioral health disorders who did not have one visit in the past year.
Data Source(s):	Semi-structured interviews
Comparison Group(s):	None
Comparison Method(s):	None (thematic analysis)
National Benchmark:	None
Measure 1.1.2	**HEDIS: Antidepressant Medication Management**
Definition:	Members 18+ treated with antidepressant medication, had a diagnosis of major depression and who remained on antidepressant medication treatment for at least 84 days and for at least 180 days
Technical Specifications:	1. Percent of members 18+ treated with antidepressant medication, had a diagnosis of major depression and who remained on antidepressant medication treatment for at least 84 days, in the calendar year. 2. Percent of members 18+ treated with antidepressant medication, had a diagnosis of major depression and who remained on antidepressant medication treatment for at least 180 days, in the calendar year.
Exclusion Criteria:	Members < 18; members who (a) are not treated with antidepressant medication and/or (b) don't have a diagnosis of major depression.
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	1. 2014 Medicaid HMO = 52.3%; 2. 2014 Medicaid HMO = 37.1%

Measure 1.1.3	**HEDIS: Follow-Up After Hospitalization for Mental Illness**
Definition:	Members 6+ years of age who were hospitalized for treatment of selected mental illness diagnoses and who had an outpatient visits, an intensive outpatient encounter or partial hospitalization with a mental health practitioner within 30 days and 7 days after discharge, in the last year.
Technical Specifications:	1. Percent of members 6+ years of age who were hospitalized for treatment of selected mental illness diagnoses and who had an outpatient visits, an intensive outpatient encounter or partial hospitalization with a mental health practitioner within 30 days, in the calendar year. 2. Percent of members 6+ years of age who were hospitalized for treatment of selected mental illness diagnoses and who had an outpatient visits, an intensive outpatient encounter or partial hospitalization with a mental health practitioner within 7 days after discharge, in the calendar year.
Exclusion Criteria:	Members < 6 years old; members without select mental illness diagnoses
Data Source(s):	Medicaid Claims, Medicaid Encounters, New Hampshire Hospital discharges for non-claim Medicaid patients
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	1. 2014 Medicaid HMO=43.9%; 2. 2014 Medicaid HMO=63.0%
Measure 1.1.4	**HEDIS: Initiation and Engagement of Alcohol and Other Drug Dependence Treatment**
Definition:	The percentage of adolescent and adult patients with a new episode of alcohol or other drug (AOD) dependence who received the following: - Initiation of AOD Treatment. The percentage of members who initiate treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter or partial hospitalization within 14 days of the diagnosis. - Engagement of AOD Treatment. The percentage of members who initiated treatment and who had two or more additional services with a diagnosis of AOD within 30 days of the initiation visit.
Technical Specifications:	1. Percent of adolescents (13-17 years old, consistent with HEDIS specifications) and adults (≥18 years old) with a new episode of alcohol or other drug dependence who initiate treatment within 14 days of the diagnosis, in the calendar year. 2. Percent of adolescents (13-17 years old) and adults (≥18 years old) members with a new episode of alcohol or other drug dependence who initiated treatment and who had two or more additional services within 30 days of the initiation visit, in the calendar year.
Exclusion Criteria:	Members who did not have a new episode of alcohol or other drug dependence; members <13 years old; members not diagnosed with SUD
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually, by age group 2. Regression, annually
National Benchmark:	1. 2014 Medicaid HMO = 38.3%; 2. 2014 Medicaid HMO = 11.3%
(a) Evaluation contractor should follow specifications provided in HEDIS 2017 Volume 2: Technical	

Specifications for Health Plans	
Measure 1.1.5	**HEDIS: Adherence to Antipsychotic Medications for Individuals with Schizophrenia**
Definition:	Members 19-64 years of age with schizophrenia who were dispensed and remained on an antipsychotic medication for at least 80% of their treatment period, in the last year
Technical Specifications:	Percent of members 19-64 years of age with schizophrenia who were dispensed and remained on an antipsychotic medication for at least 80% of their treatment period, in the , in the calendar year [a]
Exclusion Criteria:	Members without schizophrenia (ICD-9: 295); members with schizophrenia who were not dispensed antipsychotic medication; members <19 or <64 years old
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	2014 Medicaid HMO = 60.1%
Evaluation contractor may obtain these data from NH DHHS or follow additional specifications available at https://www.medicaid.gov/medicaid/quality-of-care/downloads/medicaid-adult-core-set-manual.pdf, (p. 122). Whichever method is selected should be used consistently across years.	
Measure 1.1.6	**HEDIS: Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications**
Definition:	Members 18-64 years of age with schizophrenia or bipolar disorder, who were dispensed an antipsychotic medication and had a diabetes test
Technical Specifications:	Percent of members 18-64 years of age with schizophrenia or bipolar disorder, who were dispensed an antipsychotic medication and had either a glucose test or HbA1c test, in the calendar year.
Exclusion Criteria:	Members < 18 or >64 years old; members without schizophrenia or bipolar disorder; members with schizophrenia or bipolar disorder who were not dispensed an antipsychotic medication; members with schizophrenia or bipolar disorder who did not have a glucose test or HbA1c test during the measurement year
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually; total group and by mental illness type 2. Regression, annually; total group and by mental illness type
National Benchmark:	2014 Medicaid HMO = 79.8%
Evaluation contractor may obtain these data from NH DHHS or follow additional specifications available at https://www.medicaid.gov/medicaid/quality-of-care/downloads/medicaid-adult-core-set-manual.pdf, (p. 155). Whichever method is selected should be used consistently across years.	
Measure 1.1.7	**HEDIS: Diabetes Screening for People with Diabetes and Schizophrenia**
Definition:	Members 18-64 years of age with schizophrenia and diabetes who had both an LDL-C and HbA1c
Technical Specifications:	Percent of members 18-64 years of age with schizophrenia and diabetes who had both an LDL-C and HbA1c, in the calendar year.
Exclusion Criteria:	Members < 18 or >64 years old; members without schizophrenia;

	members with schizophrenia who did not have diabetes
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	2014 Medicaid HMO = 69.3%
This measure is not required by the National Committee for Quality Assurance (NCQA).	
Measure 1.1.8	**HEDIS: Cardiovascular Monitoring for People with Cardiovascular Disease and Schizophrenia**
Definition:	Members 18-64 years of age with schizophrenia and cardiovascular disease, who had an LDL-C
Technical Specifications:	Percentage of members 18-64 years of age with schizophrenia and cardiovascular disease, who had an LDL-C, in the calendar year.
Exclusion Criteria:	Members < 18 or >64 years old; members without schizophrenia and cardiovascular disease
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	2014 Medicaid HMO = 76.2%
This measure is not required by the NCQA.	
Measure 1.1.9	**Follow-up Care for Children Prescribed ADHD Medication**
Definition:	*All* children (ages 6-12) (with and without BH disorders) who were newly prescribed ADHD medication who had a least three follow-up visits within a 10 month period, one of which was in 30 days of when the first ADHD drug was dispensed
Technical Specifications:	1. Members ages 6-12 newly prescribed ADHD medication who had a follow-up visit within 30 days of the prescription being dispensed (initiation phase) , in the calendar year. 2. Members ages 6-12 newly prescribed ADHD meds who remained on the med for 210 days and who in addition to the 30 day visit had at least 2 follow-up visits within 270 days after the initiation phase, in the calendar year.
Exclusion Criteria:	Members <6 or >12 years old; children not newly prescribed ADHD meds
Data Source(s):	Medicaid Claims, Medicaid Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	1. 2014 Medicaid HMO = 40.1%; 2. 2014 Medicaid HMO = 47.5%
Measure 1.1.10	**HEDIS: Metabolic Monitoring for Children and Adolescents on Antipsychotics**
Definition:	Children and adolescents 1-17 years of age who had 2+ antipsychotic prescriptions and had metabolic testing, both of the following: (a) at least one blood glucose test or HBA1c, (b) At least one LDL-C test
Technical Specifications:	Percent of children and adolescents 1-17 years of age who had 2+ antipsychotic prescriptions and had metabolic testing, both of the following: (a) at least one blood glucose test or HBA1c, (b) At least one

	LDL-C test, in the calendar year.
Exclusion Criteria:	Members <1 or >17 years old; children and adolescents not prescribed 2+ antipsychotics
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None (but there will be one in 2017)
This measure is not specified in the 2016 NCQA.	
Measure 1.1.11	**HEDIS: Use of First-Line Psychosocial Care for Children and Adolescents on Antipsychotics**
Definition:	Children and adolescents 1-17 years of age who had a new prescription for an antipsychotic and had documentation of psychosocial care as first-line treatment
Technical Specifications:	Children and adolescents 1-17 years of age who had a new prescription for an antipsychotic and had documentation of at least a trial of outpatient behavioral health therapy prior to initiation of medication therapy, in the calendar year.
Exclusion Criteria:	Members <1 or >17 years old; children and adolescents not prescribed 2+ antipsychotics
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None (currently, but a benchmark will be available in 2017)
This measure is not specified in the 2016 NCQA.	
Measure 1.1.12	**USPSTF: Cervical Cancer Screening**
Definition:	Women with a behavioral health disorder who received timely cervical cancer screening
Technical Specifications:	1. Percent of women with a behavioral health ages 21-65 that received cervical cancer screening within the past 3 years 2. Percent of women with a behavioral health disorder ages 30-65 that received cervical cancer screening within the past 5 years
Exclusion Criteria:	Women without a behavioral health disorder; women outside the ages of 21-65; any men; women without uterus/cervix
Data Source(s):	Medicaid Claims and Encounters, IDN EHR Report
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None
Evaluation contractor may obtain these data from NH DHHS or follow additional specifications available at https://www.medicaid.gov/medicaid/quality-of-care/downloads/medicaid-adult-core-set-manual.pdf, (p. 33). Whichever method is selected should be used consistently across years. Please note that this measure is not specific to people with behavioral health disorders.	
Measure 1.1.13	**USPSTF: Breast Cancer Screening**
Definition:	Women with a behavioral health disorder that received timely breast cancer screening

Technical Specifications:	Percent of women with a behavioral health disorder ages 40 and older that received a mammogram within the past 2 years
Exclusion Criteria:	Women without a behavioral health disorder; women <40; men
Data Source(s):	Medicaid Claims and Encounters, IDN EHR Report
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None
Evaluation contractor may obtain these data from NH DHHS or follow additional specifications available at https://www.medicaid.gov/medicaid/quality-of-care/downloads/medicaid-adult-core-set-manual.pdf, (p. 19). Whichever method is selected should be used consistently across years. Please note that this measure is not specific to people with behavioral health disorders.	
Measure 1.1.14	**USPSTF: Colorectal Cancer Screening**
Definition:	Members with behavioral health disorder that received timely colorectal cancer screening
Technical Specifications:	Percent of members with behavioral health disorder ages 50-75 that received colorectal cancer screening within the past 3 years
Exclusion Criteria:	Members without behavioral health disorders; members outside the ages of 50-75
Data Source(s):	Medicaid Claims and Encounters, IDN EHR Report
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None
Measure 1.1.15	**USPSTF: Cholesterol Screening**
Definition:	Members with a behavioral health disorder that received timely cholesterol screening
Technical Specifications:	1. Percent of men with a behavioral health disorder ages 35+ that received cholesterol screening within the past 3 years 2. Percent of women with a behavioral health disorder ages 45+ that received cholesterol screening within the past 3 years
Exclusion Criteria:	Members without a behavioral health disorder; men under 35 and women under 45.
Data Source(s):	Medicaid Claims and Encounters, IDN EHR Report
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually by gender 2. Regression, annually
National Benchmark:	None
Measure 1.1.16	**Adolescent Well Care Visit**
Definition:	Recommended adolescent (age 12-21) Well Care visits
Technical Specifications:	The percentage of adolescent Medicaid enrollees with behavioral health disorders who had a well care visit within the calendar year.
Exclusion Criteria:	Medicaid beneficiaries <12 or >21 years old
Data Source(s):	Medicaid Claims and Encounters, IDN EHR Report
Comparison Group(s):	1. Pre-DSRIP to post-DSRIP 2. Adolescents with to adolescents without 1+ behavioral health disorder

Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Difference of differences between groups 3. Regression, annually
National Benchmark:	None
Evaluation contractor may obtain these data from NH DHHS or follow additional specifications available at https://www.medicaid.gov/medicaid/quality-of-care/downloads/medicaid-and-chip-child-core-set-manual.pdf, (p. 31). Whichever method is selected should be used consistently across years.	
Measure 1.1.17	**Smoking/Tobacco Cessation Counseling**
Definition:	Members with a behavioral health disorder who received smoking/tobacco cessation counseling
Technical Specifications:	The number of Medicaid beneficiaries with a behavioral health disorder, age 18 years and older, who were screened for tobacco use one or more times within 24 months and who received cessation counseling intervention if identified as a tobacco user as documented in an IDN provider EHR. Cessation counseling intervention includes brief counseling and/or pharmacotherapy.
Exclusion Criteria:	Non-smoking Medicaid beneficiaries; beneficiaries without a behavioral health disorder
Data Source(s):	IDN EHR
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None
Measure 1.1.18	**Emergency Department (ED) Visits**
Definition:	Frequent (4+ annually) ED visits for people with a behavioral health disorder
Technical Specifications:	The percentage of Medicaid beneficiaries with behavioral health disorders who had 4+ visit(s) to an ED, in the calendar year.
Exclusion Criteria:	Medicaid beneficiaries with no a behavioral health disorder
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None
Measure 1.1.19	**Potentially Preventable Emergency Department (ED) Visits**
Definition:	Potentially preventable ED visits for a behavioral health disorder
Technical Specifications:	The percentage of Medicaid beneficiaries with a behavioral health disorder including SUD who had 1+ ED visits for a selected physical health diagnosis that meets DHHS criteria of potentially being preventable or servable in primary care. The percentage of Medicaid beneficiaries who had 1+ ED visits for potentially preventable ED visits, in the calendar year.
Exclusion Criteria:	Beneficiaries without a behavioral health disorder
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP; stratified by age (adolescent (10-17), adult
Comparison Method(s):	1. Mann-Whitney U- test, quarterly and annually by age group 2. Regression, quarterly and annually by age group

National Benchmark:	None
Measure 1.1.20	**Opioid Dosage for People Without Cancer**
Definition:	Rate per 1,000 of people without cancer receiving a daily dosage of opioids greater than 120mg morphine equivalent dose (MED) for 90 consecutive days or longer
Technical Specifications:	Count of people *without* cancer receiving a daily dosage of opioids greater than 120mg morphine equivalent dose (MED) for 90 consecutive days or longer in the calendar year multiplied by 100 and divided by the total number of beneficiaries without cancer, in the calendar year.
Exclusion Criteria:	Medicaid beneficiaries with 1+ diagnosis codes for cancer and/or 2+ outpatient diagnoses for cancer
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None

Hypothesis 1.2: *Individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will have greater access to care at the end of the Demonstration regardless of IDN, geographic location, or market area.*

Measure 1.2.1	**Member Experiences of Accessing Care**
Definition:	Explore members perceptions and experiences accessing care including: barriers to access, unmet need, experience of accessing care using IDNs
Technical Specifications:	Approximately 20-25 interviews will be conducted with beneficiaries. Interviews will be audiotaped and transcribed for thematic analysis.
Exclusion Criteria:	Beneficiaries <18 years old who do not have a behavioral health disorder and who have not had at least one visit in the previous 12 months. Providers who do not treat or care for beneficiaries who have a behavioral health disorder.
Data Source(s):	Semi-structured interviews
Comparison Group(s):	None
Comparison Method(s):	None (thematic analysis)
National Benchmark:	None
Measure 1.2.2	**Access to Care**
Definition:	Getting Timely Appointments, Care and Information
Technical Specifications:	The number of Medicaid beneficiaries with a behavioral health disorder who used 1+ counseling visits for smoking and tobacco cessation, in the calendar year.
Exclusion Criteria:	None
Data Source(s):	CAHPS
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None
Evaluation contractor may obtain these data from NH DHHS or follow additional specifications available at https://www.medicaid.gov/medicaid-chip-program-information/by-topics/quality-of-	

care/downloads/medicaid-adult-core-set-manual.pdf, (p. 77). Whichever method is selected should be used consistently across years. Please note that this metric should be measured using the CAHPS data available from the NH DHHS.	
Measure 1.2.3	**Annual Primary Care Visit**
Definition:	Percent of beneficiaries with one or more primary care visits in the past 12 months
Technical Specifications:	Number of people (ages 12+) with a behavioral health disorder who had one or more primary care visits , in the calendar divided by the number of people with a behavioral health disorder
Exclusion Criteria:	Beneficiaries without a behavioral health disorder; beneficiaries under 12 year old
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None
Measure 1.2.4	**Behavioral Health Care Visits**
Definition:	Percent of beneficiaries with one or more visits with a behavioral health provider in the past 12 months
Technical Specifications:	Number of people (ages 12+) with a behavioral health disorder who had one or more visits with a behavioral health provider, in the calendar divided by the number of people with a behavioral health disorder
Exclusion Criteria:	Beneficiaries without a behavioral health disorder; beneficiaries under 12 year old
Data Source(s):	Medicaid Claims and Encounters, IDN EHR Report
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None
Measure 1.2.5	**Substance Use Treatment Services**
Definition:	Percent of beneficiaries who received SUD Treatment Services in the past 12 months
Technical Specifications:	Number of people (ages 12+) with a behavioral health disorder who received SUD treatment services in the calendar year, divided by the number of people with a behavioral health disorder
Exclusion Criteria:	Beneficiaries without a behavioral health disorder; beneficiaries under 12 year old
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None
Measure 1.2.6	**Adolescent Well Care Visit**
Definition:	Recommended adolescent (age 12-21) Well Care visits
Technical Specifications:	The percentage of adolescent Medicaid enrollees with behavioral health disorders who had a well care visit within the calendar year.

Exclusion Criteria:	Medicaid beneficiaries <12 or >21 years old
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	1. Pre-DSRIP to post-DSRIP 2. Adolescents with to adolescents without 1+ behavioral health disorder
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Difference of differences between groups 3. Regression, annually
National Benchmark:	None
Evaluation contractor may obtain these data from NH DHHS or follow additional specifications available at https://www.medicaid.gov/medicaid/quality-of-care/downloads/medicaid-and-chip-child-core-set-manual.pdf, (p. 31). Whichever method is selected should be used consistently across years.	

Hypothesis 1.3: *Population health will improve as a result of the implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area*.

Measure 1.3.1	**Strategies to Improve Population Health**
Definition:	Semi-structured interviews will explore how IDN administrators and provider perceived the impact of DSRIP on population health and the strategies they implemented to improve the overall health of NH residence. Key measurement domains include: resources, infrastructure, outreach activities, intervention strategies and challenges.
Technical Specifications:	Interviews will be conducted with IDN administrators (2-3 per IDN) and approximately 35 providers (stratified by IDN location). Interviews will be audiotaped and transcribed for thematic analysis.
Exclusion Criteria:	None
Data Source(s):	Semi-structured interviews
Comparison Group(s):	None
Comparison Method(s):	None (thematic analysis)
National Benchmark:	None
Measure 1.3.2	**Improvements in Population Health**
Definition:	Assessment of improvements in population health based on self-reported health status, behavioral risk factors and preventative health.
Technical Specifications:	Confidential and anonymous annual random-digit-dialed telephone survey of NH adults. Key measurement domains include: diet, exercise, weight, tobacco and alcohol use, injuries and preventative screenings.
Exclusion Criteria:	Individual less than 18 years
Data Source(s):	1. BRFFS Survey data: Baseline (2014) Follow up in 2017 and 2020
Comparison Group(s):	None
Comparison Method(s):	1. Pre-DSRIP vs. post-DSRIP
National Benchmark:	None

Hypothesis 1.4: *The total cost of care will be lower for Medicaid beneficiaries with behavioral health disorders or co-occurring physical and behavioral health disorders after IDNs are regardless of IDN, geographic location, or market area.*

Measure 1.4.1	**Total Cost of All Care**
Definition:	Total per member per month (PMPM) cost for Medicaid beneficiaries with a behavioral health disorder and a co-occurring physical health disorder
Technical Specifications:	Quarterly and annual total costs divided by the number of member months among beneficiaries with a behavioral health disorder and a co-occurring physical health disorder, in the calendar year.
Exclusion Criteria:	Costs for beneficiaries without a behavioral health disorder, in the past 12 months
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None
Measure 1.4.2	**Total Cost of All Inpatient Care**
Definition:	Total per member per month (PMPM) inpatient costs for Medicaid beneficiaries with a behavioral health disorder and a co-occurring physical health disorder
Technical Specifications:	Quarterly and annual total inpatient costs divided by the number of member months among beneficiaries with a behavioral health disorder and a co-occurring physical health disorder, in the calendar year
Exclusion Criteria:	Costs for beneficiaries without a behavioral health disorder; costs for services other than inpatient care
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None
Measure 1.4.3	**Total Cost of All Outpatient Care**
Definition:	Total per member per month (PMPM) outpatient costs for Medicaid beneficiaries with a behavioral health disorder and a co-occurring physical health disorder
Technical Specifications:	Quarterly and annual total outpatient costs divided by the number of member months among beneficiaries with a behavioral health disorder and a co-occurring physical health disorder, in the calendar year.
Exclusion Criteria:	Costs for beneficiaries a behavioral health disorder; costs for services other than outpatient care; costs for outpatient psychiatric care
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None

Measure 1.4.4	Total Cost of Emergency Department (ED) Care
Definition:	Total per member per month (PMPM) ED costs for Medicaid beneficiaries with a behavioral health disorder and a co-occurring physical health disorder
Technical Specifications:	Quarterly and annual total ED costs divided by the number of member months among beneficiaries with a behavioral health disorder and a co-occurring physical health disorder, in the calendar year.
Exclusion Criteria:	Costs for ED visits that become inpatient hospital stays; Costs for beneficiaries without a behavioral health disorder; costs for services other than ED care; costs for psychiatric ED care
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None
Measure 1.4.5	**Total Cost of Behavioral Health Care**
Definition:	Total per member per month (PMPM) behavioral health costs for Medicaid beneficiaries with a behavioral health disorder and a co-occurring physical health disorder
Technical Specifications:	Quarterly and annual total behavioral health costs (inpatient, outpatient, and ED) divided by the number of member months among beneficiaries with a behavioral health disorder and a co-occurring physical health disorder, in the calendar year.
Exclusion Criteria:	Costs for beneficiaries without a behavioral health disorder; costs for services other than behavioral health care
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None
Measure 1.4.6	**Total Cost of Outpatient Behavioral Health Care**
Definition:	Total per member per month (PMPM) outpatient behavioral costs for Medicaid beneficiaries with a behavioral health disorder and a co-occurring physical health disorder
Technical Specifications:	Quarterly and annual total outpatient behavioral health costs divided by the number of member months among beneficiaries with a and a co-occurring physical health disorder, in the calendar year.
Exclusion Criteria:	Costs for beneficiaries without a behavioral health disorder; costs for services other than outpatient behavioral care
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None
Measure 1.4.7	**Total Cost of Inpatient Behavioral Health Care**
Definition:	Total per member per month (PMPM) inpatient behavioral health costs for

	Medicaid beneficiaries with a behavioral health disorder and a co-occurring physical health disorder
Technical Specifications:	Quarterly and annual total psychiatric inpatient behavioral health costs divided by the number of member months among beneficiaries with a behavioral health disorder and a co-occurring physical health disorder in the calendar year.
Exclusion Criteria:	Costs for beneficiaries without a behavioral health disorder; costs for services other than inpatient behavioral health care
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None
Measure 1.4.8	**Total Cost of Emergency Department (ED) Behavioral Health Care**
Definition:	Total per member per month (PMPM) ED costs for Medicaid beneficiaries with a behavioral health disorder and a co-occurring physical health disorder
Technical Specifications:	Quarterly and annual total psychiatric ED behavioral health costs divided by the number of member months among beneficiaries with a behavioral health disorder and a co-occurring physical health disorder, in the calendar year.
Exclusion Criteria:	Costs for ED visits that result in hospitalization; costs for beneficiaries without a behavioral health disorder; costs for services other than ED behavioral health care
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None

Hypothesis 1.5: *The rate of avoidable hospital re-admissions for individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will be lower at the end of the Demonstration than prior to the Demonstration regardless of IDN, geographic location, or market area.*

Measure 1.5.1	**Hospital Re-Admission for Any Cause**
Definition:	Readmission to hospital for any cause (excluding maternity, cancer, rehabilitation) within 30 days for adults (18+) with a behavioral health disorder and a co-occurring physical health disorder
Technical Specifications:	Count of the number of hospital readmissions within 30 days of discharge, among adult (≥=18 years old) members with a behavioral health disorder and a co-occurring physical health disorder, in the calendar year.
Exclusion Criteria:	Readmission related to maternity, cancer, and rehabilitation; readmissions for people without a behavioral health disorder; readmissions for members <18 years old
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually

National Benchmark:	None
Evaluation contractor may obtain these data from NH DHHS or follow additional specifications available at https://www.medicaid.gov/medicaid/quality-of-care/downloads/medicaid-adult-core-set-manual.pdf, (p. 133). Whichever method is selected should be used consistently across years.	

Measure 1.5.2	**Hospital Re-Admission for Behavioral Health Disorder**
Definition:	Readmission to hospital for a behavioral health disorder within 30 days for adults (18+) with a behavioral health disorder and a co-occurring physical health disorder
Technical Specifications:	Count of the number of hospital readmissions within 30 days of discharge, among adult (>=18 years old) members with a behavioral health disorder and a co-occurring physical health disorder, in the calendar year.
Exclusion Criteria:	Readmission where behavioral health disorder was not the primary cause of admissions for people without a behavioral health disorder; readmissions for members <18 years old
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None

Hypothesis 1.6: *The statewide rate of avoidable hospital admissions for individuals with behavioral health disorders or co-occurring physical and behavioral health disorders will be lower at the end of the Demonstration than prior to the Demonstration regardless of IDN, geographic location, or market area.*

Measure 1.6.1	**Hospital Admission for Ambulatory Care Sensitive Admissions for Individuals with Behavioral Health Disorders.**
Definition:	Hospital Admission for Ambulatory Care Sensitive Admissions for Individuals with Behavioral Health Disorders.
Technical Specifications:	TBD, but modeled from AHRQ Ambulatory Care Sensitive Admissions specifications
Exclusion Criteria:	TBD
Data Source(s):	Medicaid Claims and Encounters
Comparison Group(s):	TBD
Comparison Method(s):	TBD
National Benchmark:	None

Hypothesis 1.7: *Rate of Medicaid beneficiaries waiting for inpatient psychiatric care will decrease over the course of the Demonstration regardless of IDN, geographic location, or market area.*

Measure 1.7.1	**Rate of Individuals Waiting for Inpatient Psychiatric Care**
Definition:	Rate of individuals waiting for inpatient psychiatric care among people for more than 1 day.
Technical Specifications:	TBD, but the sample should include all people who initiate care each year, not just those determined to have a behavioral health disorder at baseline in the calendar year.
Exclusion Criteria:	TBD
Data Source(s):	TBD by evaluator and NH DHHS

Comparison Group(s):	TBD
Comparison Method(s):	TBD
National Benchmark:	None

Hypothesis 1.8: *Average length of stay for inpatient psychiatric care at New Hampshire Hospital (NHH, NH's state run psychiatric facility) will be lower at the end of the Demonstration than prior to the Demonstration, as options for community-based care increase regardless of IDN, geographic location, or market area.*

Measure 1.8.1	**Length of Stay for Inpatient Psychiatric Care**
Definition:	Mean length of stay for inpatient psychiatric care
Technical Specifications:	Sum of the length of inpatient psychiatric, measured in days, stays divided by the number of people with a behavioral health disorder who had inpatient psychiatric stays, in the calendar year.
Exclusion Criteria:	Members with a behavioral health disorder who did not have an inpatient psychiatric stay
Data Source(s):	Medicaid Claims and Encounters, Data from Non-Claim Discharges from New Hampshire Hospital
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Wilcoxon's matched pairs test, annually 2. Regression, annually
National Benchmark:	None

Hypothesis 1.9: *Average wait times for outpatient appointments at community mental health centers will be lower at the end of the Demonstration than prior to the Demonstration regardless of IDN, geographic location, or market area.*

Measure 1.9.1	**Community Mental Health Center (CMHC) Referral or New Patient Appointment**
Definition:	Beneficiaries who newly initiate treatment after having a CMHC intake appointment (90801 HO)
Technical Specifications:	1. Number of beneficiaries who had an intake appointment with a psychiatrist or psychiatric nurse practitioner and also another appointment with a mental health provider within 7 days of the intake appointment, divided by the total number of people who had an intake appointment with a psychiatrist or psychiatric nurse practitioner, in the calendar year. 2. Number of beneficiaries who had an intake appointment with a psychiatrist or psychiatric nurse practitioner and also another appointment with a mental health provider within 30 days of the intake appointment, divided by the total number of people who had an intake appointment with a psychiatrist or psychiatric nurse practitioner, in the calendar year.
Exclusion Criteria:	Members who do not have a CMHC intake appointment
Data Source(s):	Medicaid Claims and Encounters, IDN EHR Report
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. McNemar's Chi-square test, annually 3. Regression, annually
National Benchmark:	None

Hypothesis 1.10: *The number of referrals and follow-up plans from primary care and other non-psychiatric providers to appropriate services will increase during the Demonstration regardless of IDN, geographic location, or market area.*

Measure 1.10.1	**Referrals and follow-up plans from primary care and other non-psychiatric providers to appropriate services**
Definition:	Appropriate Follow-Up for Positive Screenings for Potential Substance Use Disorder and/or Depression by IDN Primary Care and BH Providers
Technical Specifications:	Percent of positive screenings for potential substance use disorder and/or depression using the Comprehensive Core Assessment screening tools for patients 12 years old and older seen at the IDN's primary care or behavioral health Medicaid billing providers for an office or community-based visit with appropriate follow-up plan documented in the EHR on the date of the positive screening.
Exclusion Criteria:	Psychiatrist providers
Data Source(s):	Medicaid Claims and Encounters, IDN EHR Report
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. McNemar's Chi-square test, quarterly and annually 3. Regression, quarterly and annually
National Benchmark:	None

Research Question #2: To what extent has the DSRIP Demonstration improved integration and coordination between providers, including community service providers? To what extent has the DSRIP Demonstration fostered the bi-directional and integrated delivery of physical health services, behavioral health services, SUD services, transitional care, and alignment of care coordination to serve the whole person? Was there any variation between IDNs, geographic regions, or market areas?

Hypothesis 2.1: *Integration and coordination between providers within the IDNs (including community service providers) will improve as a result of implementation of the DSRIP Demonstration regardless of IDN, geographic location, or market area.*

Measure 2.1.1	**Fragmented Care**
Definition:	Fragmentation of patient care is based on the fragmentation of care index (FCI) which examines the number of different providers visited, the proportion of attended visits to each of those providers, and the total number of visits.
Technical Specifications:	The number of PCP visit(s) from multiple PCP practices (calculated using Liu formulary) divided by the total eligible population.
Exclusion Criteria:	None
Data Source(s):	Claims
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually

Measure 2.1.2	Transmission of Records
Definition:	Timely transmission of transition record (discharges from an inpatient facility in IDN (including rehab and skilled nursing facility) to home/self-care or any other site of care)
Technical Specifications:	Percent of transition records transmitted to designated providers within 24 hours of the discharge from the inpatient facility, in the calendar year, for beneficiaries ages 18-64 and 65+, with transmission documented in the EHR.
Exclusion Criteria:	Record transmissions not related to discharges from inpatient facilities; record transmissions related to beneficiaries age <18 years old.
Data Source(s):	IDN EHR Output
Comparison Group(s):	Pre-DSRIP to post-DSRIP, for each age group
Comparison Method(s):	1. Mann-Whitney U-test, annually, for each age group 2. Regression, annually, for each age group
≤Measure 2.1.3	Alcohol/Drug Abuse Screening and Follow-up
Definition:	Percent of beneficiaries screened for alcohol or drug abuse in the past 12 months using an age-appropriate standardized alcohol and drug use screening tool AND, if positive, a follow-up plan is documented on the date of the positive screen, age 12+
Technical Specifications:	1. Number of people (ages 12+) with a behavioral health disorder who received an age-appropriate alcohol or drug abuse screening in the calendar year divided by the number of people with a behavioral health disorder 2. Number of people (ages 12+) with a behavioral health disorder who received an age-appropriate alcohol or drug abuse screening, in the calendar AND had a positive screen who also have a follow-up plan documented in the EHR, divided by the number of people (ages 12+) with a behavioral health disorder who received an age-appropriate alcohol or drug abuse screening, in the calendar year AND had a positive screen
Exclusion Criteria:	Beneficiaries without a behavioral health disorder; beneficiaries under 12 year old
Data Source(s):	IDN EHR Output
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
Measure 2.1.4	Substance Use and Depression Screening
Definition:	Comprehensive and consistent use of standardized core assessment framework including screening for substance use and depression for age 12+ by IDN providers
Technical Specifications:	Number of IDN providers who implemented screening for both substance use and depression for at least 85% of the beneficiaries 12+ with a behavioral health disorder they saw in the calendar year, annually, divided by the number of IDN providers
Exclusion Criteria:	Beneficiaries without a behavioral health disorder and those under 12 years
Data Source(s):	IDN EHR Output
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually

Measure 2.1.5	Receipt of Necessary Care Composite Score
Definition:	Composite score indicating whether members with a behavioral health disorder saw a specialist as soon as they needed to AND found it easy to get the care, tests, or treatment they needed, in the last 6 months.
Technical Specifications:	The numerator will include the number of beneficiaries with a behavioral health disorder who responded that they "always" receive care from a specialist as soon as they needed. The denominator will include all beneficiaries with a behavioral health disorder who responded to the question.
Exclusion Criteria:	Beneficiaries <18 years old; beneficiaries who do not have a behavioral health disorder
Data Source(s):	CAHPS/QHP Experience of Care Survey
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually; stratified by age group 2. Regression, annually; stratified by age group
Measure 2.1.6	**Timely Receipt of Health Care Composite Score**
Definition:	Composite score indicating whether members with a behavioral health disorder received care right away when needed AND received an appointment for a check-up or routine care as soon as needed, in the last 6 months.
Technical Specifications:	The numerator will include the number of beneficiaries with a behavioral health disorder who responded that they "always" receive care right away when necessary AND "always" receive a check-up or routine care when needed. The denominator will include all beneficiaries with a behavioral health disorder who responded to both of the questions.
Exclusion Criteria:	Beneficiaries <18 years old; beneficiaries who do not have a behavioral health disorder
Data Source(s):	CAHPS/QHP Experience of Care Survey
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually; stratified by age group 2. Regression, annually; stratified by age group
National Benchmark:	None
Measure 2.1.7	**Care Coordination Composite Score**
Definition:	The care coordination composite score is based on five questions regarding the care provided by the member's personal doctor and the doctor's staff in the last 6 months. Three items relate specifically to the care provided by the personal doctor: how often the personal doctor (a) had the member's medical records or other information about their care, (b) seemed informed and up-to-date about care from specialists, and (c) talked with the member about prescription medication. Two additional questions query the actions of the staff from the personal doctor's office: how often someone from the doctor's office (a) spoke with the member regarding test results and (b) assisted the member in managing care from different providers and services.
Technical Specifications:	The numerator will include the number of beneficiaries with a behavioral health disorder who responded "always" to each of the five questions regarding care coordination. The denominator will include all beneficiaries with a behavioral health disorder who responded to all of the questions.

Exclusion Criteria:	Beneficiaries <18 years old; beneficiaries who do not have a behavioral health disorder
Data Source(s):	CAHPS/QHP Experience of Care Survey
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually; stratified by age group 2. Regression, annually; stratified by age group
National Benchmark:	None
Measure 2.1.8	**Behavioral Health Composite Score**
Definition:	Three questions will be used to measure behavioral health care received in the last 12 months provided by anyone in the personal provider's office: whether or not members were (a) ask if there was a period of time when they felt sad, empty, or depressed, (b) talked to about whether there were things in the member's life causing them worry or stress, and (c) talked to about a personal or family problem, alcohol or drug use, or an emotional or mental illness.
Technical Specifications:	The numerator will include the number of beneficiaries with a behavioral health disorder who responded affirmatively to the questions described above. The denominator will include all beneficiaries with a behavioral health disorder who responded to all three of the questions.
Exclusion Criteria:	Beneficiaries <18 years old; beneficiaries who do not have a behavioral health disorder
Data Source(s):	CAHPS/QHP Experience of Care Survey
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually; stratified by age group 2. Regression, annually; stratified by age group
National Benchmark:	None
Measure 2.1.9	**Mental Illness Hospitalization Follow-Up (7 days)**
Definition:	Follow-up after hospitalization for mental illness within 7 days
Technical Specifications:	Number of beneficiaries who had an inpatient psychiatric stay and also had a follow-up appointment within 7 days of the stay, divided by the total number of people who had an inpatient psychiatric stay, in the calendar year.
Exclusion Criteria:	Non-psychiatric inpatient stays
Data Source(s):	Medicaid Claims, Medicaid Encounters, Data from Non-Claim Discharges from New Hampshire Hospital
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None
Measure 2.1.10	**Mental Illness Hospitalization Follow-Up (30 days)**
Definition:	Follow-up after hospitalization for mental illnesses – within 30 days
Technical Specifications:	Number of beneficiaries who had an inpatient psychiatric stay and also received a follow-up appointment within 30 days of the stay, divided by the total number of people who had an inpatient psychiatric stay, in the calendar year.
Exclusion Criteria:	Non-psychiatric inpatient stays
Data Source(s):	Medicaid Claims, Medicaid Encounters, Data from Non-Claim Discharges from New Hampshire Hospital

Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None
Measure 2.1.11	**Mental Illness Emergency Department (ED) Visit Follow-Up (30 days)**
Definition:	Follow-up after ED visit for mental illness within 30 days
Technical Specifications:	Number of beneficiaries who had a psychiatric ED visit (that did not result in an inpatient stay) and also had a follow-up with a mental health provider within 30 days of the visit, divided by the total number of people who had an inpatient psychiatric stay, in the calendar year.
Exclusion Criteria:	Non-psychiatric ED visits
Data Source(s):	Medicaid Claims, Medicaid Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None
Measure 2.1.12	**Alcohol/Drug Dependence Emergency Department (ED) Visit Follow-Up (30 days)**
Definition:	Follow-up after roomed visit for alcohol or other drug dependence within 30 days
Technical Specifications:	Number of beneficiaries who had an Alcohol/Drug dependence ED visit and had a follow-up appointment within 30 days of the ED visit, divided by the total number of people who had an Alcohol/Drug dependence ED visit, in the calendar year.
Exclusion Criteria:	ED visits for reasons other than alcohol-drug dependence
Data Source(s):	Medicaid Claims, Medicaid Encounters
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, quarterly and annually 2. Regression, quarterly and annually
National Benchmark:	None
Measure 2.1.13	**Ratings of Improvement in Care Coordination and Integration**
Definition:	The surveys will address the extent to which DSRIP has achieved integration and coordination between providers including bi-directional integrated delivery of physical and behavioral health services, SUD services, transitional care, and the alignment of care coordination to serve the whole person. The provider survey will be focused on the organizational/operational perspective while the patient survey will be tailored to their experiences/perspectives.
Technical Specifications:	Questions and scoring will be drawn from established surveys (e.g., CAHPS, the Picker Institute).
Exclusion Criteria:	None
Data Source(s):	Separate surveys conducted at the beginning of 2019 and end of 2020
Comparison Group(s):	2019 survey vs. 2020 survey
Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None

Measure 2.1.14	Patient Experiences of Care Integration and Coordination
Definition:	Explore the influence that integration and coordination has had on health care experiences and health.
Technical Specifications:	Approximately 20-25 interviews will be conducted with beneficiaries and community and medical service providers, respectively. Interviews will be audiotaped and transcribed for thematic analysis.
Exclusion Criteria:	Beneficiaries <18 years old who do not have a behavioral health disorder and who have not had at least one visit in the previous 12 months. Providers who do not treat or care for beneficiaries who have a behavioral health disorder.
Data Source(s):	Semi-structured interviews
Comparison Group(s):	None
Comparison Method(s):	None (thematic analysis)
National Benchmark:	None
Measure 2.1.15	**Practice and Provider Experiences of Care Integration and Coordination**
Definition:	Explore the influence that integration and coordination has had on health care experiences and health. Key interview domains will include: integration and coordination strategies, barriers to integration, information sharing, policies supporting coordination, provider experiences with integration.
Technical Specifications:	Interviews will be conducted with IDN administrators (2-3 per IDN) and approximately 35 providers (stratified by IDN location). Interviews will be audiotaped and transcribed for thematic analysis.
Exclusion Criteria:	None
Data Source(s):	Semi-structured interviews
Comparison Group(s):	None
Comparison Method(s):	None (thematic analysis)
National Benchmark:	None

Research Question #3: To what extent has the DSRIP improved the capacity of the state's behavioral health workforce to provide quality, integrated care?

***Hypothesis 3.1*:** *Capacity to deliver evidenced-based behavioral health and/or SUD treatment will increase as a result of the DSRIP Demonstration statewide and IDN specific project activities.*

Measure 3.1.1	Size and Training of the Provider Network
Definition:	Assessment of the size and training of the IDN provider network to care for and treat members with a behavioral health disorder.
Technical Specifications:	Analysis of IDN reports, including CMS quarterly reports and notices of training and hiring within the IDN.
Exclusion Criteria:	None
Data Source(s):	IDN documents
Comparison Group(s):	None
Comparison Method(s):	None (document review)
National Benchmark:	None

Evaluation Question #4: To what extent has the DSRIP Demonstration enhanced the state's health IT ecosystem to support delivery system and payment reform? Have changes to the IT ecosystem brought about by the DSRIP Demonstration specifically enhanced the IDNs in regard to the following four key areas: governance, financing, policy/legal issues and business operations?

Hypothesis 4.1: *Health IT infrastructure among the IDNs will improve as a result of the DSRIP Demonstration statewide and IDN specific project activities.*

Measure 4.1.1	**Enhancements to the IT System**
Definition:	Assessment of the health information technology system on four dimensions: (a) governance, (b) financing, (c) policy/legal issues, and (d) business operations.
Technical Specifications:	1. Confidential and anonymous web-based survey with closed- and open-ended questions. Survey respondents will be multiple people in each IDN most knowledgeable about the four major topic areas of IT (e.g., governance, financing, policy/legal issues and business operations), including but not limited to IDN administrators, IDN information technologists, IDN legal staff, and IDN accountants. 2. Content analysis of IDN documents, including quarterly CMS reports and meeting minutes regarding changes to the IT System
Exclusion Criteria:	IDN and Medicaid stakeholders who are not knowledgeable about the health information technology system; members
Data Source(s):	1. Survey conducted twice during Waiver Demonstration (beginning of 2019 and end of 2020) 2. IDN Documents
Comparison Group(s):	None
Comparison Method(s):	1. Pre-DSRIP vs. post-DSRIP 2. None (document review)
National Benchmark:	None
Measure 4.1.2	**Perceptions of the Enhanced IT System**
Definition:	Semi-structured interviews will explore how various stakeholder groups perceive the enhanced health IT ecosystem to support delivery system and payment reform regarding governance, financing, policy/legal issues, and business operations.
Technical Specifications:	Approximately 20-25 interviews will be conducted with stakeholders, including Medicaid administrator(s), Medicaid data administrator(s), DHHS administrators, Medicaid and DHHS legal staff, MCO administrators, IDN administrators. Interviews will be audiotaped and transcribed for thematic analysis. Tapes will be destroyed after transcription.
Exclusion Criteria:	IDN and Medicaid stakeholders who are not knowledgeable about the health information technology system; members
Data Source(s):	Semi-structured interviews
Comparison Group(s):	None
Comparison Method(s):	None (thematic analysis)
National Benchmark:	None
Measure 4.1.3	**Perceptions of the Usability and Utility of the Enhanced IT System**
Definition:	Semi-structured interviews will explore how various stakeholder groups perceive the enhanced health IT ecosystem in supporting health care delivery, integration, and coordination

Technical Specifications:	Approximately 20-25 will be conducted with beneficiaries and community and medical service providers, respectively. Interviews will be audiotaped and transcribed for thematic analysis.
Exclusion Criteria:	Members ≥18 years old who do not have a behavioral health disorder and who have not had at least one health care visit in the previous 12 months
Data Source(s):	Semi-structured interviews
Comparison Group(s):	None
Comparison Method(s):	None (thematic analysis)
National Benchmark:	None

Hypothesis 4.2**:** *Health IT strategies implemented during the DSRIP Demonstration will result in improved information exchange across settings and enhanced care management for beneficiaries with behavioral health disorders.*

Measure 4.2.1	**Care Coordination Composite Score**
Definition:	The care coordination composite score is based on five questions regarding the care provided by the member's personal doctor and the doctor's staff in the last 6 months. Three items relate specifically to the care provided by the personal doctor: how often the personal doctor (a) had the member's medical records or other information about their care, (b) seemed informed and up-to-date about care from specialists, and (c) talked with the member about prescription medication. Two additional questions query the actions of the staff from the personal doctor's office: how often someone from the doctor's office (a) spoke with the member regarding test results and (b) assisted the member in managing care from different providers and services.
Technical Specifications:	The numerator will include the number of beneficiaries with a behavioral health disorder who responded "always" to each of the five questions regarding care coordination. The denominator will include all beneficiaries with a behavioral health disorder who responded to all of the questions.
Exclusion Criteria:	Beneficiaries <18 years old; beneficiaries who do not have a behavioral health disorder
Data Source(s):	CAHPS/QHP Experience of Care Survey
Comparison Group(s):	Pre-DSRIP to post-DSRIP
Comparison Method(s):	1. Mann-Whitney U-test, annually; stratified by age group 2. Regression, annually; stratified by age group
National Benchmark:	None
Measure 4.2.2	**Ratings of Improvement in Care Coordination and Integration**
Definition:	The surveys will address the extent to which DSRIP has achieved integration and coordination between providers including bi-directional integrated delivery of physical and behavioral health services, SUD services, transitional care, and the alignment of care coordination to serve the whole person. The provider survey will be focused on the organizational/operational perspective while the patient survey will be tailored to their experiences/perspectives.
Technical Specifications:	Questions and scoring will be drawn from established surveys (e.g., CAHPS, the Picker Institute).
Exclusion Criteria:	Beneficiaries without a behavioral health disorder
Data Source(s):	Separate surveys conducted at the beginning of 2019 and end of 2020
Comparison Group(s):	2019 survey vs. 2020 survey

Comparison Method(s):	1. Mann-Whitney U-test, annually 2. Regression, annually
National Benchmark:	None
Measure 4.2.3	**Perceptions of Improved Information Exchange**
Definition:	Semi-structured interviews will explore how various stakeholder groups perceive the enhanced health IT ecosystem to support information sharing across settings and the use of information to enhance case management.
Technical Specifications:	Approximately 20-25 interviews will be conducted with stakeholders, including Medicaid administrator(s), IDN administrators and providers. Interviews will be audiotaped and transcribed for thematic analysis. Tapes will be destroyed after transcription.
Exclusion Criteria:	IDN and Medicaid stakeholders who are not knowledgeable about the health information technology system; members
Data Source(s):	Semi-structured interviews
Comparison Group(s):	None
Comparison Method(s):	None (thematic analysis)
National Benchmark:	None

Research Question #5: To what extent has the DSRIP Demonstration improved IDNs' readiness to transition to or implement Alternative Payment Models (APMs)? Are IDNs making adequate preparations in data infrastructure, financial infrastructure, and other required changes needed to achieve the goal of 50% of Medicaid provider payments to providers using APMs by the end of the demonstration period? Have the IDNs engaged with the state and managed care plans in support of that goal?

Hypothesis 5.1: *DSRIP Demonstration activities have improved the IDNs' ability to make the necessary changes to their systems to transition to or implement APMs and achieve the DSRIP goal.*

Measure 5.1.1	**Transitioning to Alternative Payment Models**
Definition:	Assessment of transition to alternative payment models (e.g. transition plans, policies, number of new payment models implemented, payments made to providers).
Technical Specifications:	Analysis of IDN reports, including CMS quarterly reports and notices of training and hiring within the IDN.
Exclusion Criteria:	None
Data Source(s):	IDN documents
Comparison Group(s):	None
Comparison Method(s):	None (document review)
National Benchmark:	None
Measure 5.1.2	**Experiences Transitioning and Implementing APMs**
Definition:	Semi-structured interviews will explore how IDN administrators perceive the transition to and implementation of APMs.
Technical Specifications:	Interviews will be conducted with IDN administrators (2-3 per IDN) and providers (35 stratified by site). Interviews will be audiotaped and transcribed for thematic analysis.

Exclusion Criteria:	None
Data Source(s):	Semi-structured interviews
Comparison Group(s):	None
Comparison Method(s):	None (thematic analysis)
National Benchmark:	None