2016 NEW HAMPSHIRE HEALTH PROTECTION PROGRAM - *PREMIUM ASSISTANCE PROGRAM* WAIVER (NHHPP PAP)

WAIVER EVALUATION DESIGN PLAN

This program is operated under an 1115 Research and Demonstration Waiver initially approved by the Centers for Medicare & Medicaid Services (CMS) on March 4, 2015.

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Synopsis of New Hampshire Health Protection Program – Premium Assistance Waiver

On March 4, 2015, the New Hampshire Department of Health and Human Services (DHHS) received approval from the Center for Medicare & Medicaid Services (CMS) to develop the New Hampshire Health Protection Program's Premium Assistance Program component as an 1115 Medicaid Demonstration Waiver program. The New Hampshire Health Protection Program (NHHPP) Act includes three components: (1) a mandatory Health Insurance Premium Payment Program (HIPP) for individuals with access to cost-effective employer-sponsored insurance; (2) a bridge program to cover the new adult group in Medicaid managed care plans from August 15, 2014 through December 31, 2015; and (3) a mandatory individual qualified health plan (QHP) premium assistance program (PAP) beginning on January 1, 2016.

In accordance with CMS' waiver requirement, DHHS must develop an evaluation plan for the NHHPP PAP Demonstration waiver no later than 90 days following waiver approval from CMS. The proposed PAP evaluation plan is built on monitoring both process and outcome performance measures that increase in number over the three years potentially available for the waiver due to data varying in collection, processing, and finalization cycles. This increase in available evaluation data over time means that the data available towards the end of 2016 (i.e., first year of the NHHPP PAP) will not be complete and should be considered a first approximation for the first set of monitoring measures, rather than definitive results.

Enrollment activities for the PAP adult population will begin on or before November 1, 2015, depending on whether beneficiaries are enrolled in the Bridge Program. However, regardless of prior enrollment status, Medicaid eligible adults can enroll into health coverage under QHPs and receive premium assistance beginning November 1, 2015, for coverage effective January 1, 2016. This Demonstration will sunset after December 31, 2016 consistent with the current legislative approval for the New Hampshire Health Protection Program pursuant to N.H. RSA 126-A:5, XXIII-XXV, but may continue for up to two additional years, through December 31, 2018, if the New Hampshire legislature authorizes the State to continue the Demonstration and the State provides notice to CMS, as described in the Special Terms and Conditions.[1]

[1] Special Terms and Conditions (STC) Document #11-W-00298/1.

Key Components and Objectives of the QHP PAP

The NHHPP PAP Demonstration will assist the State in its goals to ensure:

1. **Continuity of coverage**—*For individuals whose incomes fluctuate, the Demonstration will permit continuity of health plans and provider networks;*[2]
2. **Plan variety**—*The Demonstration could also encourage Medicaid Care Management carriers to offer QHPs in the Marketplace in order to retain Medicaid market share, and could encourage QHP carriers to seek Medicaid managed care contracts;*
3. **Cost-effective coverage**—*The premium assistance approach will increase QHP enrollment and may result in greater economies of scale and competition among QHPs;*
4. **Uniform provider access**—*The State will evaluate access to primary, specialty, and behavioral health care services for beneficiaries in the Demonstration to determine if it is comparable to the access afforded to the general population in New Hampshire; and*
5. **Cost Neutrality—The premium assistance program will be budget neutral with respect to continuation of the previous New Hampshire Medicaid expansion program.**

New Hampshire's Demonstration evaluation will include an assessment of the following research hypotheses that address the five goals just described:[3]

1. Premium assistance beneficiaries will have equal or fewer gaps in insurance coverage than non-premium assistance members enrolled in Medicaid.
2. Premium assistance beneficiaries will maintain continuous access to the same health plans, and will maintain continuous access to providers.
3. Premium assistance beneficiaries, including those who become eligible for Exchange Marketplace coverage, will have equal or fewer gaps in plan enrollment, equal or improved continuity of care, and resultant equal or lower administrative costs.
4. The Demonstration could lead to an increase in plan variety by encouraging Medicaid managed care carriers to offer QHPs in the Marketplace in order to retain Medicaid market share, and encouraging QHP carriers to seek Medicaid managed care contracts. This dual participation in the Medicaid Care Management Program and the Marketplace could afford beneficiaries seamless coverage during times of transition either across eligibility groups within Medicaid or from Medicaid to the

[2] The NHHPP PAP Demonstration does not include the medically frail population. Members who self-identify as medically frail will be dropped from the program and enrolled in traditional Medicaid. As such, they will be excluded from the evaluation using appropriate methods but will be counted to report on the frequency of self-declaration.

[3] Reordered from STC #69.1 i-xii to correspond with the content and ordering of four goals of the waiver, delineated on pages 2-3 of the Special Terms and Conditions document (pa_termsandconditions.pdf), and consistent with Appendices A, B, and D.

Marketplace and could increase the selection of plans for both Medicaid and Marketplace enrollees.

5. Premium assistance beneficiaries will have equal or lower non-emergent use of emergency room services.
6. Premium assistance beneficiaries will have equal or lower rates of potentially preventable emergency department and hospital admissions.
7. Implementation of the program will result in more Medicaid plans deciding to enter the New Hampshire health insurance marketplace.
8. Premium assistance beneficiaries will have equal or better access to care, including primary care and specialty physician networks and services.
9. Premium assistance beneficiaries will have equal or better access to preventive care services.
10. Premium assistance beneficiaries will report equal or better satisfaction in the care provided.
11. Premium assistance beneficiaries who are young adults eligible for Early and Periodic Screening, Diagnosis and Treatment (EPSDT) benefits will have at least as satisfactory and appropriate access to these benefits.
12. Premium assistance beneficiaries will have appropriate access to non-emergency medical transportation (NEMT).
13. Premium assistance beneficiaries will have equal or better access to care, including behavioral health services.
14. The premium assistance program will be cost neutral with respect to continuation of the previous New Hampshire Medicaid expansion program.

The evaluation design, taking into account the five goals and 14 hypotheses outlined above, considers through its performance measures and analysis plan the coverage for the following dimensions of access and quality, as shown in Appendix A:

- Comparisons of provider networks;
- Consumer satisfaction and other indicators of consumer experience;
- Provider experience; and
- Evidence of equal or improved access and quality across the continuum of coverage and related health outcomes.

Each of these four aspects of access and quality is associated with specific measures tied to the 14 research hypotheses and are listed in Appendix A. Appendix A illustrates the relationship between the research hypotheses and Demonstration goals, while Appendix B addresses the specific measures used to evaluate each of the 14 research hypotheses.

2. EVALUATION DESIGN

The core purpose of the evaluation is to determine the costs and effectiveness of the NHHPP PAP, when considered in its totality, and taking into account both initial and longer-term costs and other impacts such as improvements in service delivery and health outcomes. The evaluation will explore and explain the effectiveness of the Demonstration for each research hypothesis, including total costs in accordance with the evaluation design as approved by CMS. As shown in Appendix B, each research hypothesis includes one or more evaluation measures. Wherever feasible, each measure will be evaluated to determine whether outcomes for premium assistance beneficiaries are at least as good as if they had remained in the regular Medicaid program.

Included in the evaluation will be examinations of NHHPP PAP performance on a set of access and clinical quality measures against a comparable population in the New Hampshire Medicaid Care Management Program. These measures will be taken from the list of required data fields for the claims submitted by each QHP for each PAP recipient. The State will compare costs (i.e., total, administrative, and medical) under the NHHPP Premium Assistance Demonstration to costs of what would have happened under a traditional Medicaid expansion. In this case, the evaluation will compare the costs of the PAP program to the estimated costs if that population would have remained in the Bridge program, which was created for Medicaid expansion.

The cost comparison will include an evaluation of provider rates, healthcare utilization and associated costs, and administrative expenses. The State will assess access and quality for the NHHPP PAP beneficiaries and Medicaid beneficiaries in managed care to ensure appropriate services are provided to the PAP beneficiaries. Moreover, to the extent possible, component contributions to changes in access and quality and their associated levels of investment in New Hampshire will be determined and compared to improvement efforts undertaken in other delivery systems.[4] Both cross-sectional and sequential cross-sectional analyses will be used, depending on the whether the measure is across one point in time or multiple points in time, along with the specific research hypothesis being addressed.

The operational details for the PAP evaluation are contained in the following four appendices:

- Appendix A – Evaluation Components
- Appendix B – Research Hypotheses, Groups, and Associated Methodologies
- Appendix C – Milestones and Timeline
- Appendix D – Rapid Cycle Assessment Measures

Before addressing the 14 research hypotheses and associated measures, the next section of the PAP evaluation plan defines the study and comparison groups, data sources, analytic methods, and limitations to the evaluation of the PAP Demonstration.

[4] To access and utilize administrative cost information, the non-encounter cost information will be generated by the State and provided to the evaluation contractor, as needed.

Study Population

The study population consists of all beneficiaries covered under Title XIX of the Social Security Act in the State of New Hampshire from 19 years through 64 years of age who are not medically frail, incarcerated, or enrolled in cost-effective employer sponsored insurance and who are enrolled in Medicaid managed care.[5] This study population will be divided into two groups to operationalize the evaluation—i.e., the study group and the comparison group.

Study Group

The study group is the NHHPP PAP group and consists of beneficiaries covered under Title XIX of the Social Security Act who are either:

1. Childless adults between the ages from 19 through 64 with incomes at or below 133 percent of the federal poverty level who are neither enrolled in (or eligible for) Medicare, not incarcerated, not medically frail, or not eligible for cost-effective employer sponsored insurance or
2. Parents between the ages of 19 through 64 with incomes between 38 percent (for non-working parents) or 47 percent (for working parents) and 133 percent of the Federal Poverty Level and who are not enrolled in (or eligible for) Medicare, not incarcerated, not medically frail, or not eligible for cost-effective employer sponsored insurance

The NHHPP PAP membership is estimated to contain approximately 45,000 beneficiaries.[6]

Brief periods of enrollment in the PAP, or mixed enrollment in the PAP and a non-PAP Managed Care Organization (MCO), are less likely to generate substantial or sustained improvements in outcomes than longer enrollments would generate; therefore, members must exhibit a continuous enrollment of six months or longer in the PAP and no more than two months in an MCO during the evaluation period to be included in the analysis as program participants. The treatment group will be evaluated only during the time the member was enrolled in the PAP; if the member transitioned in or out of the PAP (either leaving Medicaid entirely or transitioning to/from an MCO) but still met the six months continuous enrollment requirements, only claims during their time in the PAP were used to evaluate outcomes.[7] To adequately identify health conditions and outcomes at baseline, members must also have had sufficient enrollment throughout the

[5] Coverage and delivery of benefits to eligible members are consistent with section 1902(a)(10)(A)(i)(VIII) of the Act and 42 CFR Section 435.119.

[6] New Hampshire Health Protection Program Premium Assistance. New Hampshire Department of Health and Human Services. http://www.dhhs.nh.gov/pap-1115-waiver/documents/final-waiver-app-11202014.pdf , Page 9 of 146. Last accessed on May 28, 2015.

[7] To the extent an outcome measure requires historical claims data (e.g., the year prior to the evaluation period) for purposes such as identification of members with relevant chronic conditions, all claims were used to assess the historical claims.

baseline period. Eligible treatment group members must have had continuous enrollment during calendar year (CY) 2015 with no more than one gap of up to 45 days.

Comparison Groups

Two comparison groups are needed for this evaluation. The sequential cross-sectional comparison group (used in longitudinal analyses) consists of newly eligible members of the Bridge Program, most of whom will be eligible for the PAP program the following year. The Bridge Program is a transition program that enrolled Medicaid expansion beneficiaries into New Hampshire's Medicaid managed care program beginning in August 2014. Assuming these beneficiaries remain eligible, Bridge Program members will be automatically enrolled in the PAP program in January 2016 leading to substantial overlap between the two populations. As such, the Bridge Program comparison group includes members enrolled in the Bridge Program beginning in January 2015 through December 31, 2015.

The non-PAP comparison group for all measures, except those derived through survey instruments, consists of a statistically matched group of Title XIX beneficiaries in the State in parent/caretaker eligibility groups from 19 through 64 years of age who are not in the study group, not disabled, or incarcerated, and who are enrolled in a Managed Care Organization (MCO), updated at each measurement time.[8,9] The comparison group is estimated to contain between 12,000 and 15,000 beneficiaries, depending upon the number lost through the statistical matching process.[10] This group provides a baseline frame of reference for expected changes over time to assess the PAP program and its changes over time in subsequent years, if the PAP is continued. The start for this group's data should coincide with the start of the Bridge Program and its data.

Specifically, for the cost-effectiveness analyses, the comparison group will consist of a statistically derived cohort of beneficiaries and their estimated costs if the Bridge Program were continued. The analysis will estimate what this population would have cost if the Bridge program continued past December 31, 2015, adjusting for items such as medical cost trend, demographic differences, acuity differences, and changes to targeted Bridge program provider reimbursement levels.

The evaluation of the Demonstration will be performed using rigorous actuarial and statistical methods to assess whether the beneficiaries in the NHHPP PAP are doing as well or better than in the Bridge program on the various measures in the evaluation. The population enrolled in the Bridge program will have very similar characteristics to the population enrolled in the PAP program, but the methodology will also use statistical

[8] The evaluation contractor may use the Consumer Assessment of Health Care Providers and Systems (CAHPS®) survey or CAHPS-like survey for the intended data source. CAHPS® is a registered trademark of the Agency for Healthcare Research and Quality (AHRQ).

[9] Statistical matching will be validated through a discriminant analysis with power set at approximately 0.8 for the comparison between groups on a set of criteria determined in coordination with subject matter experts.

[10] Email from Andrew Chalsma, Office of Medicaid Business and Policy, New Hampshire Department of Health and Human Services to Debra L. Chotkevys, Director, Professional Services, Health Services Advisory Group, Inc., on May 27, 2015.

matching techniques to ensure the populations used for comparison are as similar as possible. The analysis will compare the actual experience of the Bridge program population (trended and adjusted to estimate what this population would have cost if the Bridge program continued past December 31, 2015) to the actual experience of the PAP program. The methodology will be designed to determine the extent to which observed differences are statistically significant and meaningful to assess the research goals of the Demonstration.

Data Sources

New Hampshire is in the process of finalizing Memorandums of Understanding (MOU) with the QHPs for their participation in the PAP. While the MOUs are not yet signed, the Department and the QHPs have agreed on the terms that require the QHPs to provide encounter data to the state. The QHPs will submit data to the Department using the format and quality requirements of the State's Comprehensive Health Care Information System (CHIS), New Hampshire's All Payer Claims Database. Because the submission of data to the CHIS is a legal requirement to be a carrier in New Hampshire, the QHPs are already obligated to process and format the data according to the CHIS requirements. Existing CHIS data quality assurance processes will be employed to ensure the data are complete and of high quality. The QHPs will need to submit a separate duplicate feed for PAP members, because the CHIS data normally contain encrypted identifiers. The separate CHIS-like file the QHPs will provide to the Department will contain identifiers including member Medicaid ID which will allow linking the data to Medicaid membership and claims.

DHHS and its evaluation contractor will use multiple sources of data to assess the 14 research hypotheses. The data collected will include both administrative and survey-based data (e.g., CAHPS, CAHPS-like, telephonic information gathering). Administrative data sources include information extracted from DHHS's Medicaid Management Information System (MMIS), and the State's Comprehensive Health Care Information System (CHIS). The three data sources are used to collect, manage, and maintain Medicaid recipient files (i.e., eligibility, enrollment, and demographics), fee-for-service (FFS) claims, and managed care encounter data. These data bases serve as central repositories for significant portions of the data DHHS will use to mine, collect, and query while addressing the 14 research hypotheses. DHHS and its evaluation vendor will work together with key data owners to ensure the appropriate data use agreements are in place to obtain the data. Data sharing Memorandums of Understandings (MOU) will be initiated with entities to allow access to and use of Medicaid claims and encounters, member demographics and eligibility/enrollment, and provider data.

Administrative Data

New Hampshire's Demonstration evaluation offers an opportunity to synthesize information from several data sources to determine the impact of the NHHPP PAP. The administrative data sources—i.e., CHIS and MMIS (including member, provider, and

enrollment data)—are necessary to address the 14 research hypothesis outlined in the evaluation design. Each measure (see Appendix B) associated with each research hypothesis lists the data source(s) used in addressing it. Three key fields that must be present to conduct the evaluation include the date of birth (for defining the study populations and some individual measures), a flag to identify whether a Medicaid recipient is enrolled in the PAP, and a flag to identify if the recipient is in a traditional Medicaid managed care.

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

CHIS

"The New Hampshire Comprehensive Health Care Information System (CHIS) was created by NH statute to make health care data 'available as a resource for insurers, employers, providers, purchasers of health care, and State agencies to continuously review health care utilization, expenditures, and performance in New Hampshire and to enhance the ability of New Hampshire consumers and employers to make informed and cost-effective health care choices.'"[11] The same legislation that created the CHIS also enacted statutes that mandated health insurance carriers to submit encrypted health care claims data and Health Employer Data and Information Set (HEDIS®) data to the State.[12] As a result, CHIS data will be useful in calculating several of the measures used in the Demonstration evaluation.

MMIS

Not all data required for the evaluation will be in the CHIS database. As such, access to Medicaid claims and encounters will be required to optimize the information available to calculate the 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. In addition to service utilization data, the NHHPP PAP evaluation will require access to supplemental Medicaid data contained in the State's MMIS—e.g., member demographics, eligibility/enrollment, and provider information.

New Hampshire Medicaid began processing managed care encounter data in July of 2015. New Hampshire is employing a three-fold strategy to ensure completeness and accuracy of the encounter data: 1) New Hampshire's Medicaid managed care contracts contain robust requirements for timeliness, completeness and accuracy with the possibility of liquidated damages if the standards are not met; 2) New Hampshire's encounter data processing solution pseudo adjudicates encounters through the State's MMIS applying many of the same quality edits employed for FFS claims; and 3) New Hampshire has availed itself of the optional EQRO activity of Encounter Data

[11] New Hampshire Comprehensive Health Care Information System. https://nhchis.com, Last accessed on May 26, 2015.

[12] HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

Validation (current EQRO contract includes activity and EQRO is currently implementing an EDI based solution for loading the data as part of validation). Because the processing of the data only began recently, NH does not yet have summary analysis on data quality. However, NH is confident that their strategies will produce valid and reliable data and is committed to that outcome.

Member Demographics—Member data are used to assess member age, gender, and other demographic and economic information required for the calculation of specific measures. For example, member demographics are used to determine member's age in order 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 create the study and comparison groups, as well as the assessment of health insurance and enrollment gaps.

Provider—Provider data, such as office location and specialty, will be used to assess the availability of services for both study and comparison groups.

Consumer Surveys

CAHPS and/or CAHPS-like surveys will be used to assess satisfaction with provided health care services.[13] These instruments will include specific survey items designed to elicit information that address research hypotheses regarding members' continuity of health care coverage and health plan market diversity.

These questions will be designed to capture elements of the waiver STCs that cannot be addressed through administrative data or currently collected survey items. These six items will address the following concepts:

1. Continuity in member health insurance coverage—research hypothesis 1 states that premium assistance beneficiaries will have equal or fewer gaps in insurance coverage.
2. Continuous access to the same health plan—research hypothesis 2 states that premium assistance beneficiaries will have access to the same health plans and maintain continuous access to the providers.
3. Continuity in plan enrollment—research hypothesis 3 states that premium assistance beneficiaries will have equal or fewer gaps in plan enrollment, equal or improved continuity of care, and resultant equal or lower administrative costs.

[13] Depending on the State's CAHPS vendor and survey logistics related to adding items to the annual CAHPS survey, DHHS may decide to administer a CAHPS-like custom survey to maximize applicability to the study population and increase the likelihood of return.

4. Continuity of access to needed care—research hypothesis 8 states that premium assistance beneficiaries will have equal or better access to care, including primary care and specialty physician networks and services.
5. Continuity of routine care—research hypothesis 9 states that premium assistance beneficiaries will have equal or better access to preventive care services.
6. Continuity of overall health care—research hypothesis 10 states that premium assistance will report equal or better satisfaction in care provided.

In choosing the potential responses for each of the 10 questions being proposed, the response categories will mimic other response categories used on the CAHPS form, such as the degree of respondent agreement with a statement or a Yes/No response.

Semi-Structured Interviews

A series of semi-structured interviews with representatives of most of the health insurance plans who served the Medicaid and PAP population in New Hampshire in 2016 were conducted to obtain results for two measures. The plan representatives knowledgeable about the plans' perspective on continuity of enrollment and administrative costs and the impact of the PAP were identified by the plans for interview. The data were synthesized to provide a high-level assessment of the operation of the PAP to better inform future policy in this complex area.

Internet-based Research

MCOs and health insurance carriers offering QHPs on the Marketplace were determined via internet-based research and State input.

Analytic Methods

The evaluation reporting will meet traditional standards of scientific and academic rigor, as appropriate and feasible for each aspect of the evaluation (e.g., for the evaluation design, data collection and analysis, and the interpretation and reporting of findings). The Demonstration evaluation will use the best available data, will use controls and adjustments where appropriate and available, and will report the limitations of data and the limitations' effects on interpreting the results. The evaluation will discuss the generalizability of results in the context of the limitations.

Two different analytic methods will be used depending on the characteristics of the data available for each type of measure. Survey-based measures for a single period will be evaluated using a cross-sectional analysis, while non-survey-based measures with data for both the baseline and measurement periods will be evaluated using a difference-in-differences analysis.

1. **Difference-in-Differences:** Difference-in-differences will be used to compare the change in rates for the Bridge/PAP beneficiaries between two time periods against the change in rates for non-Bridge/PAP Medicaid recipients (i.e., the

comparison group) over the same time period. This change in rates for the comparison group represents the expected change in the treatment group absent the program intervention. To determine the expected rates of the treatment group, a non-Bridge/PAP population with characteristics similar to the Bridge/PAP population must be identified. Propensity score-based matching is a common methodology used to select a comparison group that is statistically similar to a treatment group.

2. **Cross-sectional Analysis:** These analyses examine results for survey-based measures for two different groups at the same point in time. For example, cross-sectional analyses will be used to evaluate NHHPP PAP members' access to certain services versus non-NHHPP PAP MCO members' access. Responses will be case-mix adjusted using the Agency for Healthcare Research and Quality (AHRQ) adjustment algorithm using age, education, and self-rating of health as adjustment factors.

The following details the analytic methods that will be employed in the evaluation.

Comparison Group

The sections below describe the methodology that will be used for generating propensity scores, identifying covariates, and evaluating the quality of the comparison group created.

Propensity Score Matching

Propensity scores will be derived to match individuals in the Bridge/PAP and non-Bridge/PAP populations. This will allow the construction of a comparison group that is most similar to the treatment group (i.e., the Bridge/PAP population). Thus, the propensity score will be used to reduce bias in the analytical results and control for multiple possible confounders.

The covariates outlined below will be used to determine a propensity score for each member. Logistic regression will be used to calculate the propensity score. The equation used for the logistic regression is as follows:

$$\Pr(Y_i = 1) = \frac{1}{1 + \exp[-(\beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \cdots + \beta_k X_{ik})]}$$

Where $\Pr(Y_i = 1)$ is the propensity score (the estimated probability that a given member would be enrolled in the PAP based on the included member characteristics), the βs are parameters to be estimated, and the Xs are the covariates.[14]

After using logistic regression to determine the propensity scores for each member in the Bridge/PAP and non-Bridge/PAP populations, a greedy algorithm will be used to match individuals' scores in the Bridge/PAP population to individuals in the non-Bridge/PAP population. This matching methodology will make "best" matches first

[14] Linden, A., Adams, J.L., and Roberts, N. (2005). "Using propensity scores to construct comparable comparison groups for disease management program evaluation." Disease Management Health Outcomes. 13(2): 107-115.

(i.e., matches on the greatest degree of precision using the most decimal places) and then matches on successive "next-best" matches. This is completed in a top-down sequence until no more matches can be made.

A greedy 5→1-digit matching algorithm will be used to match the populations.[15] The greedy 5→1-digit match means that the populations will first be matched on the propensity score out to the fifth decimal place. For those that did not match, the populations will then be matched on the propensity score out to the fourth decimal place and will continue down to a one-digit match. Any ties will be matched randomly, and once matched, cases will not be reconsidered.

Covariate Identification

Demographic and health condition covariates will be identified for each member. The following provides a description of each of the covariates and the methods that will be used to identify them. All covariates will be identified during the baseline period and are expected to be related to the likelihood of a member being enrolled in the PAP. It is important to note that the covariates listed in Table 1 and the sample health condition covariates provide a starting point for the analysis. To assist with identifying a valid comparison group, the final selection of covariates used in the analysis may be revised depending on the prevalence of health conditions among the PAP population. Additionally, certain covariates may be excluded for a variety of statistical reasons, such as poor predictive capability.

Table 1 provides a list of the demographic covariates and the method that will be used to identify each covariate.

[15] Parsons, L.S. (2001). "Reducing Bias in Propensity Score Matched-Pair Sample Using Greedy Matching Techniques." Paper 214-26. Proceedings of the Twenty-Sixth Annual SAS Users Group International Conference. Cary (NC): SAS Institute Inc.

Table 1: Demographic and Utilization Covariates	
Covariates	**Identification Method**
Age	
Age	Member's date of birth will be used to identify the member's age at the end of the baseline period.
Gender	
Male Female	Member's gender in the demographic file.
Geography	
County	County codes in demographic data.
Race	
White African American American Indian/Alaskan Native Native Hawaiian/Other Pacific Islander Asian Other Multiple	Members flagged as "W" will be classified as White. Members flagged as "A" will be classified as African American. Members flagged as "I" will be classified as American Indian/Alaskan Native. Members flagged as "P" will be classified as Native Hawaiian/Other Pacific Islander. Members flagged as "S" will be classified as Asian. Member flagged as "O" will be classified as Other. Members with more than one race code will be classified as Multiple.
Ethnicity	
Hispanic Non-Hispanic	Members with ethnicity of "1" will be classified as Hispanic. Members with ethnicity of "0" will be classified as non-Hispanic.
Enrollment	
Number of months a member was enrolled in PAP/Medicaid	Eligibility/enrollment files will be used to determine the number of months a member was enrolled in PAP or Medicaid.

The list below provides some possible sample health condition covariates that may be incorporated into the propensity scoring methodology. The initial selection of health condition covariates will depend on the PAP population and identifying the most prevalent conditions.[16] From there, covariates may be revised or excluded in the final selection based on clinical relevance and/or statistical reasons (such as poor predictive capability). Encounter and FFS data will be used to identify members who had a primary diagnosis for any of the health conditions listed and revised upon evaluation of the data. Each health condition will be represented separately as an indicator variable. For example, a member diagnosed with both asthma and hypertension will have two health condition flags, one for asthma and another for hypertension.

[16] The evaluator will begin identifying health conditions using the AHRQ Clinical Classification Software (CCS) categories. Certain CCS categories may be revised or grouped together in the final covariate selection based on characteristics of the PAP population and clinical relevance.

- Asthma
- Chronic Obstructive Pulmonary Disease (COPD)
- Congestive Health Failure (CHF)
- Coronary Artery Disease (CAD)
- Diabetes Mellitus
- Hypertension
- Obesity
- Stroke
- Pregnancy

Evaluating Matched Populations

Matching on propensity scores has been shown to create a "covariate balance" such that the matched comparison population will be similar for all the covariates included in calculating the propensity score.[17] Once the populations have been matched, the matches will be evaluated to determine that the populations were matched appropriately, meaning that the propensity scoring process improved the covariate balance as anticipated. The covariate balance will be assessed in three ways:

1. The entire distribution of each covariate for the comparison group after matching will be compared against that of the treatment group using either a Chi-square test or *t*-test depending on the type of covariate.
2. Standardized differences between the two groups after matching will be computed. The standardized difference represents the difference in averages between the PAP and non-PAP comparison groups in terms of the pooled standard deviation. These values will then be compared against a commonly used threshold, such as 0.1, as well as a calculated value that accounts for the coefficient of variation in the outcome.
3. An omnibus test will be used to test the joint hypothesis that the mean difference between the PAP and non-PAP comparison groups across all measured covariates is zero.

If no group with characteristics similar to the treatment group can be identified from the eligible comparison group, revisions will be made to the comparison groups or statistical methodologies such that valid inferences about the effectiveness of the PAP can be drawn.

Statistical Analysis Methods

Once the populations are matched, a series of tests and analyses will follow to determine the impact of the NHHP PAP on access, quality, and cost of health care. The statistical test or method applied to the evaluation of each measure will depend on the measure construct and underlying data used for measure calculation.

Given that the hypotheses being tested generally state that the beneficiaries in the PAP have equal or better outcomes than a non-PAP comparison group, analytic methods for

[17] Ibid.

both the survey-based and non-survey-based measures will employ non-inferiority testing. Non-inferiority testing is increasingly used particularly in the field of clinical drug trials to evaluate whether a new drug performs as well as or better than the standard treatment, which is presumed to have some additional drawbacks such as being more expensive or having more adverse side-effects. This evaluation will employ non-inferiority testing in a similar framework to establish whether health outcomes for PAP beneficiaries are at least as good as those for non-PAP Medicaid recipients. The sections below detail the exact statistical methodology in which the standard statistical nonequivalence testing and non-inferiority testing will be conducted for each measure.

The following sections provide details on the difference-in-differences and cross-sectional methods, as well as statistical tests to be used in the analysis.

Difference-in-Differences

A difference-in-differences analysis will be performed on all measures for which baseline and evaluation period data are available for both the treatment and comparison groups. This analysis will compare the changes in the rates or outcomes between the baseline period (CY 2015) and the evaluation period for the two populations. This allows for expected costs and rates for the matched treatment group (i.e., matched Bridge/PAP members) to be calculated by considering expected changes in costs and rates had the PAP program not been implemented. This is completed by subtracting the average change in the comparison group from the average change in the treatment group, thus removing biases from the evaluation period comparisons due to permanent differences between the two groups. In other words, any cost or rate changes caused by factors external to the PAP program would apply to both groups equally, and the difference-in-differences methodology will remove the potential bias. The result is a clearer picture of the actual effect of the program on the evaluated outcomes. The generic difference-in-differences model is:

$$Y_{it} = \beta_0 + \beta_1 T_i + \beta_2 R_t + \beta_3 (R_t * T_i) + \boldsymbol{\gamma} \mathbf{D'}_{\boldsymbol{it}} + u_{it}$$

where Y_{it} is the outcome of interest for individual i in time period t. R_t is a dummy variable for the remeasurement time period (i.e., evaluation period). The dummy variable T_i identifies the treatment group with a 1 and the comparison group with a 0. The vector $\mathbf{D'}$ will include all covariates used in the propensity score matching to ensure comparability of the groups for any subpopulations and $\boldsymbol{\gamma}$ is the related coefficient vector. The coefficient, β_1, identifies the average difference between the groups prior to implementation of the PAP. The time period dummy, R, captures factors that would have changed in the absence of the intervention. The coefficient of interest, β_3, is the coefficient for the interaction term, $R_t * T_i$, which is the same as the dummy variable equal to one for those observations in the treatment group in the remeasurement period. The final difference-in-differences estimate is:

$$\hat{\beta}_3 = \left(\bar{y}_{T,R} - \bar{y}_{\mathrm{T,B}}\right) - \left(\bar{y}_{\mathrm{C,R}} - \bar{y}_{\mathrm{C,B}}\right) \mid \mathbf{D'}$$

The estimate will provide the expected costs and rates without intervention. If the β_3 coefficient is significantly different from zero, then it is reasonable to conclude that the outcome differed between the treatment and comparison group after the PAP program went into effect. For this analysis, a statistically significant difference will be represented by a *p*-value of 0.05 or less, indicating the probability of the results occurring by chance is less than 5 percent.

All covariates, except race and county dummy variables will be included in the difference-in-differences regression model as a control variable to account for any remaining differences between the PAP and non-PAP measure-level subgroups.

Difference-in-Differences—Statistical Testing

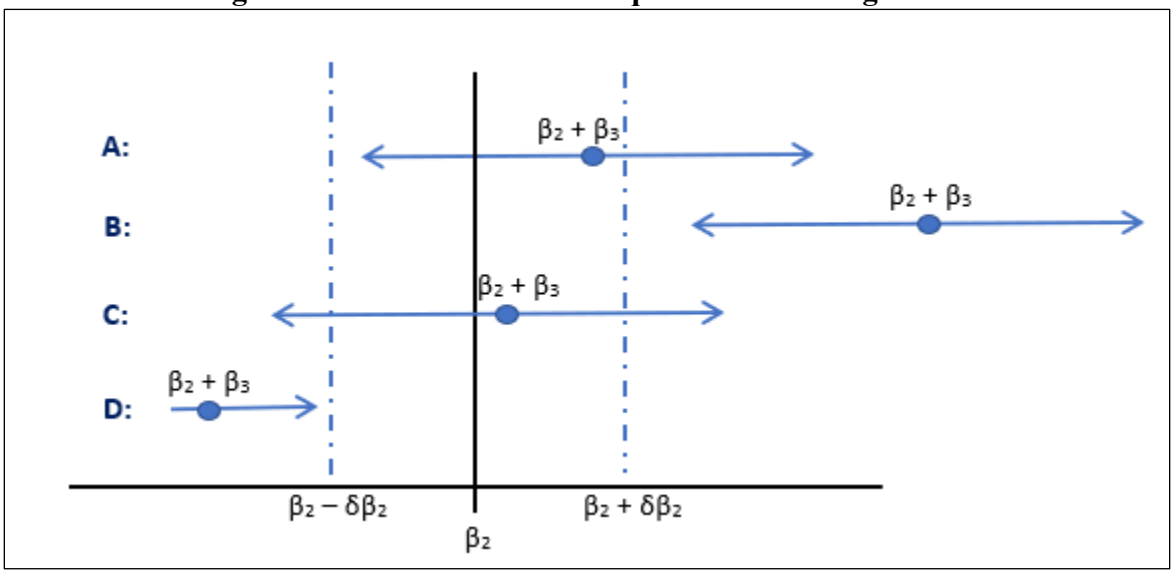
Non-inferiority testing will be conducted using a pre-specified fraction (δ) of the change in the comparison group (β_2) to define an "equivalence range" within which it would be concluded that the PAP group performed as well as the non-PAP comparison group. In this specification, equivalence is measured as a difference in the change between the baseline and measurement periods. For this reason, the evaluator proposes setting δ at 10 percent of (β_2). As an example, if higher rates are better and the rates for the comparison group increased from 70 percent to 75 percent between the baseline and evaluation periods, β_2 would be 5 percentage points. Mathematically, let δ^* be half the width of the equivalence range. Then $\delta^* = \delta \times \beta_2$. Continuing the example, since $\beta_2 = 5$, then $\delta^* = 10\% \times 5 = 0.5$. Intuitively, if the change in the PAP group net of the change in the comparison group (β_3) is greater than -0.5 percentage points, then non-inferiority can be established. It should be noted that the estimated value of β_2 is a random variable so the variance of the measure must also be taken into account. To this end, the evaluator will test the following linear hypotheses using an F-test for $\alpha = 0.05$:

Non-Inferiority Hypothesis Tests		
β_2	Higher Rate Is Favorable	Lower Rate Is Favorable
$\beta_2 > 0$	$\beta_3 + \delta\beta_2 > 0$	$\beta_3 - \delta\beta_2 < 0$
$\beta_2 < 0$	$\beta_3 - \delta\beta_2 > 0$	$\beta_3 + \delta\beta_2 < 0$

Results of this F-test will be presented alongside the regression results. It is important to note that for results in which the F-test is not significant (i.e., having a *p*-value of greater than 0.05), non-inferiority cannot be established. Therefore, the results would be inconclusive and would not indicate whether PAP performed at least as well as the non-PAP comparison group.

This approach is functionally equivalent to testing whether the 95 percent confidence interval lies within and/or in the desired direction of the equivalence range. For example, consider Figure 1 below for a measure in which higher rates represent better performance. The 95 percent confidence intervals represented by A and B indicate the PAP performed at least as well as the MCOs. The confidence interval represented by C is inconclusive. Given the 95 percent confidence interval represented by D, the PAP would be determined to have performed worse than the MCOs.

Figure 1: Illustration of Non-Equivalence Testing Procedure



The 95 percent confidence intervals will be constructed as:

$$(\hat{\beta}_2 + \hat{\beta}_3) \pm t_{DF,0.025} SE$$

where DF is the regression model degrees of freedom and SE is given by:

$$SE = \sqrt{\delta^2 Var[\hat{\beta}_2] + Var[\hat{\beta}_3] + 2\delta Cov(\hat{\beta}_2, \hat{\beta}_3)}$$

Cross-Sectional Analysis

Cross-sectional analysis methods will be used to evaluate data, such as survey-based measures, for which data is available for two different groups at the same point in time. Survey responses will be adjusted based on respondents age, education, and self-rating of health using the Agency for Healthcare Research and Quality (AHRQ) adjustment algorithm. This will ensure maximum comparability between survey populations.

Cross-Sectional Analysis—Statistical Testing

A two-proportional *z*-test is typically used to compare two samples when the measurement data are discrete or categorical in nature (such as gender or whether or not a respondent answers "yes" to a particular survey question). For survey-based questions, the treatment group's outcomes will be measured against the comparison group's outcomes, and the *z*-test will determine whether the two groups are statistically significantly different.

The standard two-proportional z-test is given by:

$$z = \frac{\hat{p}_{PAP} - \hat{p}_{MCO}}{\sqrt{\frac{p_{PAP}(1-p_{PAP})}{n_{PAP}} + \frac{p_{MCO}(1-p_{MCO})}{n_{MCO}}}}$$

Prior to conducting the analysis, a minimum important difference, δ, will be calculated for each measure. This threshold will represent the greatest difference between the PAP and non-PAP comparison groups that can exist while still being considered "equivalent." The threshold will be calculated using an effect size of 0.10 of the non-PAP comparison group.[18] While an effect size of 0.20 has commonly been deemed to represent a "small" effect as originally suggested by Cohen, Cohen writes, "the terms 'small,' 'medium,' and 'large' are relative, not only to each other, but to the area of behavioral science or even more particularly to the specific content and research method being employed in any given investigation" (p. 25).[19] Because the application of effect size in this context is to identify a minimum acceptable difference between proportions while still considering them "equal" for practical purposes, a stricter threshold than what may be typically used is appropriate. Therefore, δ for each measure will be calculated as follows, where $\hat{p}_1$ is the proportion of successes for the comparison group:

$$\delta = \hat{p}_{MCO} - \sin\left(\frac{2\sin^{-1}\left(\sqrt{\hat{p}_{MCO}}\right) \pm 0.1}{2}\right)^2$$

where the $\pm$ operation is + if a lower rate is favorable and – if a higher rate is favorable.

Incorporating this into the statistical test yields:

$$z = \frac{\hat{p}_{PAP} - \hat{p}_{MCO} + \delta}{\sqrt{\frac{\hat{p}_{PAP}(1-\hat{p}_{PAP})}{n_{PAP}} + \frac{\hat{p}_{MCO}(1-\hat{p}_{MCO})}{n_{MCO}}}}$$

The cost-effectiveness portion of the evaluation examines costs in three ways: total and the medical and administrative components that, when summed, represent total healthcare costs. As a result, all costs (and credits) are required to fit into either the medical or the administrative category. Both cost-effectiveness measures are reported in these three ways. There are three annual measures (i.e., 3-3, 7-1, and 7-2) and three rapid-cycle quarterly measures (i.e., CEC-1, CEC-2, and CEC-3) used assess the cost-effectiveness of the Demonstration. To do so, the costs (i.e., total and breakdown for medical and administrative) will be tracked for comparing actual NHHPP PAP costs to the estimated costs if the Bridge program were continued. After evaluating the available data, these comparisons may be modified, or additional cost effectiveness comparisons

[18] See, e.g. Treadwell J, Uhl S, Tipton K, et al. Assessing Equivalence and Noninferiority [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2012 Jun. Guidance. Available from: https://www.ncbi.nlm.nih.gov/books/NBK98982/

[19] Cohen, J. *Statistical Power Analysis for the Behavioral Sciences,* 2nd Ed. Hillsdale, N.J.: L. Erlbaum Associates; 1988:25.

may be developed if they are deemed to further the research goals of the Demonstration.

Finally, where appropriate, supplemental analyses will be conducted to further investigate and understand the impact of the NHHPP PAP program. These analyses may include plan-based comparative findings as well as the stratification of results by key demographic and/or programmatic characteristics. When possible, evaluation results will incorporate national or state-defined standards and/or benchmarks for comparison purposes. Together, the findings from these sub-group analyses will further inform the State regarding the impact of the NHHPP PAP program.

Process/Outcome Measures

When possible, process measures will be used since they do not require any form of risk adjustment beyond eligibility. The reason is related to the nature of process measures in that the 'processes' are required for anyone who meets the inclusion and exclusion criteria for the measure. Theoretically, a process measure should be able to reach 100 percent among the eligible populations.

Outcome measures often require some form of risk adjustment or stratification. Certain demographic characteristics must be stratified for CMS reporting, such as race, rather than used as a risk-adjustment variable in a multivariate model. For comparison purposes, a comparison group is formed from the non-PAP MCO Medicaid beneficiaries such that a discriminant analysis with policy-relevant predictor variables cannot distinguish group membership beyond randomness, with statistical power set to approximately 0.8 for the comparison.

Limitations

The limitations surrounding this evaluation center on the lack of truly comparative data for the NHHPP PAP members for outcome variables in the first year of the Demonstration beyond the All-payer Hospital data. When a new and empirically different group is added to Medicaid, there is often no comparison group with data to assess potential programmatic differences between the new group and the effects of joining the ongoing Medicaid program, instead. As a result, assumptions on comparability are sometimes made that lack empirical evidence for support or that have somewhat inconsistent evidence of comparability.

Additionally, little or no data will exist in sufficient time for the New Hampshire legislature to decide whether it will continue the NHHPP PAP past its first year of operation. This situation will require the State legislature to make program decisions without the knowledge and support of the first annual evaluation of the program, or from the interim evaluation conducted after full implementation of the Demonstration.

3. REPORTING

Following its annual evaluation of the NHHPP PAP and subsequent synthesis of the results, DHHS and its evaluation vendor will prepare a report of the findings and how the results compare to the research hypotheses. Both the interim annual reports and the final summative evaluation report will be produced in alignment with STCs and the schedule of deliverables listed in Table 2 below. (See Appendix C for a detailed timeline.) Following approval to continue the NHHPP PAP in Year 2 and Year 3 by the New Hampshire State Legislature, the schedule of deliverables will be updated to reflect additional reporting requirements.

Table 2: Schedule of Deliverables for the NHHPP PAP Waiver Evaluation

Deliverable	Date
NHHPP PAP Evaluation Design (STC #66)	
DHHS submits PAP Waiver Evaluation Methodology to CMS	6/4/2015
DHHS to post PAP Waiver Evaluation Methodology on the State's website for public comment	6/4/2015
DHHS to post final approved Evaluation Design on the State's website within 30 days of approval by CMS	On or before 10/15/2015
DHHS presentation to CMS on approved Evaluation Design (STC #73)	As Requested
Demonstration Year 1	
Quarterly: DHHS to report progress of Demonstration to CMS (STC #82)	30 days after the quarter
If Demonstration Continued, Interim Annual Evaluation Report (STC #70)	1/1/2018
If Demonstration Ended, Preliminary Summative Evaluation Report (STC #71)	3/31/2019
If Demonstration Ended, Final Summative Evaluation Report (STC #71)	12/31/2019
DHHS presentation to CMS on Final Summative Evaluation Report (STC #73)	As Requested

Each evaluation report will present findings in a clear, accurate, concise, and timely manner. At minimum, all written reports will include the following six sections: Executive Summary, Demonstration Description, Study Design, Findings and Conclusions, Policy Implications, and Interactions with Other State Initiatives. Specifically, the reports will address the following:

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, particularly related to budget neutrality and cost-effectiveness. The 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 NHHPP PAP program along with its successes and challenges.

3. The **Study Design** section contains much of new information in the report. Its five sections include: evaluation design with the 14 research hypotheses and associated measures, along with the type of study design; impacted populations and stakeholders; data sources that include data collection field, 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. The section focuses on cost-effectiveness, along with the successes, challenges, and lessons learned from the implementation of the Demonstration.

5. The **Policy Implications** section contains the policy-relevant and contextually appropriate interpretations of the conclusions. This section includes the existing and expected impact of the Demonstration within the health delivery system in the State in the context of the implications for State and federal health policy, including the potential for successful strategies to be replicated in other State Medicaid programs.

6. 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, the State Innovation Models (SIM) award, and other federal awards affecting service delivery, health outcomes, and the cost of care under Medicaid.

All reports, including the 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. DHHS will notify CMS prior to publishing any results based on Demonstration evaluation for CMS' review and approval. The reports' appendices present more granular results and supplemental findings. The State will work with CMS to ensure the transmission of all required reports and documentation occurs within approved communication protocols.

Independent Entity

Based on State protocols, DHHS will follow established policies and procedures to acquire an independent entity or entities to conduct the NHHPP PAP Demonstration evaluation. The State will either undertake a competitive procurement for the evaluator or will contract with entities that have an existing contract relationship with the State. An assessment of potential vendors' experience, knowledge of State programs and populations, and resource requirements will determine selection of the final candidate, including steps to identify and/or mitigate any conflicts of interest.

Budget

Due to the complexity and resource requirements of the NHHPP PAP Demonstration, DHHS will need to conduct a competitive procurement to obtain the services of an independent entity to perform the services outlined in this evaluation design. As such, an estimated budget is currently unavailable and will be determined through the competitive bid process. Upon selection of an evaluation vendor, a final budget will be prepared in collaboration with the selected independent entity. Table 3 displays the proposed budget shell that will be used for submitting total costs for the Demonstration. Costs are broken out by staff, estimated hours, costs, and anticipated subcontractors. At this time, DHHS is working with its Actuarial vendor to secure their assistance in preparing all cost-related measures.

Table 3: Proposed Budget Template for NHHPP PAP

Staff Title	Year X (January 2016-2017)		
	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			

As noted earlier, the costs presented in Table 3 will include the total estimated cost, as well as a breakdown of estimated staff, administrative and other costs for all aspects of the evaluation such as any survey and measurement development, quantitative and qualitative data collection and cleaning analyses and report generation. A final budget will be submitted once a final evaluation contractor has been selected.

5. APPENDIX A: EVALUATION COMPONENTS

PAP Waiver Goal	Hypothesis Being Addressed[20]	Dimension of Access and/or Quality[21]
1. Continuity of coverage - For individuals whose incomes fluctuate, the Demonstration will permit continuity of health plans and provider networks	1. Premium assistance beneficiaries will have equal or fewer gaps in insurance coverage than non-premium members enrolled in Medicaid	Comparisons of provider networks
	2. Premium assistance beneficiaries will maintain continuous access to the same health plans, and will maintain continuous access to providers	Provider experience
2. Plan Variety - The Demonstration could also encourage Medicaid Care Management carriers to offer QHPs in the Marketplace in order to retain Medicaid market share, and could encourage QHP carriers to seek Medicaid managed care contracts	3. Premium assistance beneficiaries, including those who become eligible for Exchange Marketplace coverage, will have equal or fewer gaps in plan enrollment, equal or improved continuity of care, and resultant equal or lower administrative costs	Evidence of improved access and quality across the continuum of coverage and related health outcomes
	4. The Demonstration could lead to an increase in plan variety by encouraging Medicaid managed care carriers to offer QHPs in the Marketplace in order to retain Medicaid market share, and encouraging QHP carriers to seek Medicaid managed care contracts	Comparisons of provider networks over time.
3. Cost-effective Coverage - The premium assistance approach will increase QHP enrollment and may result in greater economies of scale and competition among QHPs	5. Premium assistance beneficiaries will have equal or lower non-emergent use of emergency room services	Evidence of equal or improved access and quality across the continuum of coverage and related health outcomes
	6. Premium assistance beneficiaries will have equal or lower rates of potentially preventable emergency department and hospital admissions	Evidence of equal or improved access and quality across the continuum of coverage and related health outcomes
	7. Implementation of the program will result in more Medicaid plans deciding to enter the New Hampshire health insurance marketplace	Comparisons of provider networks
4. Uniform provider access - The State will evaluate access to primary, specialty, and behavioral health care services for beneficiaries in the Demonstration to determine if it is comparable to the access afforded to the general population in New Hampshire	8. Premium assistance beneficiaries will have equal or better access to care, including primary care and specialty physician networks and services	Evidence of equal or improved access and quality across the continuum of coverage and related health outcomes
	9. Premium assistance beneficiaries will have equal or better access to preventive care services	Evidence of equal or improved access and quality across the continuum of coverage and related health outcomes
	10. Premium assistance beneficiaries will report equal or better satisfaction in the care provided	Consumer satisfaction and other indicators of consumer experience
	11. Premium assistance beneficiaries who are young adults eligible for EPSDT benefits will have at least as satisfactory and appropriate access to these benefits	Evidence of equal or improved access and quality across the continuum of coverage and related health outcomes
	12. Premium assistance beneficiaries will have appropriate access to non-emergency transportation	Evidence of equal or improved access and quality across the continuum of coverage and related health outcomes
	13. Premium assistance beneficiaries will have equal or better access to care, including behavioral health services	Evidence of equal or improved access and quality across the continuum of coverage and related health outcomes
5. Cost Neutrality - The premium assistance program will be cost neutral with respect to continuation of the previous New Hampshire Medicaid expansion program	14. The premium assistance program will be cost neutral with respect to the continuation of the previous New Hampshire Medicaid expansion program	Comparisons of provider networks

[20] New Hampshire Health Protection Program Premium Assistance. New Hampshire Department of Health and Human Services. http://www.dhhs.nh.gov/pap-1115-waiver/documents/final-waiver-app-11202014.pdf, Page 10 of 146. Last accessed on May 26, 2015.

[21] Ibid, STC #69.1.a.

6. APPENDIX B: EVALUATION RESEARCH HYPOTHESES AND MEASURES

The 14 research hypotheses are grouped according to the four waiver goals delineated in Appendix A. The definitions presented below are generally quoted from Section II. Program Description and Objectives in the Special Terms and Conditions document.[22] Numbering of the individual research hypotheses from STC #69 is changed herein to correspond with the goals of the waiver shown in Appendix A.

Continuity of Coverage

Definition: For individuals whose incomes fluctuate, the NHHPP PAP Demonstration will permit continuity of health plans and provider networks. Individuals and families may receive coverage through the same health plans and seek treatment and services through the same providers regardless of whether their underlying coverage is financed by Medicaid or through the Marketplace. The State will evaluate whether individuals remain in the same QHP when Medicaid payment is terminated.

Hypothesis 1: ***Premium assistance beneficiaries will have equal or fewer gaps in insurance coverage than non-premium assistance members enrolled in Medicaid***

Gaps in insurance coverage decrease the potential for preventive care and, therefore, increase the potential for more expensive emergency and/or inpatient care. Due to the insurance premiums being paid by New Hampshire for eligible beneficiaries, any gaps in coverage should be for income level changes, moving out of State, aging out, death, incarceration, or other situation beyond the control of the State for ensuring continuous insurance coverage.

Measure 1-1	Continuity in Member Health Insurance Coverage
Definition:	The average number of gaps in insurance coverage
Technical Specifications:	The average number of gaps in Medicaid coverage per 100 members enrolled in PAP versus traditional Medicaid MCO coverage during the measurement period
Exclusion Criteria:	Subject to income level qualifications, incarceration, and other relevant programmatic restrictions
Data Source(s):	State eligibility and enrollment databases
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

[22] pa_termsandconditions.pdf

Measure 1-2	Continuity in Member Health Insurance Coverage
Definition:	The percentage of eligible members with gaps in insurance coverage
Technical Specifications:	The percentage of eligible members with gaps in Medicaid coverage, PAP versus traditional Medicaid MCO coverage during the measurement period
Exclusion Criteria:	Subject to income level qualifications, incarceration, and other relevant programmatic restrictions
Data Source(s):	State eligibility and enrollment databases
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Measure 1-3	Patient Perspective on Continuity in Health Insurance Coverage
Definition:	Patient perspective on the continuity of health insurance coverage
Technical Specifications:	Eligible recipients will be surveyed to whether the members reported being without health insurance during the previous six months. "In the last six months, were you without health insurance at any time?" (Use CAHPS' standard Yes/No response categories and format)
Exclusion Criteria:	Subject to income level qualifications, incarceration, and other relevant programmatic restrictions
Data Source(s):	Additional CAHPS or CAHPS-like question modeled after CAHPS 5.0 Item 3[23]
Comparison Group(s):	1. Non-PAP Medicaid MCO respondents
Comparison Method(s):	1. Two-group z-test 2. Two-group non-inferiority z-test
National Benchmark:	None

[23] CAHPS® Health Plan Surveys, Version: Adult Medicaid Survey 5.0, English.

Hypothesis 2: ***Premium assistance beneficiaries will maintain continuous access to the same health plans, and will maintain continuous access to providers***

This two-part research hypothesis examines continuity of care within health plans and continuous access to providers associated with the member's health plan. For this research hypothesis, the providers are the groups of PCPs delivering care to the MCO's members. With the State paying for the beneficiaries' premiums, the intent is that members will see the same group of providers as least as commonly as the comparison group members.

Measure 2-1	Continuous Access to the Same Health Plan
Definition:	The percentage of members with continuous access to the same health plan for the measurement year
Technical Specifications:	The percentage of members enrolled in PAP versus traditional Medicaid MCO coverage with continuous access to the same health plan during the measurement period – one plan the entire time.
Exclusion Criteria:	Subject to income level qualifications, incarceration, and other relevant programmatic restrictions
Data Source(s):	State eligibility and enrollment databases
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Measure 2-2	Patient Perspective on Continuity in Same Plan Coverage
Definition:	Patient perspective on continuous access to the same health care plan
Technical Specifications:	Eligible recipients will be surveyed to whether the members had continuous access to the same health care plan during the previous six months. "In the last six months, did you have to switch to a different health care plan?" (Use CAHPS' standard Yes/No response categories and format)
Exclusion Criteria:	Subject to income level qualifications, incarceration, and other relevant programmatic restrictions
Data Source(s):	Additional CAHPS or CAHPS-like question modeled after CAHPS 5.0 Item 3
Comparison Group(s):	1. Non-PAP Medicaid MCO respondents
Comparison Method(s):	1. Two-group z-test 2. Two-group non-inferiority z-test
National Benchmark:	None

Measure 2-4	Continuous Care During Marketplace Transition
Definition:	The percentage of members who transitioned from NH Healthy Families Medicaid coverage to Ambetter QHP, and the percentage of members who transitioned from Ambetter QHP to NH Healthy Families Medicaid
Technical Specifications:	The percentage of members who transitioned from NH Healthy Families Medicaid coverage to Ambetter QHP, and the percentage of members who transitioned from Ambetter QHP to NH Healthy Families Medicaid
Data Source(s):	State eligibility and enrollment databases
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Plan Variety

Definition: The NHHPP PAP Demonstration could also encourage Medicaid Care Management carriers to offer QHPs in the Marketplace in order to retain Medicaid market share and could encourage QHP carriers to seek Medicaid managed care contracts. This dual participation in the Medicaid Care Management program and the Marketplace would afford beneficiaries seamless coverage during times of transition either across eligibility groups within Medicaid or from Medicaid to the Marketplace and would increase the selection of plans for both Medicaid and Marketplace enrollees. The State will evaluate whether there is an increase in the number of available QHPs because of this potential for dual participation.

Hypothesis 3: ***Premium assistance beneficiaries, including those who become eligible for Exchange Marketplace coverage, will have equal or fewer gaps in plan enrollment, equal or improved continuity of care, and resultant equal or lower administrative costs***

Beyond the continuity of insurance coverage previously addressed, this research hypothesis examines gaps in actual enrollment, the empirical continuity of care, and the administrative costs of care. If the NHHPP PAP functions as designed, actual enrollment should be at least as continuous as for the beneficiaries in the comparison group, their continuity of care should be at least as good due to improved access, and the overall administrative costs should decrease through knowledge of premium costs weighed against the costs in the comparison group. Three measures will, in combination, be used to assess this research hypothesis.

Measure 3-1	Continuity in Plan Enrollment
Definition:	The average number of gaps in enrollment from any Medicaid plan
Technical Specifications:	The average number of gaps in enrollment of any kind from any Medicaid MCO or PAP plan per 100 enrollee years, PAP versus traditional Medicaid MCO coverage during the measurement period
Exclusion Criteria:	Subject to income level qualifications, incarceration, and other relevant programmatic restrictions
Data Source(s):	State eligibility and enrollment databases
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Measure 3-2	Continuity in Plan Enrollment
Definition:	Percentage of eligible members with continuous health plan access
Technical Specifications:	The percentage of eligible members enrolled in PAP versus traditional Medicaid MCO coverage with continuous access to any Medicaid MCO or PAP health plan during the measurement period
Exclusion Criteria:	Subject to income level qualifications, incarceration, and other relevant programmatic restrictions
Data Source(s):	State eligibility and enrollment databases
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Measure 3-3	Patient Perspective on Continuity of Care
Definition:	The cornerstone of continuity of care is in knowing one's PCP. For this reason, this portion of the research hypothesis is defined through whether the beneficiary has a personal doctor. For respondents, this item is defined as the proportional choice for the question, "In the last six months, how often did your personal doctor seem informed and up-to-date about the care you got from these doctors or other health providers?" for responses "usually" or "always."
Technical Specifications:	CAHPS – Access: Getting Needed Care, CAHPS 5.0 Item Q10
Data Source(s):	CAHPS or CAHPS-like survey
Comparison Group(s):	1. Non-PAP Medicaid MCO respondents
Comparison Method(s):	1. Two-group z-test 2. Two-group non-inferiority z-test
National Benchmark:	Potentially CAHPS benchmarks

Measure 3-4	Plan Perspective on Continuity of Enrollment on Administrative Costs
Definition:	Plan perspective on continuity of enrollment on administrative costs
Technical Specifications:	Ask plans the extent to which members changing plans increases administrative costs and what extent the implementation of PAP has reduced the number/percent of members changing plans
Data Source(s):	Plan Interviews
National Benchmark:	None

Hypothesis 4: ***The Demonstration leads to an increase in plan variety by encouraging Medicaid Managed Care carriers to offer QHPs in the Marketplace in order to retain Medicaid market share and encouraging QHP carriers to seek Medicaid managed care contracts. This dual participation in the Medicaid Care Management program and the Marketplace could afford beneficiaries seamless coverage during times of transition either across eligibility groups within Medicaid or from Medicaid to the Marketplace, and could increase the selection of plans for both Medicaid and Marketplace enrollees***

The idea supporting this research hypothesis is that market forces will take note of the influx of covered beneficiaries from the NHHPP PAP and will compete for market share. If the intended effect materializes, one benefit might be seamless transitions between the traditional marketplace and the NHHPP PAP. Beneficiaries might see an advantage to belonging to plans offering both types of coverage, which then might increase the total number of plans competing for market share and the potential of dual participation.

Measure 4-1	Medicaid Care Management Carriers Offering QHPs in the Marketplace
Definition:	Desk audit for the number of Medicaid Managed Care carriers offering QHPs in the Marketplace at the start of the waiver and annually thereafter for which dual participation could be an option
Technical Specifications:	Count of the number of Medicaid Managed Care carriers offering QHPs in the Marketplace for which dual participation could be an option
Data Source(s):	Internet Research
National Benchmark:	None

Measure 4-2	QHPs in the Marketplace Offering Medicaid MCO Plans
Definition:	Desk audit for the number of QHPs for PAP enrollees in the Marketplace offering Medicaid MCO Plans at the start of the waiver and annually thereafter
Technical Specifications:	Count of the number of QHPs in the Marketplace offering Medicaid MCO Plans
Data Source(s):	Internet Research
National Benchmark:	None

Cost-effective Coverage

Definition: The premium assistance approach will increase QHP enrollment and may result in greater economies of scale and competition among QHPs. This, in turn, may result in coverage that achieves cost reductions in comparison to traditional Medicaid managed care coverage. The State will evaluate whether QHP coverage is cost-effective, looking at the entire NHHPP PAP Demonstration period and trends that emerge as it proceeds.

Hypothesis 5: ***Premium assistance beneficiaries will have equal or lower non-emergent use of emergency room services***

'Non-emergent use' is interpreted to mean that the service could have been appropriately delivered at a lower level, such as an urgent care clinic or at a PCP's office. One of the intended functions of the NHHPP PAP is to treat beneficiaries in the appropriate setting, which is often the PCP's office. The appropriate setting is frequently less expensive and provides more local access than is found with non-emergent use of emergency room services.

Measure 5-1	Ambulatory Care: Emergency Department Visits Potentially Treatable in Primary Care by Eligibility Group
Definition:	Ambulatory emergency department visits for conditions potentially treatable in primary care per 1,000 member months by eligibility group
Technical Specifications:	AMBCARE.09 - NH Medicaid Reporting Specification, MCO-V2.3-01-05-15.pdf[24]
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Hypothesis 6: ***Premium assistance beneficiaries will have equal or lower rates of potentially preventable emergency department and hospital admissions***

'Potentially preventable' in operationalized as ambulatory sensitive conditions, suggesting that more timely PCP care could have prevented the admission, rather than the admission being at too high a level of service, distinguishing the research hypothesis from research hypothesis 5. For example, emergency room use and/or hospitalization for complications from the flu are potentially preventable with influenza and pneumococcal immunizations, as appropriate.

Measure 6-1	Inpatient Hospital Utilization for Ambulatory Care Sensitive Conditions for Adult Medicaid Members
Definition:	Quarterly rate of inpatient hospital utilization for ambulatory care sensitive conditions for overall Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators (PQI) Composite per 1,000 adult Medicaid members
Technical Specifications:	HPP_INPASC.01 - NH Medicaid Reporting Specification, MCO-V2.3-01-05-15.pdf
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

[24] NH Medicaid Care Management Quality Oversight Health Plan Reporting Specifications – V2.3

Measure 6-2	Emergency Department Utilization for Ambulatory Care Sensitive Conditions for Adult Medicaid Members
Definition:	Quarterly rate of emergency department utilization for ambulatory care sensitive conditions for overall Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators (PQI) Composite per 1,000 adult Medicaid members
Technical Specifications:	Analogous to HPP_INPASC.01, but in the Emergency Department setting
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Hypothesis 7: ***Implementation of the program will result in more Medicaid plans deciding to enter the NH health insurance marketplace***

This hypothesis assesses the implementation of the premium assistance program through a series of interviews with Medicaid MCOs and QHPs for their perspective on the program.

Measure 7-1	Plan Perspective on Program Impact on Marketplace Entry
Definition:	Impact of PAP program on Medicaid Plans/QHPs entrance into Medicaid/NH Marketplace
Technical Specifications:	Ask Medicaid plans the extent to which implementation of the PAP program has influenced their decision to expand into the NH marketplace or the extent to which they have considered such expansions. Ask QHPs to what extent PAP influenced their decision to enter the NH marketplace.
Data Source(s):	Plan Interviews

Uniform Provider Access

Definition: The State will evaluate access to primary, specialty, and behavioral health care services for beneficiaries in the NHHPP PAP Demonstration to determine if it is comparable to the access afforded to the general Medicaid managed care population in New Hampshire.

Hypothesis 8: ***Premium assistance beneficiaries will have equal or better access to care, including primary care and specialty physician networks and services***

One critical feature of the NHHPP PAP is the contracted QHPs' ability to deliver appropriate access to care through the availability of primary care and specialty physicians and associated services. The research hypothesis examines the extent to which the NHHPP PAP is successful in maintaining the access and services found in the traditional Medicaid managed care program.

Measure 8-1	Medication Management for People with Asthma (MMA)[25]
Definition:	The percentage of members 19–64 years of age during the measurement year who were identified as having persistent asthma and were dispensed appropriate medications that they remained on for at least 75 percent of their treatment period
Technical Specifications:	State-modified HEDIS specifications[26]
Exclusion Criteria:	Diagnosis of emphysema, chronic obstructive pulmonary disease (COPD), obstructive chronic bronchitis, cystic fibrosis, acute respiratory failure, or members who have no asthma controller medications dispensed during the measurement year
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	HEDIS Medicaid Managed Care national rates

Measure 8-2	Timeliness of Prenatal Care
Definitions	For women, the percentage of deliveries of live births between November 6 of the year prior to the measurement year and November 5 of the measurement year who received prenatal care according to HEDIS specifications for the measure
Technical Specifications	HEDIS_PPC.01 – NH Medicaid Reporting Specification, MCO-V2.3-01-05-15.pdf
Data Source(s)	CHIS, Medicaid claims, and encounter data
Comparison Group(s)	1. Matched Medicaid MCO recipients
Comparison Method(s)	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark	HEDIS Medicaid Managed Care national rates

[25] The presented specifications are derived from the NCQA HEDIS 2015 Technical Specifications, Volume 2.

[26] HEDIS has some specifications that extend beyond the age range for the PAP program and are, therefore, State-modified to account for the age range difference.

Measure 8-3	Postpartum Care
Definition:	For women, the percentage of deliveries of live births between November 6 of the year prior to the measurement year and November 5 of the measurement year who received postpartum care according to HEDIS specifications for the measure
Technical Specifications:	HEDIS_PPC.02 – NH Medicaid Reporting Specification, MCO-V2.3-01-05-15.pdf
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	HEDIS Medicaid Managed Care national rates

Measure 8-4	Patients' Perception of Quick Access to Needed Care
Definition:	For respondents, a proportional choice for "In the last 6 months, when you needed care right away, how often did you get care as soon as you needed?" for responses "Never / Sometimes / Usually / Always"
Technical Specifications:	CAHPS – Access: Getting Needed Care, Item Q4, CAHPS 5.0[27]
Data Source(s):	CAHPS or CAHPS-like survey
Comparison Group(s):	1. Non-PAP Medicaid MCO respondents
Comparison Method(s):	1. Two-group z-test 2. Two-group non-inferiority z-test
National Benchmark:	Potentially CAHPS benchmarks

[27] CAHPS® Health Plan Surveys, Version: Adult Medicaid Survey 5.0, English.

Measure 8-5	Patients' Perception of Ease of Getting Appointments with Specialists
Definition:	For respondents, a proportional choice for "In the last 6 months, how often did you get an appointment to see a specialist as soon as you needed?" for responses "Never / Sometimes / Usually / Always"
Technical Specifications:	CAHPS – Access: Getting Needed Care, Item Q18, CAHPS 5.0[28]
Data Source(s):	CAHPS or CAHPS-like survey
Comparison Group(s):	1. Non-PAP Medicaid MCO respondents
Comparison Method(s):	1. Two-group z-test 2. Two-group non-inferiority z-test
National Benchmark:	Potentially CAHPS benchmarks

Measure 8-6	Adults' Access to Ambulatory/Preventive Health Services
Definition:	The percentage of eligible members who had an ambulatory or preventive care visit
Technical Specifications:	The percentage of eligible members, age 20 years through 64 years, who had an ambulatory or preventive care visit, by age group
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test

Hypothesis 9: *Premium assistance beneficiaries will have equal or better access to preventive care services*

Access to preventive care services is important for several reasons, as already seen through previous research hypotheses. Preventive services can help to maintain health and avoid more expensive emergency department use or hospitalization and are an important aspect of restraining the growth in the cost of providing health care. This research hypothesis evaluates access to preventive services.

[28] Ibid.

Measure 9-1	Adults' Access to (use of) Preventive/Ambulatory Health Services
Definition:	The percentage of eligible members, age 20 years through 64 years, who had an ambulatory or preventive care visit, by age group
Technical Specifications:	HEDIS_AAP - State-modified HEDIS specifications
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	HEDIS Medicaid managed care national rates

Measure 9-3	Annual Influenza Immunization
Definition:	Flu vaccinations for adults ages 19 to 64: percentage of members 18 to 64 years of age who received an influenza vaccination between July 1 of the measurement year and the date on which the CAHPS 5.0 survey was completed
Technical Specifications:	NCQA
Data Source(s):	CAHPS or CAHPS-like survey
Comparison Group(s):	1. Non-PAP Medicaid MCO respondents
Comparison Method(s):	1. Two-group z-test 2. Two-group non-inferiority z-test
National Benchmark:	HEDIS Medicaid Managed Care national rates

Measure 9-4	Comprehensive Diabetes Care - Eye Exam
Definition:	The percentage of patients 19 to 64 years of age with type 1 or type 2 diabetes who had an eye exam (retinal exam) performed
Technical Specifications:	HEDIS_CDC.05 – State-modified specifications
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients 2. Bridge to PAP vs. matched group to itself
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test 2.
National Benchmark:	HEDIS Medicaid Managed Care national rates

Measure 9-5	Comprehensive Diabetes Care - HbA1c Testing
Definition:	The percentage of patients 19 to 64 years of age with type 1 or type 2 diabetes who had an HbA1c test performed
Technical Specifications:	HEDIS_CDC.06 – State-modified specifications
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	HEDIS Medicaid Managed Care national rates

Measure 9-6	Use of Spirometry Testing in the Assessment and Diagnosis of COPD
Definition:	The percentage of members 40 years of age and older with a diagnosis of COPD, who received appropriate spirometry testing to confirm the diagnosis or for the management of COPD.
Technical Specifications:	HEDIS specifications
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	HEDIS Medicaid Managed Care national rates

Measure 9-7	Cervical Cancer Screening
Definition:	The percentage of women 21– 64 years of age who were screened for cervical cancer.
Technical Specifications:	HEDIS specifications
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients 2. Bridge to PAP vs. matched group to itself
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2.
National Benchmark:	HEDIS Medicaid Managed Care national rates

Measure 9-8	Timeliness of Check-Up or Routine Care Appointments
Definition:	Number of members who report "usually" or "always" getting an appointment for a check-up or routine care at a doctor's office or clinic as soon as they needed
Technical Specifications:	NCQA
Data Source(s):	CAHPS or CAHPS-like survey
Comparison Group(s):	1. Non-PAP Medicaid MCO respondents
Comparison Method(s):	1. Two-group z-test 2. Two-group non-inferiority z-test

Measure 9-9	Diabetes Monitoring for People With Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications
Definition:	The percentage of members 19–64 years of age with schizophrenia or bipolar disorder who were dispensed an antipsychotic medication and had a diabetes screening test during the measurement year
Technical Specifications:	HEDIS specifications
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients 2. Bridge to PAP vs. matched group to itself
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	HEDIS Medicaid Managed Care national rates

Hypothesis 10: ***Premium assistance beneficiaries will report equal or better satisfaction in the care provided***

Patient-centered health care is important for many reasons, not the least of which is the relationship between greater satisfaction and low costs of care. Patients tend to utilize preventive services and follow medical advice more often when they are satisfied with the care they receive. For that reason, this research hypothesis compares the satisfaction of the more traditional Medicaid managed care beneficiaries for their provided care with that of the NHHPP PAP beneficiaries.

Measure 10-1	Patients' Rating of Overall Health Care
Definition:	For respondents, a proportional choice for "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?"
Technical Specifications:	CAHPS 5.0 specifications, Q8
Data Source(s):	CAHPS or CAHPS-like survey
Comparison Group(s):	1. Non-PAP Medicaid MCO respondents
Comparison Method(s):	1. Two-group z-test 2. Two-group non-inferiority z-test
National Benchmark:	Potentially CAHPS

Measure 10-2	Patients' Rating the Health Plan
Definition:	For respondents, "Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your health plan?"
Technical Specifications:	CAHPS 5.0 specifications, Q26
Data Source(s):	CAHPS or CAHPS-like survey
Comparison Group(s):	1. Non-PAP Medicaid MCO respondents
Comparison Method(s):	1. Two-group z-test 2. Two-group non-inferiority z-test
National Benchmark:	Potentially CAHPS

Hypothesis 11: ***Premium assistance beneficiaries who are young adults eligible for EPSDT benefits will have at least as satisfactory and appropriate access to these benefits***

Early and Periodic Screening, Diagnosis and Treatment (EPSDT) services are important to maintain health, catch illness early, and prevent disease when possible. The medically recommended schedule for these services continues until the beneficiary's 21st birthday. This research hypothesis examines the extent to which premium assistance beneficiaries 19 and 20 years of age received these services compared with the comparison group.

Measure 11-1	EPSDT Screening—Well Visits
Definition:	Percentage of members aged 19 and 20 who received at least one initial or periodic screen
Technical Specifications:	EPSDT.06 – NH Medicaid Reporting Specification, MCO-V2.3-01-05-15.pdf
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Measure 11-2	EPSDT Screening—Preventive Dental Visits
Definition:	Percentage of members aged 19 and 20 who received at least one initial or periodic screen
Technical Specifications:	EPSDT.06 – NH Medicaid Reporting Specification, MCO-V2.3-01-05-15.pdf
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Hypothesis 12: *Premium assistance beneficiaries will have appropriate access to non-emergency medical transportation (NEMT)*

Non-emergency transportation services support timely access to care at the appropriate level of care, which helps to reduce cost, as discussed in previous research hypotheses. This research hypothesis seeks to ensure that premium assistance members maintain appropriate access to non-emergency transportation services.

Measure 12-1	NEMT Request Authorization Approval Rate
Definition:	The percentage of NEMT requests authorized, of those requested during the measure data period
Technical Specifications:	NH specifications for HPP_NEMT.06 (including A-F)[29]
Data Source(s):	NH DHHS Office of Quality Assurance and Improvement online report of NEMT provider self-reported data. [https://medicaidquality.nh.gov]
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Measure 12-2	NEMT Request Delivered by Type of Medical Service
Definition:	The percentage of NEMT requests authorized, of those requested during the measure data period by type of medical service (i.e., hospital, medical provider, mental health provider, dentist, pharmacy, methadone treatment, and other), for the eligible population
Technical Specifications:	NH specifications for HPP_NEMT.06 (including A-F)[30]
Data Source(s):	NH DHHS Office of Quality Assurance and Improvement online report of NEMT provider self-reported data. [https://medicaidquality.nh.gov]
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Hypothesis 13: *Premium assistance beneficiaries will have equal or better access to care, including behavioral health services*

This research hypothesis seeks to ensure that premium assistance members maintain appropriate access to care, specifically to behavioral health services.

[29] New Hampshire Medicaid Quality Information System (MQIS), Specifications, Non-Emergent Transportation - NH Health Protection Program, Version 1.0, Published March 31, 2015.

[30] Ibid.

Measure 13-1	Follow-Up After Hospitalization for Mental Illness (7-Day Follow-Up)
Definition:	The percentage of discharges for members 19 years through 64 years who were hospitalized for treatment of selected mental illness diagnoses and who had an outpatient visit, an intensive outpatient encounter, or partial hospitalization with a mental health practitioner within 7 days of discharge
Technical Specifications:	HEDIS Specifications
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Measure 13-2	Initiation and Engagement of Alcohol and Other Drug Abuse or Dependence Treatment
Definition:	The percentage of adolescent and adult members with a new episode of alcohol or other drug (AOD) abuse or dependence and the percentage of members who initiated treatment and who had two or more additional AOD services or medication assisted treatment (MAT) within 34 days of the initiation visit
Technical Specifications:	HEDIS Specifications
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Measure 13-3	Mental Health Utilization
Definition:	The number of mental health outpatient services per 1,000 member months during the measurement year
Technical Specifications:	HEDIS Specifications
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Measure 13-4	Chemical Dependency Outpatient Services Utilization
Definition:	The number of chemical dependency outpatient services per 1,000 member months during the measurement year
Technical Specifications:	HEDIS Specifications
Data Source(s):	CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Matched Medicaid MCO recipients
Comparison Method(s):	1. Difference-in-differences regression with traditional coefficient significance test 2. Difference-in-differences regression with non-inferiority test
National Benchmark:	None

Hypothesis 14: ***The cost for covering premium assistance beneficiaries will be comparable to what the costs would have been for covering the same expansion group in New Hampshire Medicaid in accordance with STC #69 on determining cost-effectiveness and other requirements in the evaluation design as approved by CMS***

This research hypothesis examines the relative costs in a comparative format between the more traditional Medicaid managed care program consisting of the comparison group and the new beneficiary program consisting of the study group. By knowing the premiums in advance, the State can make comparisons with the costs for non-premium assistance beneficiaries to ensure that the new beneficiaries in the NHHPP PAP will not cost New Hampshire more than if the State had enrolled the expansion group in the more traditional Medicaid managed care program comprising the comparison group.[31]

[31] Administrative costs are captured in research hypothesis 14.

Measure 14-1	Total Costs by Group
Definition:	Total per member per month (PMPM) cost
Technical Specifications:	Annual total costs divided by total number of member months, calculated separately for the study and comparison groups
Data Source(s):	Milliman
Comparison Group(s):	Bridge to actual PAP costs compared to estimated costs if the Bridge program were continued
Comparison Method(s):	Compare the actual experience of the Bridge program population (trended and adjusted for demographic changes, acuity differences, and reimbursement changes to estimate what this population would have cost if the Bridge program continued past December 31, 2015) to the actual experience of the PAP program.
National Benchmark:	None

Measure 14-2	Medical Costs by Group
Definition:	Annual per member per month (PMPM) cost
Technical Specifications:	Annual medical costs divided by total number of member months, calculated separately for the study and comparison groups
Data Source(s):	Milliman
Comparison Group(s):	Bridge to actual PAP costs compared to estimated costs if the Bridge program were continued
Comparison Method(s):	Compare the actual experience of the Bridge program population (trended and adjusted for demographic changes, acuity differences, and reimbursement changes to estimate what this population would have cost if the Bridge program continued past December 31, 2015) to the actual experience of the PAP program.
National Benchmark:	None

Measure 14-3	Members' Administrative Cost (Total Costs and Medical Costs Captured in Research Hypotheses 7-1 and 7-2)
Definition:	Administrative per member per month (PMPM) cost
Technical Specifications:	Annual administrative costs divided by total number of member months, calculated separately for the study and comparison groups
Data Source(s):	Milliman
Comparison Group(s):	PAP costs compared to estimated costs if the Bridge program were continued
Comparison Method(s):	Compare the actual experience of the Bridge program population (trended and adjusted for demographic changes, acuity differences, and reimbursement changes to estimate what this population would have cost if the Bridge program continued past December 31, 2015) to the actual experience of the PAP program.
National Benchmark:	None

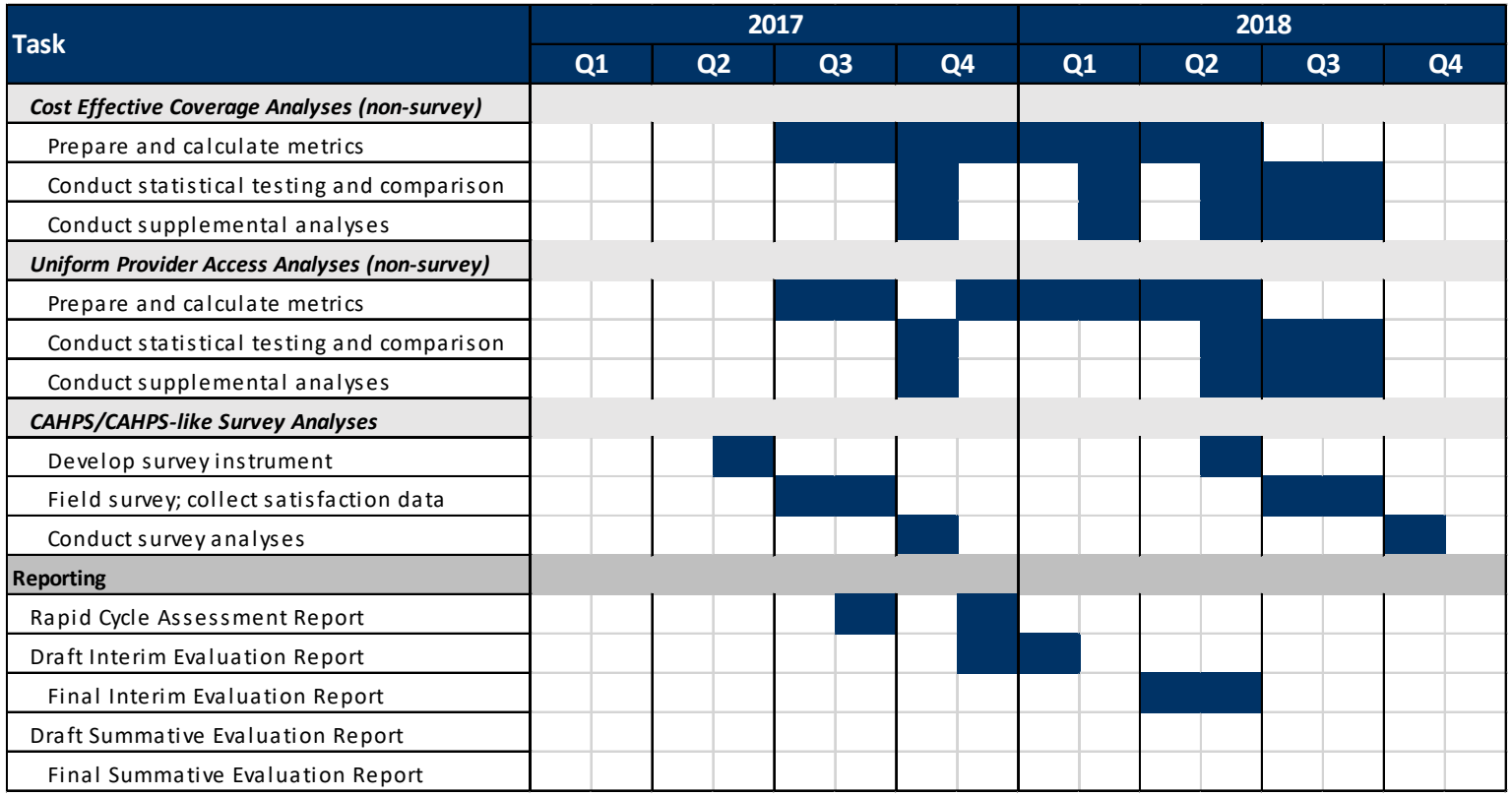
7. APPENDIX C: EVALUATION TIMELINE

The following project timeline has been prepared for the 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 NHHPP PAP. A final detailed timeline will be developed upon selection of the Independent Entity tasked with conducting the evaluation.

Figure C-1 outlines the proposed timeline and tasks for conducting the NHHPP PAP evaluation.

Figure C-1: NHHPP PAP Evaluation Project Timeline

Task	2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Prepare and Implement Study Design								
Conduct kick-off meeting								
Prepare methodology and analysis plan								
Data Collection								
Obtain NH Medicaid claims								
Obtain NH Medicaid member, provider, and eligibility/enrollment data								
Obtain NH CHIS claims data								
Obtain NH All-payor Hospital claims data								
Obtain financial data								
Integrate data; generate analytic dataset								
Conduct Analysis								
Rapid Cycle Assessment								
Prepare and calculate metrics								
Conduct statistical testing and comparison								
Plan Variety Analyses (non-survey)								
Prepare and calculate metrics								
Conduct statistical testing and comparison								
Conduct supplemental analyses								
Continuity of Coverage Analyses (non-survey)								
Prepare and calculate metrics								
Conduct statistical testing and comparison								
Conduct supplemental analyses								


Task
2017
2018
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
Cost Effective Coverage Analyses (non-survey)
Prepare and calculate metrics
Conduct statistical testing and comparison
Conduct supplemental analyses
Uniform Provider Access Analyses (non-survey)
Prepare and calculate metrics
Conduct statistical testing and comparison
Conduct supplemental analyses
CAHPS/CAHPS-like Survey Analyses
Develop survey instrument
Field survey; collect satisfaction data
Conduct survey analyses
Reporting
Rapid Cycle Assessment Report
Draft Interim Evaluation Report
Final Interim Evaluation Report
Draft Summative Evaluation Report
Final Summative Evaluation Report

8. APPENDIX D: RAPID-CYCLE ASSESSMENT MEASURES

Continuity of Coverage (COC)

From a policy perspective in public health, continuity of coverage (COC) begins at the onset of available coverage (i.e., January 1, 2016, for NHHPP PAP members), rather than once coverage has been secured at a potentially later date. By definition, therefore, the 45,000 New Hampshire residents who are eligible for NHHPP PAP coverage before January 1, 2016, and have NHHPP PAP coverage on January 1, 2016, have started continuity of coverage on time and do not have a *de facto* gap at the start of their available coverage.[32]

Measure COC-1	Cumulative Initiation of Continuity in Member Health Insurance Coverage
Definition:	The cumulative number of NHHPP PAP beneficiaries with initiated coverage
Technical Specifications:	The total (i.e., sum) of the number of NHHPP PAP beneficiaries per month for the first three months of the program for whom health insurance coverage was paid by the State
Data Source(s):	Enrollment and finance databases
Comparison Group(s):	1. Bridge to PAP: 2. Bridge to PAP vs. matched group to itself
Comparison Method(s):	Report the results for groups and comparisons in paneled format.

Measure COC-2	Proportional Initiation of Continuity in Member Health Insurance Coverage
Definition:	The proportion of the expected population of NHHPP PAP beneficiaries who have initiated coverage
Technical Specifications:	The ratio of the total (i.e., sum) of the number of NHHPP PAP beneficiaries to the 45,000 eligible people per month for the first three months of the program for whom health insurance coverage was paid by the State
Data Source(s):	Enrollment and finance databases
Comparison Group(s):	1. Bridge to PAP: 2. Bridge to PAP vs. matched group to itself
Comparison Method(s):	Report the results for groups and comparisons in paneled format.

Plan Variety (PV)

One intended outcome of the NHHPP PAP is to motivate private insurers to create a dual participation in the Medicaid Care Management program and the Marketplace. This dual participation would afford Medicaid beneficiaries with seamless coverage during times of transition, either across eligibility groups within Medicaid or from

[32] New Hampshire Health Protection Program, Premium Assistance, Section 1115, Research and Demonstration Waiver, Final Application, November 7, 2014, Section 1, page 2

Medicaid to the Marketplace. From a rapid cycle perspective, the policy relevant outcome would be an increase in dual participation insurers.

Measure PV-1	Dual Participation Providers
Definition:	The number of dual participation providers
Technical Specifications:	The quarterly number of dual participation providers from the implementation of the potential for dual participation on November 1, 2015 through April 30, 2016 and quarterly thereafter
Data Source(s):	Administrative review
Comparison Group(s):	1. Bridge to PAP: 2. Bridge to PAP vs. matched group to itself
Comparison Method(s):	Report the results for groups and comparisons in paneled format.

Cost-effective Coverage (CEC)

One of the intended consequences of the premium assistance approach is to increase QHP enrollment and, therefore, result in greater economies of scale and competition among QHPs, lowering PMPM costs for Medicaid coverage.

Measure CEC-1	Total PMPM Total Cost - Quarterly
Definition:	Total per member per month (PMPM) cost, reported quarterly
Technical Specifications:	Monthly total costs divided by total number of member months, calculated separately for the study and comparison groups, reported quarterly
Data Source(s):	Milliman
Comparison Group(s):	Bridge to PAP
Comparison Method(s):	Compare the actual experience of the Bridge program population (trended and adjusted for demographic changes, acuity differences, and reimbursement changes to estimate what this population would have cost if the Bridge program continued past December 31, 2015) to the actual experience of the PAP program.

Measure CEC-2	Medical PMPM Total Cost - Quarterly
Definition:	Medical per member per month (PMPM) cost, reported quarterly
Technical Specifications:	Monthly medical costs divided by total number of member months, calculated separately for the study and comparison groups, reported quarterly
Data Source(s):	Milliman
Comparison Group(s):	Bridge to PAP
Comparison Method(s):	Compare the actual experience of the Bridge program population (trended and adjusted for demographic changes, acuity differences, and reimbursement changes to estimate what this population would have cost if the Bridge program continued past December 31, 2015) to the actual experience of the PAP program.

Measure CEC-3	Administrative PMPM Total Cost - Quarterly
Definition:	Administrative per member per month (PMPM) cost, reported quarterly
Technical Specifications:	Monthly administrative costs divided by total number of member months, calculated separately for the study and comparison groups, reported quarterly
Data Source(s):	Milliman
Comparison Group(s):	Bridge to PAP
Comparison Method(s):	Compare the actual experience of the Bridge program population (trended and adjusted for demographic changes, acuity differences, and reimbursement changes to estimate what this population would have cost if the Bridge program continued past December 31, 2015) to the actual experience of the PAP program.

Uniform Provider Access (UPA)

One of the requirements for the NHHPP PAP is that it should provide equal or better access to primary, specialty, and behavioral health care services for beneficiaries in the Demonstration. One performance measure that has the potential not only to be available to rapid fire assessment, but could also touch on all three settings for uniform provider assess (i.e., primary, specialty, and behavioral health care services), is postpartum care. Regardless of how long the beneficiary has been enrolled in the NHHPP PAP, postpartum care is a valid measure of uniform provider access.

Measure UPA-1	Postpartum Care
Definition:	For women, the percentage of deliveries of live births between each quarter who received timely and appropriate postpartum care
Technical Specifications:	HEDIS_PPC.02 – modified from NH Medicaid Reporting Specification, MCO-V2.3-01-05-15.pdf to be reported quarterly
Data Source(s):	All-payer Hospital, CHIS, Medicaid claims, and encounter data
Comparison Group(s):	1. Bridge to PAP: 2. Bridge to PAP vs. matched group to itself
Comparison Method(s):	Report the results for groups and comparisons in paneled format.