BLUEPRINT CY19 YEAR-END EVALUATION SUMMARY

The purpose of this report is to provide documentation on the analytic methods used in the annual evaluation of the Vermont Blueprint for Health initiative. For the 2020 annual report to the Vermont General Assembly on the status of the Blueprint for Health program, the Blueprint team used similar methods to the 2019 annual report, with a shift to a deliverable that mirrors past Blueprint Community Profiles.

History of Blueprint Evaluations
The earliest evaluations of Blueprint date back to 2010 and were based on a limited number of practices in St. Johnsbury and Burlington. This first evaluation was based on:
- Two years of commercial payer data (2010-2011)
- Six pilot practices located in St. Johnsbury and Burlington
- A Blueprint flag submitted by commercial payers and not assigned using consistent methods
- A cohort study design employing propensity score matching to identify controls from a very large pool of potential comparison controls.

As the Blueprint for Health Program expanded, subsequent evaluations included Medicaid, Medicare and commercial payer data on a growing proportion of the Vermont population. The health care utilizations and expenditures of Vermont residents attributed to Blueprint patient-centered medical homes (PCMH) were compared to those attributed to other primary care providers either in or outside the state. The results of these two populations were evaluated through a difference-in-difference methodology based on the stage of a PCMH's maturity (i.e., pre-PCMH-transformation, post-PCMH transformation). Reviewing data according to stage of maturity was necessary since practices transformed to PCMHs at different times.

Current Blueprint Evaluation
As the Blueprint program expanded to incorporate the majority of primary care practices in the state, the potential pool of members for a comparison group declined. Therefore, the current evaluation design moved away from the difference-in-difference by stage of program approach to a descriptive statistics review of outcomes over a series of cross-sectional snapshots between 2013 and 2019. Additionally, the evaluation expanded to include almost all members represented in the all-payer claims database, stratified in different ways, including by primary care attribution. Specifically, the three groups included those attributed to Blueprint PCMHs, those attributed to other primary care settings, and everyone else (meaning those who did not have claims data indicating they received primary care services). In summary, the 2020 Annual Report evaluation section includes:

- Seven years (2013-2019) of all-payer data including commercial, Medicaid, Medicare
- Blueprint PCMH providers identified by practice rosters supplied by Blueprint
- Consistent member attribution-to-practice methodology applied by Onpoint
- Full population analysis as available in VHCURES
- Reporting by three primary care sub-populations: 1) members with Blueprint primary care attribution, 2) members with non-Blueprint primary care attribution, and 3) members with no primary care attribution
- Serial, cross-sectional study design
- All-payer model of evaluation with subsets by payer (e.g., Medicaid), and subpopulations (e.g., OUD with Medication Assisted Treatment)

- Exclusion of plans subject to ERISA to adjust for data loss resulting from the 2016 Supreme Court decision *Gobeille vs Liberty Mutual Insurance Company*
- Risk-adjusted rates to control differences between primary care attribution groups

These methods and the evaluation design were developed by Onpoint and Blueprint staff over time. This ongoing evolution will continue to align with the dynamic nature of the program, Vermont's health care system, and available data sources.

BLUEPRINT MEMBER YEAR SELECTION

The Blueprint analytic dataset was developed from eligibility member month records submitted by payers and processed in the Vermont Health Care Uniform Reporting and Evaluation System (VHCURES). Members were assigned by year to primary payers according to the most recent record within the measurement year. Other selections and exclusions are made and used in virtually all Blueprint reporting and analyses to ensure consistency in membership.

Members excluded due to incomplete enrollment data include:
- Members with no medical eligibility coverage (e.g., pharmacy coverage only).
- A member with a commercial payer as primary insurer age 65 or more (likely missing Medicare Part A data for the member)
- A member with Medicaid as primary insurer age 65 or more
- A member with Medicare supplemental as primary insurer
- A member with behavioral health carve-outs (e.g., CIGNA or United Behavioral Health) as primary insurer

A member less than one year of age is also excluded, due to unusual costs and claims often being bundled with the mother's claims.

ATTRIBUTION TO PRIMARY CARE

Once the member dataset (organized by year and payer) is developed, Onpoint runs a standard primary care attribution process on VHCURES data to assign each member to a primary care provider for each calendar year. The attribution algorithm is based on the Center for Medicare and Medicaid Services (CMS) list of Evaluation and Management (E&M) codes, incorporates the Blueprint-supplied PCMH roster information, and assigns members based on the plurality of their visits.

Blueprint PCMHs are identified in the Blueprint roster by the calendar year in which the practice was scored and recognized by the National Committee for Quality Assurance (NCQA). Each Blueprint practice has a VT number (e.g., VT001, VT002). Since no statewide provider roster for all primary care practices exists in Vermont, members not attributed to a Blueprint PCMH are identified using the same process and E&M codes for visits to providers with a primary care specialty (e.g., general practice, pediatrics, family practice, internal medicine, etc.). The generic practice "code" for these non-Blueprint attributed members is "VT999". More information on this process is available in the document entitled, "*Blueprint Primary Care Practice Attribution"* found on the Blueprint website under "Implementation Materials". Members without the relevant E&M codes are categorized as "no attribution to primary care".

CALENDAR YEAR PARTICIPANTS, COMPARISONS, & EXCLUSIONS

Upon member attribution to a primary care provider, additional exclusions are made to member records for the following reasons:

A. The member was attributed to an organization, but the member's Blueprint practice could not be determined due to limitations in the payer-submitted data. This is a relatively small percentage of members and they are excluded from this, and other, Blueprint reports
B. The member's primary payer was a self-insured plan subject to ERISA, except for BCBSVT, who has been providing voluntary submissions of self-insured data.

The table below provides a calendar year summary of members for Blueprint practice attribution, other primary care attribution, and no primary care attribution groups.

Table 1. Average member counts by Primary Care Attribution Status, Ages 1+

CALENDAR YEAR	BLUEPRINT-ATTRIBUTED	NON-BLUEPRINT ATTRIBUTED	NO PRIMARY CARE ATTRIBUTION
2013	270,659	85,103	41,988
2019	290,335	94,461	39,904

DATA PREPARATION

ACGs were applied to the VHCURES claims data to determine each member's health status. ACGs are a product of Johns Hopkins and are used throughout the United States as a method of risk-adjusting populations. The ACG grouper provides a continuous risk score and Resource Utilization Band (RUB) for each member, utilizing members' diagnosis codes appearing in the VHCURES data. Approximately 90% of members received an ACG score and RUB from the grouper.

Table 2. Resource Utilization Bands

RUB	DESCRIPTION
1	Healthy Users
2	Low
3	Moderate
4	High
5	Very High

In order to report results for the opioid use disorder (OUD) treatment groups, the logic for the 2017 cross-sectional study population was applied to 2019 data. If the group was receiving medication assisted treatment (MAT), the group was considered the OUD MAT population, otherwise the individuals were classified as OUD other treatment.

REPORTING

Onpoint reported the following analysis categories, both at the statewide and HSA levels, further subset to categories of OUD and women ages 15-44:

- Operations
- Characteristics
- Utilization (crude and risk adjusted)
- Quality (crude)
- Expenditures (risk adjusted)

Results were delivered to Blueprint in an iterative manner.

ADJUSTING EXPENDITURES FOR INFLATION

Expenditure measures were adjusted for inflation. Using the St. Louis Fed's (https://fred.stlouisfed.org) GDP implicit price deflator, inflation factors are calculated for each calendar year, indexed so that the factor for 2019 is 1. Within each year, all expenditure measures are multiplied by that year's factor in order to create inflation-adjusted expenditures.

ACCOUNTING FOR ALTERNATIVE PAYMENTS

Blueprint investment payments
Blueprint investment payments were provided from the Blueprint team for inclusion in total expenditure and separate reporting. The Blueprint investment payments provided by the Blueprint team are listed below in Table 3.

Each investment payment was assigned a population (e.g., commercial Blueprint population for the commercial PCMH investment). Table 3 lists the population for each investment payment.

The amount was applied for given population in the given year proportionally by H.S.A. at the individual level. Table 3 lists the population for each investment payment. For example, if 30% of the commercial Blueprint population in 2019 resided in the Burlington H.S.A, then 30% of the Blueprint PCMH and CHT payments in 2019 were applied to members in the Burlington H.S.A.

Table 3. Blueprint investment payments and applied population

INVESTMENT PAYMENT	APPLIED POPULATION
All Comm. PCMH Annual	Commercial Blueprint attributed
All Comm. CHT Annual	Commercial Blueprint attributed
Medicaid PCMH Annual	Medicaid Blueprint attributed

INVESTMENT PAYMENT	APPLIED POPULATION
Medicaid CHT Annual	Medicaid Blueprint attributed
Blueprint Funding from ADAP for MH Specialist Annual	Medicaid Blueprint attributed
Medicaid Spoke Annual	Medicaid MAT analysis group, 18+
Medicaid WHI CHT Annual	Medicaid women 15-44
Medicaid WHI One-Time Annual	Medicaid women 15-44
WHI Spec. & PCMH Practice Payments	Medicaid women 15-44
Medicare PCMH Annual	Medicare Blueprint attributed
Medicare CHT Annual	Medicare Blueprint attributed
Medicare SASH Annual	Medicare full population

Reporting of Medicaid ACO expenditures
A capitated payment reference file for Medicaid ACO members in 2017 and 2018 was provided from the Blueprint team. This file was linked to the VHCURES data using hashed and encrypted identifiers such as birth date, last name, first name, gender, and zip code.

The linkage uses various levels:
Level 1. Last name, first name, dob, zip, gender
Level 2. Last name, first name, dob
Level 3. Last name, gender, DOB
Level 4. First name, last name, gender, zip code

For 2019 ACO data, 129,121/139,689 unique recipient ids sent in the reference file were linked to the claims data, yielding a linkage rate of 92.4%.

Medicaid ACO expenditures were reported by summarizing the allowed amount from claims, excluding shadow claims, plus the additional capitated payments by member. Shadow claims represent the fee-for-service equivalent amounts for ACO capitated services.

The expenditures were inflated and weighted by the average ACO Medicaid membership in the given year. The average ACO Medicaid membership was calculated for these members as the count of months per member divided by 12 from the capitated payment reference file. Note that these amounts may differ from those in the standard member year file.

Reporting of Medicare expenditures to include Medicare reduction amounts in 2019
In order to report Medicare expenditures appropriately, reduction amounts for claims in 2019 were included as part of total expenditures.

Reduction amounts are essentially a fee for service equivalency value – they are dollar amounts that were reduced to zero by CMS as CMS considers them part of the capitated payment to the ACO. In order to appropriately represent cost for health care services, these reduction amounts were added back in. Reduction amounts were identified on claims by pulling in the line other applied amounts for L codes, and the claim value amount for Q1 codes from the Medicare companion table in the VHCURES extract.

Reporting of Medicare shared savings settlement amount
Using input from the Blueprint and Green Mountain Care Board teams, the 2019 Medicare shared savings settlement amount of $4,717,550 was included in the total expenditures measure. This sum was allocated for Medicare members proportionally to the following HSAs: Barre, Bennington, Brattleboro, Burlington, Middlebury, Springfield, and St. Albans.

RISK-ADJUSTED RATE TRENDS

Outcome measures used in the analysis were selected based on input from Blueprint staff. They include expenditures (e.g., total, Special Medicaid Services), utilization (e.g., inpatient, emergency department, primary care), and quality measures (e.g., percent of visits with 30 day follow-up after discharge from ED for mental illness). Detailed definitions of these measures can be found in the profile documentation on the Blueprint website.

Prior to risk adjusting outcome and expenditures measures, outliers were capped at the 99th percentile. Crude expenditures were not capped at the 99th percentile.

The risk adjustment methodology is identical to the methodology used in the Blueprint profiles with exception of a few minor differences in risk adjustment variables—since this analysis combines the entire population and does not separate pediatric members from adults. (http://blueprintforhealth.vermont.gov/community-health-profiles/community-health-profiles-methodology)

Model and Adjustment Variables:

$$\begin{aligned} Outcome\ Measure \\ = age|gender + major\ payer + normalized\ ACG\ risk\ score + maternity \\ + chronic + dual\ eligible + disabled + esrd \end{aligned}$$

Outcome measures that represent counts of visits/services used an adjustment model based on a Poisson distribution. Outcome measures representing expenditure data used an adjustment model based on a Normal distribution.

The risk adjustment process outputs a person-level file including the member's risk-adjusted-rate and various covariates from which the results are summarized. See Risk adjustment documentation (2021-04).pdf for further documentation of risk adjustment methodology.