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Supporting Documentation

Methods & Measures Used in the Reporting for the Blueprint Practice Profiles

This document was prepared:
June 2018

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Summary of Methods

The Blueprint Practice Profiles were commissioned by the Department of Vermont Health Access to provide participating Blueprint practices with summary-level, risk-adjusted information on a range of selected subjects, including expenditures, utilization, and effective and preventive care measures. The reports are based on membership and claims data reported by insurance carriers and public payers to the state's all-payer claims database, the Vermont Health Care Uniform Reporting & Evaluation System (VHCURES).

The Blueprint profiles report on membership attributed to a practice using a standard attribution algorithm. The count of members — i.e., “average members” — adjusts for partial enrollment and does not represent every patient that visited the practice during the year.

A Note of Caution About Comparing Profile Results Across Reporting Periods

Users of the new rolling year 2017 (RY2017) community profiles are cautioned against comparing rates in the current reporting period to previous reporting periods as the population demographics have shifted significantly due to changes in the source data, including:

- Reduction in the commercial, self-funded population: Due to the March 2016 U.S. Supreme Court ruling in *Gobeille v. Liberty Mutual Insurance Company*, in which the Court concluded that self-funded plans subject to the Employee Retirement Income Security Act of 1974 (ERISA) cannot be compelled to submit data to the state's all-payer claims database (APCD), a large number of self-funded health plans are no longer submitting data to VHCURES.
- New source of Medicare data: With the end of the U.S. Centers for Medicare & Medicaid Services (CMS) Multi-Payer Advanced Primary Care Practice (MAPCP) program, in which the Blueprint program was a participant, the data source for the Medicare Fee-for-Service (FFS) membership and claims data files and the CMS method to pull that data have changed. Thus, the RY2017 reporting is based on a complete refresh of all Medicare data for all years used in the profiles. Increased volumes of claims and paid dollars were noted, particularly for inpatient claims.

As a result of this shift in population demographics, when comparing the RY2017 adult profiles to the CY2016 adult profiles, there were increases in the Medicare (+22%) and Medicaid (+5%) populations and a reduction in the commercial (-15%) population. Given these changes in the reportable population and a resulting older and sicker population, certain measures are impacted.

Inpatient cost and utilization measures are significantly higher than in previous community profiles. The proportion of Medicaid members in the pediatric profile population also increased significantly. This has less impact on the relative comparisons between different practices or HSAs within the current RY2017 reporting, which risk-adjusts rates for payer mix, health status, and other factors. Use of the RY2017 profiles in conjunction with prior community reports to

create trends should be avoided. For future reporting, Blueprint will be developing trend rates that utilize the new data source population so that trend rates can be validly compared.

Like the profiles released in December 2017, these new profiles include data for Vermont residents enrolled in commercial health plans, Medicaid enrollees for whom Medicaid was the primary payer, Medicare Advantage enrollees, and Medicare FFS enrollees for whom Medicare was the primary payer (ages 18 years and older). These profiles represent a combination of all payer types into one report. Each member was attributed to a Blueprint primary care practice based on the plurality of visits over a 24-month look-back period using primary care visits based on Evaluation and Management (E&M) codes in the claims data. Because patients may have visited different providers (e.g., physicians, physician assistants, or nurse practitioners, for example) within the same primary care practice group, attribution was made at the practice level. Members attributed to practices that began participation in Blueprint on or after July 1, 2016, were included in the statewide totals. Each practice was compared to all Blueprint practices in the practice's geographical hospital service area (HSA) and to the statewide rate for all Blueprint practices.

Two types of practice profiles were generated: adult (ages 18 years and older) and pediatric (ages 1–17 years). The adult profiles included members with commercial payers as primary, members with Medicaid as primary, and members with Medicare as primary. The pediatric profiles included members with commercial payers as primary and members with Medicaid as primary. While many practices in Vermont treat both adult and pediatric populations, others treat primarily only adults or children. Because the pediatric and adult populations have very different health, utilization, and cost distributions, segregating profiles by adult or pediatric populations provides a more accurate look at practice differences. An alternative — basing practice profiles on physician specialty — would be problematic since attribution is at the practice level and practice groups may have included practitioners with different primary care specialties.

Rates of expenditure and utilization were adjusted for differences in population risk between practices and hospital service areas. These adjustments were based on demographic and health status indicators. Additional enhancements were made in the risk adjustment for the Medicaid and Medicare populations within each practice. Expenditure and utilization measures were capped for outliers in the data using the 99th percentile for each measure. This capping was done at the statewide level, not at the individual practice level.

Expenditures were measured based on the allowed amount on claims, which includes both the plan payments and the member's out-of-pocket payments (i.e., deductible, coinsurance, and copayment). Because pricing may vary in Vermont, a standardized total Resource Use Index (RUI) was included to measure aggregate resource consumption across all components of care (i.e., inpatient, outpatient facility, professional, and pharmacy). The RUI is risk-adjusted for each practice to the statewide rate of total utilization. An RUI of 1.00 would indicate total utilization the same as the statewide average, an RUI of 1.06 would indicate total utilization 6% higher

than statewide average, and an RUI of 0.94 would indicate total utilization 6% lower than the statewide average.

Effective and preventive care measures were produced by the application of Healthcare Effectiveness Data and Information Set (HEDIS®) measures from the National Committee for Quality Assurance (NCQA).¹ These measures were selected carefully to ensure that most practices would have a sufficient sample size for statistical reliability.

Data Sources

The Blueprint Practice Profiles consist of population-based reporting and use eligibility and claims data supplied to the state's all-payer claims database, the Vermont Health Care Uniform Reporting and Evaluation System (VHCURES). These reports include data for Vermont residents enrolled in commercial health plans, Medicaid enrollees for whom Medicaid was the primary payer (i.e., they exclude those with dual eligibility for Medicare), and Medicare enrollees for whom Medicare was the primary payer. Data includes all commercial health plans in Vermont supplying data to VHCURES and was not restricted to the three health plans currently participating in Blueprint: Blue Cross & Blue Shield of Vermont, Cigna HealthCare, and MVP Health Care.

The CMS Medicare data source used for the Blueprint Practice Profiles was updated during the fourth quarter of 2017, which may reduce the comparability of Medicare results with prior profiles. While the data still represent the Medicare FFS population, the methods used by CMS to pull and deliver the data for this population may have changed from the original CMS pull for the MAPCP project. All years of Medicare FFS population data used in the profiles have been completely refreshed.

The identification of Medicare dual eligibility was updated with the rolling-year 2017 profiles, based on new dual-eligibility flag data available in the updated Medicare data set.

Attribution of Members to Blueprint Practices

Attribution of members was made at the practice level. The VHCURES data contains information on individual practitioners but does not contain practice-level identifiers. Rosters of primary care physicians, physician assistants, and nurse practitioners for each active Blueprint practice were used to crosswalk to the VHCURES practitioner-specific identifiers.

¹ HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

A standard attribution method was used to assign each member in the VHCURES data to a primary care practice. This was based on a 24-month look-back using Evaluation and Management (E&M) visit codes defined by CMS (see Table 1 and Table 2 for further detail). The member was assigned to a primary care practice based on the following logic:

- The highest number of visits
 - If the same visit count, the most recent visit date
 - » If the same visit date, the largest dollar value
 - If the same visit date and dollar value, then the lowest Blueprint practice number

Table 1. E&M CPT/HCPCS Procedure Codes Used to Identify Primary Care Visits from VHCURES by Visit Type*

Visit Type	Codes Used to Identify
CPT/HCPCS Procedure Code Description Summary	
Evaluation and Management – Office or Other Outpatient Services	<ul style="list-style-type: none"> • New Patient: 99201-99205 • Established Patient: 99211-99215 • Clinic visit used by FQHC & RHC: T1015
Consultations – Office or Other Outpatient Consultations	New or Established Patient: 99241-99245
Nursing Facility Services	<ul style="list-style-type: none"> • E & M New/Established patient: 99304-99306 • Subsequent Nursing Facility Care: 99307-99310 • Nursing Facility Discharge: 99315-99316 • Annual Nursing Facility Assessment: 99318
Domiciliary, Rest Home (e.g., Boarding Home), or Custodial Care Service	<ul style="list-style-type: none"> • Domiciliary or Rest Home Visit New Patient: 99324-99328 • Domiciliary or Rest Home Visit Established Patient: 99334-99337 • Domiciliary or Rest Home Care Supervision: 99339-99340
Home Services	<ul style="list-style-type: none"> • New Patient: 99341-99345 • Established Patient: 99347-99350
Prolonged Services – Prolonged Physician Service with Direct (Face-to-Face) Patient Contact	99354 and 99355
Prolonged Services – Prolonged Physician Service Without Direct (Face-to-Face) Patient Contact	99358 and 99359
Preventive Medicine Services	<ul style="list-style-type: none"> • New Patient: 99381–99387 • Established Patient: 99391–99397
Medicare Covered Wellness Visits	<ul style="list-style-type: none"> • G0402 – Initial Preventive Physical Exam (“Welcome To Medicare” Visit) • G0438 – Annual Wellness Visit, First Visit • G0439 – Annual Wellness Visit, Subsequent Visit
Counseling Risk Factor Reduction and Behavior Change Intervention	<ul style="list-style-type: none"> • New or Established Patient Preventive Medicine, Individual Counseling: 99401–99404 • New or Established Patient Behavior Change Interventions, Individual: 99406-99409 • New or Established Patient Preventive Medicine, Group Counseling: 99411–99412

Visit Type	Codes Used to Identify
CPT/HCPCS Procedure Code Description Summary	
Other Preventive Medicine Services – Administration and Interpretation	99420
Other Preventive Medicine Services – Unlisted Preventive	99429
Newborn Care Services	<ul style="list-style-type: none"> Initial and subsequent care for evaluation and management of normal newborn infant: 99460-99463 Attendance at delivery (when requested by the delivering physician) and initial stabilization of newborn: 99464 Delivery/birthing room resuscitation: 99465

* (1) Professional claims in VHCURES were determined as those having a valid Service Site (Professional) (MC037) reported in the medical claims (i.e., SVC_SITE_TYPE ≠ -1 [payer supplied no value] or -2 [payer supplied an incorrect or invalid value]); (2) HCPCS code T1015 (i.e., clinic visit/encounter) was not included in the original attribution specifications for Blueprint but was determined to be widely used by some FQHCs and RHCs in the absence of other codes to identify visits; (3) primary care practitioner visits billed on facility claims were identified as those with a reported Type of Bill (Institutional) code of 71,73,77,85; (4) for commercial, Medicaid, and Medicare data, the VHCURES field of rendering provider was used to identify the practitioner.

Table 2. E&M CPT/HCPCS Procedure Codes Used to Identify Primary Care Visits from VHCURES by Facility Claim Type*

Facility Claim Types	Codes Used to Identify
Bill Type, Revenue Code, and Place of Service Description Summary	
Federally Qualified Health Center (FQHC) and Rural Health Centers (RHCs)	Bill Types: 71,73,77 Revenue Codes: <ul style="list-style-type: none"> 0521 = Clinic visit by member to RHC/FQHC 0522 = Home visit by RHC/FQHC practitioner 0524 = Free Standing Family Clinic 0525 = Nursing home visit by RHC/FQHC practitioner
Critical Access Hospitals (CAHs) Professional Services	Bill Type: 85 Revenue Codes: 0960-0989 Professional Services

* (1) For facility claims with a reported Type of Bill (Institutional) code of 85, Revenue Codes for professional services (i.e., 0960–0989) were included; (2) for Medicare facility claims, the VHCURES field of Attending Provider NPI was used; when the attending provider information was not provided, the rendering provider was used instead; (3) for Medicaid facility claims, when VHCURES attending provider information was not provided, rendering provider was used.

For the Blueprint Practice Profiles, HSA comparison data from the practices was aggregated at the hospital service area level. Members were attributed to an HSA based on the ZIP code of the practice to which they were attributed, according to address data provided to Onpoint by Blueprint. Table 3 identifies the practices included in each HSA.

Table 3. Practices Included in Each HSA’s Data

Blueprint Practice HSA	Practice ID	Practice Name
Barre	VT02	Family Medicine - Berlin
	VT142	Barre Pediatrics (Associates in Pediatrics - Barre)
	VT154	Associates in Pediatrics (Associates in Pediatrics - Berlin)
	VT257	Granite City Primary Care
	VT262	Gifford Health Center at Berlin

Blueprint Practice HSA	Practice ID	Practice Name
	VT31	Barre Internal Medicine
	VT32	Central Vermont Primary Care
	VT33	Green Mountain Family Practice
	VT34	Mad River Family Practice
	VT35	Montpelier Integrative Family Health
	VT36	Waterbury Medical Associates
	VT37	Mountain View Medical
	VT38	The Health Center
Bennington	VT108	Green Mountain Pediatrics
	VT145	Shaftsbury Medical Associates
	VT151	SVMC Pediatrics
	VT221	SVMC Medical Associates
	VT235	Battenkill Valley Health Center
	VT258	SVMC Pownal Campus
	VT53	Keith Michl; MD
	VT54	Mount Anthony Primary Care
	VT55	Eric Seyferth; MD
	VT56	SVMC Deerfield Valley Campus
	VT57	SVMC Northshire Campus
	VT58	Avery Wood; MD
	VT84	Brookside Pediatrics and Adolescent Medicine
Brattleboro	VT01	Windham Family Practice
	VT105	Grace Cottage Family Health
	VT116	Just So Pediatrics
	VT180	Brattleboro Internal Medicine
	VT183	Putney Family Healthcare
	VT184	Brattleboro Family Medicine
	VT207	Maplewood Family Practice
	VT214	HeartSong Health: Ani Hawkinson
	VT71	Brattleboro Primary Care
Burlington	VT03	Family Medicine - Colchester
	VT04	Adult Primary Care - Essex
	VT05	Adult Primary Care - Burlington
	VT06	Family Medicine - South Burlington
	VT104	Alder Brook Family Health
	VT110	Family Medicine - Hinesburg
	VT117	Appletree Bay Primary Care
	VT139	Richmond Family Medicine
	VT156	Thomas Chittenden Health Care (TCHC)
	VT160	Pediatric Primary Care - Burlington
	VT161	Pediatric Primary Care - Williston
	VT21	Riverside Health Center

Blueprint Practice HSA	Practice ID	Practice Name
	VT212	Champlain Center for Natural Medicine
	VT216	Mountain View Natural Medicine
	VT22	Timber Lane Pediatrics
	VT23	Timber Lane North Peds
	VT248	Frank Landry MD PLC
	VT255	Vermont Naturopathic Clinic
	VT26	Adult Primary Care - South Burlington
	VT265	South End Health Center
	VT27	Adult Primary Care - Williston
	VT271	UVM Medical Center Infectious Disease Clinic
	VT272	Good Health
	VT28	Family Medicine - Milton
	VT390	Timber Lane Milton Peds
	VT391	Winooski Family Health
	VT393	Champlain Islands Health Center
	VT399	Charlotte Health Center
	VT45	Hagan; Rinehart and Connolly Pediatricians; PLLC
	VT51	Gene Moore
	VT68	Dr. Hebert
	VT95	Essex Pediatrics
VT97	Evergreen Family Health	
Middlebury	VT07	Middlebury Family Health Center
	VT12	Porter Internal Medicine
	VT123	Mountain Health Center
	VT127	UVM Health Network Porter Medical Center Primary Care Brandon
	VT136	Rainbow Pediatrics
	VT20	UVM Health Network Porter Medical Center Pediatric Primary Care
	VT402	UVM Health Network Porter Medical Center Primary Care Bristol
	VT404	UVM Health Network Porter Medical Center Primary Care Vergennes
	VT67	UVM Health Network Porter Medical Center Primary Care Middlebury
Morrisville	VT08	Morrisville Family Practice
	VT09	Stowe Family Practice
	VT101	Family Practice Associates
	VT112	Paul Rogers
	VT252	Appleseed Pediatrics
	VT66	Hardwick Area Health Center
Newport	VT11	North Country Primary Care Newport
	VT251	North Country Pediatrics
	VT65	Island Pond Health Center
	VT77	North Country Primary Care Barton Orleans
Randolph	VT260	Bethel Health Center
	VT261	Chelsea Health Center

Blueprint Practice HSA	Practice ID	Practice Name
	VT263	Rochester Health Center
	VT264	Gifford Primary Care
Rutland	VT118	Marble Valley HealthWorks
	VT133	Pediatric Associates
	VT239	Associates in Primary Care
	VT276	Shorewell Community Health Center
	VT48	Castleton Family Medical Center
	VT49	Brandon Medical Center
	VT50	Mettowee Valley Family Medical Center
	VT78	Rutland Community Health Center
	VT92	Drs. Peter and Lisa Hogenkamp
Springfield	VT18	Ludlow Health Center
	VT19	Charlestown Family
	VT201	Mountain Valley Medical Clinic
	VT24	Chester Family Practice
	VT25	Rockingham Medical Group
	VT63	Springfield Community Health Center
St Albans	VT130	NMC - Northwestern Primary Care
	VT131	Northwestern Georgia Health Ctr
	VT149	St. Albans Health Center
	VT268	Northwestern Pediatrics- Enosburg Falls
	VT269	Northwestern Pediatrics- Saint Albans
	VT270	Fairfield Street Health Center
	VT29	Cold Hollow Family Practice
	VT396	Fairfax Associates in Medicine
	VT72	Richford Health Center
	VT79	St Albans Primary Care
	VT83	Swanton Health Center
VT94	Enosburg Health Center	
St Johnsbury	VT209	Kingdom Internal Medicine
	VT39	Concord Health Center
	VT40	Danville Health Center
	VT41	St. Johnsbury Family Health Center
	VT43	Corner Medical
	VT44	St. Johnsbury Pediatrics
White River Junction	VT163	Wells River
	VT164	White River Family Practice
	VT166	Bradford
	VT178	South Royalton Health Center
	VT259	Upper Valley Pediatrics; PLLC
	VT59	Mt. Ascutney Hospital Physician Practice
	VT60	Ottauquechee Health Center

Blueprint Practice HSA	Practice ID	Practice Name
	VT93	E. Corinth

Comparison Groups

Each profile displays information on the identified Blueprint practice, all Blueprint practices in the practice's hospital service area, and the statewide total for members in Blueprint practices. For adult profiles, the statewide total (N = 229,377) was comprised of members with commercial payer as primary (N = 82,223), members with Medicaid as primary (N = 51,186), and members with Medicare as primary (N = 95,968).² For pediatric profiles, the statewide total (N = 66,696) was comprised of members with commercial payer as primary (N = 20,637) and members with Medicaid as primary (N = 46,059).

Demographics, Health Status, & Adjustment of Rates for Risk

Demographic and health status information determined from the VHCURES claims data formed the basis for the risk-adjustment methods used for the Blueprint Practice Profiles. Utilized components included age, gender, presence of a Blueprint-selected chronic condition, health status as measured by 3M™ Clinical Risk Groups (CRGs), and (for adult profiles) the occurrence of a maternity diagnosis. (Further detail on Blueprint's selected chronic conditions and 3M CRGs is provided below.)

Adjustments were made for the partial length of enrollment reported for some members during the calendar year. Average members (i.e., cumulative member months divided by 12) were reported for each practice.

For the purposes of risk adjustment, members were stratified by age group:

- Pediatric Profiles: 1–4 years, 5–11 years, and 12–17 years
- Adult Profiles: 18–34 years, 35–44 years, 45–54 years, 55–64 years, 65–74 years, 75–84 years, and 85 years and older

Due to the potential for interaction effects of age and gender, the adjustment models used for the Blueprint Practice Profiles combined age and gender into groupings (e.g., males aged 18–34 years, females aged 18–34 years, etc.).

Blueprint-Selected Chronic Diseases

Blueprint-selected chronic diseases were identified from the VHCURES claims data using diagnosis coding in medical claims and were based on nationally accepted definitions (e.g., NCQA HEDIS). The algorithm employed to determine Blueprint-selected chronic diseases was

² Cited n values represent average member years.

based on the following criteria: one or more inpatient visits, one or more outpatient emergency department visits, or two or more non-hospital outpatient visits. For identifying members with diabetes or asthma, two or more pharmacy prescriptions also were included as part of the algorithm (see Table 4). For the pediatric population, the chronic variable included Attention Deficit Disorder (ADD).

Table 4. Selected Chronic Disease Definitions

Chronic Disease	Medical Claim ICD-9 & ICD-10 Diagnosis Code (Include 4 th & 5 th Digits)*	Pharmacy	Source from Which ICD-9 & ICD-10 Codes were Determined
Asthma	ICD-9: 493 ICD-10: J45	NCQA NDC List	HEDIS ASM Measure
Attention Deficit Disorder (ADD) (Pediatric Only)	ICD-9: 31400, 31401 ICD-10: F90		American Academy of Pediatrics and National Initiative for Children's Healthcare Quality
Chronic Obstructive Pulmonary Disorder (COPD)	ICD-9: 491, 492, 496 ICD-10: J41, J42, J43, J44		HEDIS SPR Measure
Congestive Heart Failure (CHF)	ICD-9: 428 ICD-10: I50		Council of State and Territorial Epidemiologists (CSTE) Indicator #37
Coronary Heart Disease	ICD-9: 410–414 ICD-10: I20, I21, I22, I24, I25		Council of State and Territorial Epidemiologists (CSTE) Indicator #36
Depression	ICD-9: 296.2, 296.3, 300.4, 309.1, 311 ICD-10: F32, F33		HEDIS AMM Measure
Diabetes	ICD-9: 250, 357.2, 362.0, 366.41, 648.0 ICD-10: E10, E11, E13, O24	NCQA NDC List	HEDIS CDC Measure
Hypertension (Essential)	ICD-9: 401 ICD-10: I10		HEDIS CBP Measure

* Includes principal diagnosis and any secondary diagnosis code reported on the claim.

Clinical Risk Groups

Clinical Risk Groups (CRGs) were applied to the VHCURES claims data to determine each member's health status. CRGs are a product of 3M™ Health Information Systems and are used throughout the United States as a method of risk adjusting populations. The grouper first classifies each member into one of 1,080 distinct clinical groups based on the diagnoses reported on claims and then further aggregates these clinical groupings into nine major clinical CRG statuses. Due to small numbers in some categories used for the Blueprint Practice Profiles' risk-adjustment regression model, these nine categories were combined further into *Healthy*, *Acute or Minor Chronic*, *Moderate Chronic*, *Significant Chronic*, and *Cancer or Catastrophic*. Table 5 provides examples of the nine principal CRG categories.

Table 5. CRG Major Health Status Categories

#	CRG Major Health Status Categories	Examples	Aggregation for Regression Model
1	Healthy	N/A	Reference Group
2	History of Significant Acute Disease	Acute ear, nose, or throat illness	Acute or Minor Chronic
3	Single Minor Chronic Disease	Minor chronic joint	Acute or Minor Chronic
4	Minor chronic disease in multiple organ systems	Minor chronic joint and migraine	Moderate Chronic
5	Single dominant or moderate chronic disease	Diabetes	Moderate Chronic
6	Significant chronic disease in multiple organ systems	Diabetes and hypertension	Significant Chronic
7	Dominant chronic disease in 3 or more organ systems	CHF, diabetes, and COPD	Significant Chronic
8	Dominant, metastatic, and complicated malignancies	Malignant breast cancer	Cancer or Catastrophic
9	Catastrophic conditions	HIV, cystic fibrosis, muscular dystrophy, quadriplegia	Cancer or Catastrophic

It should be noted that CRGs do not include pregnancy and child birth in clinical classification. Since pregnant women, women delivering, and newborns contribute to utilization and expenditures, members who had claims for any of these diagnoses were flagged for the risk-adjustment model. The following ICD-9 and ICD-10 diagnosis coding were used for this purpose:

- Pregnancy and child birth: ICD-9 630–677 and ICD-10 O00-O9A (and all 3rd and 4th digits),
- Conditions in perinatal period: ICD-9 760–779 and ICD-10 P00-P96 (and all 3rd and 4th digits)
- Supervision of pregnancy: ICD-9 V22, V23, V24, V27 and ICD-10 Z33, Z34, Z39 (and all 3rd and 4th digits)
- Live-born infants: ICD-9 V3 and ICD-10 Z38 (and all 3rd and 4th digits)

Adjustment for Medicaid Population

These profiles combine three populations that have significant differences in demographics, socioeconomic status, health status, provider reimbursement structures, and services covered and used. For these profiles, risk-adjustment models were further enhanced and now include three adjustments for Medicaid. As in the previous version of practice profiles, Medicaid was adjusted at the individual member level (Commercial = 0, Medicaid = 1).

Further examination indicated that members who received Special Medicaid Services (SMSs) may have a level of disability not adjusted for using CRGs. Examples of Special Medicaid Services include members receiving day treatment, residential treatment, case management services, and special school services covered by the Department of Education. These types of services can contribute significantly to a member’s total expenditures. After evaluation of statistical distributions for these services, members with more than \$500 in expenditures for these services were flagged (SMS = 1) and adjusted for in the risk-adjustment model.

Evaluation of the risk-adjustment model also indicated that a practice's percentage of total members that were Medicaid (i.e., percent Medicaid) was a statistically significant predictor of total expenditures. Practices in Vermont varied significantly regarding the percentage of members who were Medicaid. The range for practices in the adult profiles was 1.8% – 55.2%, and the range for practices in the pediatric profiles was 38.3% – 93.1%. The risk-adjustment model included a new variable for each member that was their practice's percent Medicaid. Additionally, to account for differences in maternity between the major insurers, an interaction term was added between Medicaid and maternity.

Adjustment for Medicare Population

Due to intrinsic demographic and health status differences between the commercial, Medicaid, and Medicare populations, additional adjustment was made for a practice's Medicare population. For these profiles, risk-adjustment models were further enhanced and now include six adjustments for Medicare. First, Medicare was adjusted based on an individual's eligibility status (Commercial=0, Medicaid=0, Medicare = 1). Second, to account for differences in practice case mix, the Medicare proportion of a practice's total attributed members was included as an adjustor. The range for practices in the adult profiles was 1.4% – 72.2%. Medicare was not included in pediatric profiling. Finally, using Medicare-specific eligibility elements, flags (0/1) were developed and added to the risk-adjustment model for disability and end-stage renal disease (ESRD).

Risk Adjustment

Risk adjustment for reporting was implemented in SAS Enterprise Guide (Version 5.1) using regression methods. For utilization measures, a Poisson distribution was assumed. Models included age/gender stratification groups, Blueprint-selected chronic conditions, CRG classification, maternity, and the additional Medicaid and Medicare adjustors described above. Adjusted rates were produced by summing the differences between each member's actual value and the member's predicted measurement from the model. Rates were adjusted (i.e., weighted) for partial lengths of enrollment.

To calculate the adjusted rate, adjusted values were computed for each member by adding model residuals (e) to the population grand mean (\bar{y}). To report the overall adjusted rate for each practice, the mean of the adjusted values for the members in each practice ($\bar{y}_{\text{practice}}$), in each HSA (\bar{y}_{hsa}), and statewide ($\bar{y}_{\text{statewide}}$) were computed. The following equations represent the models for the adult and pediatric practice profiles.³

³ For the adult model, males (ages 18–34 years) and healthy individuals (from the 3M CRG categories) served as the reference groups and therefore do not appear in the model statement. For the pediatric model, males, ages 1–4 years, and healthy individuals (from the 3M CRG categories) served as the reference group and therefore do not appear in the model statement.

Adult Model

$$y = \alpha + (F_AGE1834)\beta_1 + (F_AGE3544)\beta_2 + (F_AGE4554)\beta_3 + (F_AGE5564)\beta_4 + (F_AGE6574)\beta_5 + (F_AGE7584)\beta_6 + (F_AGE85PLUS)\beta_7 + (M_AGE3544)\beta_8 + (M_AGE4554)\beta_9 + (M_AGE5564)\beta_{10} + (M_AGE6574)\beta_{11} + (M_AGE7584)\beta_{12} + (M_AGE85PLUS)\beta_{13} + (MEDICAID)\beta_{14} + (MEDICARE)\beta_{15} + (DUAL_ELIGIBILITY)\beta_{16} + (SMS)\beta_{17} + (PRACTICE_PERCENT_MEDI)\beta_{18} + (PRACTICE_PERCENT_MCARE)\beta_{19} + (DISABLED)\beta_{20} + (ESRD)\beta_{21} + (CHRONIC)\beta_{22} + (CRG_ACUTE_MINOR)\beta_{23} + (CRG_CHRONIC)\beta_{24} + (CRG_SIGNIFICANT_CHRONIC)\beta_{25} + (CRG_CANCER_CATASTROPHIC)\beta_{26} + (MATERNITY)\beta_{27} + (MATERNITY * MEDICAID)\beta_{28} + \varepsilon$$

Pediatric Model

$$y = \alpha + (F_AGE0104)\beta_1 + (M_AGE0511)\beta_2 + (F_AGE0511)\beta_3 + (F_AGE1217)\beta_4 + (M_AGE1217)\beta_5 + (MEDICAID)\beta_6 + (SMS)\beta_7 + (PRACTICE_PERCENT_MEDI)\beta_8 + (CHRONIC_PED)\beta_9 + (CRG_ACUTE_MINOR)\beta_{10} + (CRG_CHRONIC)\beta_{11} + (CRG_SIGNIFICANT_CHRONIC)\beta_{12} + (CRG_CANCER_CATASTROPHIC)\beta_{13} + \varepsilon$$

$$\bar{y} = \left(\frac{\sum y_i}{MMA} \right)$$

$$y_{adj} = \bar{y} + e$$

$$e = y - \hat{y}$$

$$\bar{y}_{practice} = \left(\frac{\sum y_{adj_i}}{\sum MMA_i} \right) \text{ for each practice}$$

$$\bar{y}_{hsa} = \left(\frac{\sum y_{adj_i}}{\sum MMA_i} \right) \text{ for the practices in each HSA}$$

$$\bar{y}_{statewide} = \left(\frac{\sum y_{adj_i}}{\sum MMA_i} \right) \text{ for all members (equals the grand mean)}$$

Where:

- α is the intercept
- ε is the error term
- \hat{y} is the predicted value from the regression model for each member
- e is the residual
- MMA is the average enrollment for each participant (i.e., the cumulative member months of enrollment during the year divided by 12)
- Subscript i indicates a value for an individual member

Measurement of Expenditures

Expenditures were measured based on the allowed amount on claims, which includes both the plan payments and the member’s out-of-pocket payments (i.e., deductible, coinsurance, and copayments). For each member, total expenditures were determined for the rolling year. In addition, expenditures by major and selected service categories were determined. Each detailed expenditure category was capped separately at the 99th percentile of the statewide study population to reduce the distorting influence of extreme outlier cases.

Expenditures rates were computed as an annualized adjusted rate using the risk-adjustment methods described previously. Lower and upper confidence intervals of 95 percent have been included.

The major and detailed expenditure categories (see Table 6) were based on type of claim, primary diagnosis codes, revenue codes, site of service, provider taxonomy codes, and pharmacy therapeutic groupings based on assignment of National Drug Codes (NDCs) using Red Book[®]. The reporting was hierarchical and rolled service-line claim payments up to the header claim level. For example, if an outpatient hospital claim contained a primary diagnosis of mental health or substance abuse (i.e., ICD-9 codes 290–316 or ICD-10 codes F01–F99), then the entire claim, regardless of the specific services performed, was assigned to the category of outpatient hospital mental health / substance abuse.

Table 6. Expenditure Reporting Category Definitions

Description	Major Category	Detail Category
Hospital Inpatient	Claim type description = ‘Facility’, type of setting = ‘Inpatient’, and place of setting = ‘Acute inpatient or hospital’ (whole claim is assigned hierarchically in order below based on finding the diagnosis or revenue code)	
Mental/Substance Inpatient		1. Primary diagnosis code ICD-9: 290–316; ICD-10: F01–F99
Maternity-Related and Newborns		2. Primary diagnosis code ICD-9: 630–677, 760–779, V30–V39, V22–V24, V27; ICD-10: O00–O9A, P00–P96, Z38, Z33, Z34, Z39
Surgical		3. Revenue codes 0360–0369 (operating room service) within the claim
Medical		4. All others
Hospital Outpatient	Claim type description = ‘Facility’, type of setting = ‘Outpatient’, and place of setting = ‘Hospital’ (whole claim is assigned hierarchically in order below based on finding the diagnosis or revenue code)	
Hospital Mental Health / Substance Abuse		1. Primary diagnosis codes 290–316
Observation Room		2. Revenue code 0762

Description	Major Category	Detail Category
Emergency Room		3. Revenue codes 0450–0459
Outpatient Surgery		4. Revenue codes 0360–0369 (i.e., operating room services)
Outpatient Radiology		5. Revenue codes 0320–0359, 0610–0619
Outpatient Lab		6. Revenue codes 0300–0319
Hospital-Dispensed Pharmacy		7. Revenue codes 0250–0259
Outpatient Physical Therapy		8. Revenue codes 0420–0429
Outpatient Other Therapy		9. Revenue codes 0430–0439, 0440–0449
Other Outpatient Hospital		10. All Others
Professional Total	Claim type description = 'Professional' and type of setting = 'Provider' or claim type = 'Outpatient' and type of setting = 'FQHC' or 'Rural Health Clinic'	
Physician Services	Primary diagnosis code not ICD-9 290–316 or ICD-10 F01–F99	Provider taxonomy coding indicates provider specialty is an allopathic or osteopathic physician (excluding psychiatrist)
Physician Inpatient Setting		With Place of Service code 21
Physician Outpatient Setting		With Place of Service code: 19, 22
Physician Office Setting		With Place of Service code 11
Professional Non-Physician		Provider taxonomy coding indicates nurse practitioner, physician assistant, physical therapist, chiropractor, podiatrist, speech therapist, occupational therapist, optometrist/optician, respiratory therapist
Professional Mental Health Provider	Primary diagnosis code ICD-9 290–316 or ICD-10 F01–F99	Provider taxonomy coding indicates psychiatrist, psychologist, MSW, LICSW, LCSW, or claims from other providers with a principal diagnosis of mental health or substance abuse
Pharmacy	From pharmacy claims and medical claims paid to pharmacies	
Pharmacy Mental		Red Book classification used to determine therapeutic CNS medications based on NDC codes
Special Medicaid Services	From Category of Service and Fund Source Coding as identified in consultation with Vermont Medicaid staff	Examples include day treatment, residential care, school-based services, dental services, transportation, and case-management

Resource Use Index

Expenditures were measured based on the allowed amount on claims, which includes both the plan payments and the member’s out-of-pocket payments (i.e., deductible, coinsurance, and copayments). Because pricing and reimbursement can vary, the expenditures measures do not provide a measure of cost based on actual consumption of resources — that is, the frequency and intensity of all services used.

To address this issue, Blueprint has used an additional measure of overall cost: the total Resource Use Index (RUI). This measure is based on software developed by HealthPartners as part of their Total Cost of Care (TCOC) measurement system, which has been endorsed by the National Quality Forum (NQF).⁴

For the Blueprint Practice Profiles, the TCOC software was applied to the VHCURES claims data. The software standardizes resource use for different components of care using weighting methods (i.e., Medicare Severity Diagnosis Related Groups (MS-DRGs) for inpatient, Current Procedural Terminology codes (CPTs) and associated Ambulatory Payment Classifications (APCs) for outpatient facility, and CPTs and associated Resource-Based Relative Value Scale (RBRVS) relative weights for professional) to measure the relative intensity of services. Each of these is a standard system used nationally for measuring relative intensity of resource use. For pharmacy, HealthPartners used a national pharmacy data source to develop the relative weights. The Total Care Relative Resource Values (TCRRVs) are supplied as part of the HealthPartners software. Once the TCRRVs are determined for each care setting, adjustment factors are applied to calibrate the TCRRVs to the paid amount distributions between settings (i.e., inpatient, outpatient facility, professional, and pharmacy).

The Blueprint Practice Profiles report both the total Resource Use Index and the resource use for each component part of care.

The RUI for each practice and each hospital service area was computed by dividing the adjusted TCRRV rate by the statewide TCRRV rate.

Measurement of Utilization

Selected utilization measures were determined from the claims data using the definitions outlined in Table 7. The diagnostic testing and non-hospital outpatient visit measures were based on CPT coding linked to the Berenson-Eggers Type of Service (BETOS) classification system developed by CMS. Utilization rates were computed as an annualized adjusted rate per 1,000 members using the risk-adjustment methods described previously. Lower and upper confidence intervals of 95 percent also were included.

4 See: <https://www.healthpartners.com/hp/about/tcoc/index.html>

Table 7. Methods & Coding for the Utilization by Type of Service Section

Category/Measure	Methods/Coding
Inpatient Hospital	
Inpatient Discharges	NCQA HEDIS Inpatient Utilization (IPU) measure: Medical, Surgical, Maternity. Mental disorders are not excluded. Counts the number of inpatient discharges.
Inpatient Days	NCQA HEDIS Inpatient Utilization (IPU) measure: Medical, Surgical, Maternity. Mental disorders are not excluded. Last date of service minus first date of service. If inpatient days were greater than 90, inpatient days were capped at 90.
Outpatient Service Encounters	
Outpatient Emergency Department Visits	NCQA HEDIS Ambulatory Care (AMB) emergency department visit specifications but does not exclude mental disorders
Outpatient Potentially Avoidable Emergency Department Visits	NCQA HEDIS Ambulatory Care (AMB) emergency department visit specifications and ICD-9 / ICD-10 primary diagnosis codes: ICD-9 <ul style="list-style-type: none"> • 034.0 (sore throat, strep) • 079.99 (viral infection, unspecified) • 300.00, 300.02 (anxiety, unspecified or generalized) • 372.00, 372.30 (conjunctivitis, acute or unspecified) • 380.10, 381.01, 381.4, 382.00, 382.9 (external and middle ear infections, acute or unspecified) • 461.9, 473.9, 462, 465.9 (upper respiratory infections, acute or unspecified) • 466.0, 786.2, 490 (bronchitis, acute or unspecified, or cough) • 493 (asthma) • 691.0, 691.8, 692.6, 692.9, 782.1 (dermatitis and rash) • 719.4 (joint pain) • 724.2, 724.5 (lower/unspecified back pain) • 729.1, 729.5 (muscle/soft tissue limb pain) • 780.79 (fatigue) • 784.0 (headache) ICD-10 <ul style="list-style-type: none"> • J020, J0300, J0301 (sore throat, strep) • B9710 (viral infection, unspecified) • F419, F411 (anxiety, unspecified or generalized) • H1030, H1031, H1032, H1033, H109 (conjunctivitis, acute or unspecified) • H6590–H6593, H6690–H6693, H6000–H6003, H6010–H6013, H60311–H60319, H60321–H60329, H60391–H60399, H6500–H6507, H66001–H66009 (external and middle ear infections, acute or unspecified) • J028, J029, J0190, J0191, J069, J329 (upper respiratory infections, acute or unspecified) • J40, J200, J201, J202, J203, J204, J205, J206, J207, J208, J209, R05 (bronchitis, acute or unspecified, or cough) • J4520, J4530, J4540, J4550, J4522, J4532, J4542, J4552, J4521, J4531, J4541, J4551, J45990, J45991, J45909, J45998, J45902, J45901 (asthma) • L22, L200, L2081, L2082, L2084, L2089, L209, L237, L247, L255, L239, L249, L259, L300, L302, L308, L309, R21 (dermatitis and rash) • M25511, M25512, M25519, M25521, M25522, M25529, M25531, M25532, M25539, M25551, M25552, M25559, M25561, M25562, M25569, M25571, M25572, M25579, M2550 (joint pain) • M545, M5489, M549 (lower or unspecified back pain) • M6080, M60811, M60812, M60819, M60821, M60822, M60829, M60831, M60832, M60839, M60841, M60842, M60849, M60851, M60852, M60859, M60861, M60862, M60869, M60871, M60872, M60879, M6088, M6089, M609, M791, M797, M79601, M79602, M79603, M79604, M79605, M79606, M79609, M79621, M79622, M79629, M79631, M79632, M79639, M79641, M79642, M79643, M79644, M79645, M79646,

Category/Measure	Methods/Coding
Non-Hospital Outpatient Visits	<p>M79651, M79652, M79659, M79661, M79662, M79669, M79671, M79672, M79673, M79674, M79675, M79676 (muscle / soft-tissue limb pain)</p> <ul style="list-style-type: none"> • G933, R530, R531, R5381, R5383 (fatigue) • G441, R51 (headache) <p>Measure defined by Dartmouth Institute: BETOS M1A, M1B, M4A, M4B, M5A, M5C, M5D, M6</p>
Professional Encounters	
Primary Care Encounters	Claim type description = 'Professional' and type of setting = 'Provider' and provider specialty based on taxonomy coding is pediatrics, internal medicine, family practice, nurse practitioner, or physician assistant
Medical Specialist Encounters	Claim type description = 'Professional' and type of setting = 'Provider' and provider specialty coding based on taxonomy coding is allergy/immunology, cardiology, critical care, dermatology, endocrinology, gastroenterology, geriatric medicine, hematology/oncology, infectious disease, neurology, nephrology, pulmonary medicine, rheumatology, emergency medicine
Surgical Specialist Encounters	Claim type description = 'Professional' and type of setting = 'Provider' and provider specialty coding based on taxonomy coding is the following surgical specialty types: general surgery, cardio-thoracic, ENT, hand, neurological, plastic/reconstructive, OB/GYN, ophthalmology, orthopedic, pediatric, urology, vascular
Diagnostic Testing	
Standard Imaging	BETOS I1A–I1F
Advanced Imaging	BETOS I2A–I2D
Echography	BETOS I3A–I3F
Colonoscopy	BETOS P8D
Admissions	
Prevention Quality Indicator #05: COPD *	This measure assesses the observed rate of Ambulatory Care Sensitive (ACS) admissions with a principal diagnosis of chronic obstructive pulmonary disorder (COPD) or asthma per 1,000 members, ages 40 years and older. The specified diagnosis codes can be found on the AHRQ website.
Prevention Quality Indicator #08: Heart Failure *	This measure assesses the observed rate of ACS admissions with a principal diagnosis of heart failure per 1,000 members, ages 18 years and older. The specified diagnosis codes can be found on the AHRQ website.
Prevention Quality Indicator #92: Composite (Chronic) *	This measure assesses the observed rate of ACS admissions for the composite of chronic conditions per 1,000 members, ages 18 years and older. The measure includes admissions for at least one of the following conditions: diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputations, chronic obstructive pulmonary disorder (COPD), asthma, hypertension, heart failure, and angina without a cardiac procedure. The specified diagnosis codes for these conditions can be found on the AHRQ website.
Measurement of Plan All-Cause Readmissions	This measure represents a comparison of the rate of (a) continuously enrolled members, ages 18 years and older, that had an inpatient stay followed by an acute readmission for any diagnosis within 30 days during the measurement year to (b) the expected rate of readmissions given risk factors of the patient (i.e., presence of surgeries, discharge condition, comorbidity, age, and gender). The rate is expressed as a ratio of the observed to expected readmissions where the expected number of readmissions has been risk adjusted. Because the risk probabilities for this measure are generated by NCQA, neither the statewide ratio nor the national ratio is the typical 1.0. The ratio should be used to compare the relative difference between practices and HSAs.

* When comparing to AHRQ's national benchmarks for the observed rate, it is important to keep in mind that AHRQ guidelines suggest including the entire population for the specified area in the denominator. The rates provided in the Blueprint Practice Profiles are based on members attributed to Blueprint participating practices for which the denominator is the sum of average members for the specified area.

Measurement of Effective & Preventive Care

Effective and preventive care measures were produced by the application of HEDIS measure specifications from the National Committee for Quality Assurance to the VHCURES enrollment and claims data. These measures were selected carefully to ensure that most practices would have a sufficient sample size for statistical reliability. Since health plans may supplement claims data with medical chart reviews, the effective and preventive care measures reported in these Blueprint Practice Profiles are not directly comparable to summary HEDIS rates reported by NCQA or health plans.

Eight primary measures were selected for inclusion on the Blueprint Practice Profiles for the adult population and five for inclusion for the pediatric population.

While it is beyond the scope of this document to provide all of the detailed specifications for each effective and preventive care measure, the denominator and numerator for each are summarized below. NCQA provides detailed value sets containing ICD-9, ICD-10, Current Procedural Terminology (CPT), UB Revenue codes, and National Drug Codes (NDCs) used for each measure.

Comprehensive Diabetes Care

These measures assess the percentage of members, ages 18–75 years, with diabetes who had HbA1c testing, eye screening, and nephropathy screening.

The denominator for these measures consists of members, ages 18–75 years, who were identified with diabetes and had one or more inpatient visits, two or more outpatient emergency department visits, two or more non-hospital outpatient visits with ICD-9 diagnosis codes of 250, 357.2, 362.0, 366.41, and 648.0 or ICD-10 diagnosis codes of E10, E11, E13, and O24, or who were dispensed insulin oral hypoglycemics/antihyperglycemics during the measurement year or the year prior to the measurement year. The denominator also requires the member to be continuously enrolled during the measurement year.

The numerators for these measures were identified from the claims data using specific CPT and other coding as defined in the NCQA HEDIS specification manual for HbA1c testing, eye screening, and nephropathy screening. The numerator indicates that the test or screening took place during the measurement year.

Diabetes: HbA1c Not in Control

This measure assesses the percentage of members, ages 18–75 years, with diabetes who were in poor control for HbA1c.

The denominator is based on the denominator from the “Comprehensive Diabetes Care” measure above. Additionally, members must be linked to the Blueprint Clinical Registry

database and have at least one measurement in the database for the measure in question (e.g., to be included in the HbA1c in control measure, a member must be identified as having diabetes by the claims data, be linked to Blueprint Clinical Registry data, and have a valid HbA1c measurement in the Blueprint Clinical Registry during the measurement year). Because of these criteria, there are fewer members with diabetes for these measures than for the comprehensive diabetes care measures described above. The numerator was based on the most recent HbA1c measurement in the measurement year. If the HbA1c was greater than 9%, the member was considered “in poor control.” This measure is presented as an inverse measure. HSAs with poor control had a higher rate for this measure.

Hypertension: Blood Pressure in Control

This measure assesses the percentage of members, ages 18–85 years, with hypertension whose last recorded blood pressure measurement in the claims and Blueprint Clinical Registry data was in control (<140/90 mmHg).

The denominator for this measure consists of members, ages 18–85 years, who had at least one inpatient claim or two or more outpatient or professional claims with a diagnosis of essential hypertension within a two-year lookback period. The denominator also requires the member to be continuously enrolled during the measurement year and to be linked to the Blueprint Clinical Registry database. In addition, patients must have at least one valid blood pressure measurement in the Blueprint Clinical Registry database to be included.

The numerator is based on the most recent visit during which a measurement was taken. The lowest valid blood pressure measurement during the most recent visit was examined. If the systolic blood pressure was less than 140 mm/Hg and the diastolic blood pressure was less than 90 mm/Hg, the member was considered “in control.” If one of those two components, however, was not in control, the individual was considered to be noncompliant.

Breast Cancer Screening

This measure assesses the percentage of women, ages 52–74 years, who had a mammogram to screen for breast cancer during the measurement year or the year prior to the measurement year. For the Blueprint Practice Profiles, the measure was stratified further, differentiating between women, ages 52–64 years, and women, ages 65–74 years.

The denominator requires continuous enrollment during the two-year period. Women with evidence of bilateral mastectomy are excluded. The numerator is based on the identification of CPT, Healthcare Common Procedure Coding System (HCPCS), ICD-9, ICD-10, or UB Revenue codes in the claims data that indicate a mammogram.

Cervical Cancer Screening

This measure assesses the percentage of women either (a) ages 21–64 years who received one or more Papanicolaou (Pap) tests to screen for cervical cancer during the measurement year or the two years prior to the measurement year or (b) ages 30–64 years who received one or more Pap tests to screen for cervical cancer during the measurement year or four years prior to the measurement year. This is a claims-based measure.

The denominator requires continuous enrollment in Medicaid during the measurement year or in commercial during the measurement year and the two years prior to the measurement year. Women with evidence of a hysterectomy are excluded. The numerator is based on identification of CPT, HCPCS, ICD-9, ICD-10, and UB revenue codes in the claims data that indicate a Pap test.

Imaging Studies for Low Back Pain

This measure assesses the percentage of members, ages 18–50 years, with a primary diagnosis of low back pain who did not have an imaging study (plain X-ray, MRI, CT scan) within 28 days of diagnosis. A higher percentage indicates appropriate treatment (i.e., the proportion for whom imaging was not performed).

The denominator requires members to have one of the following visit types with a principal diagnosis of uncomplicated low back pain, as identified by a particular combination of CPT and UB revenue codes in the claims data: an outpatient visit, an observation visit that is not inpatient, an ED visit that is not inpatient, an osteopathic or chiropractic manipulative treatment, a physical therapy visit, or a telehealth visit. Members are included if they had a 180-day negative diagnosis history. Members with a history of cancer, recent trauma, intravenous drug use, neurological impairment, HIV, spinal infection, major organ transplants, or prolonged use of corticosteroids are excluded from the denominator. Members must be continuously enrolled during the 208-day period (i.e., the required 180-day history plus 28 days post diagnosis). The numerator identifies any member with an imaging study, identified by CPT and UB revenue codes in the claims data, with a diagnosis of uncomplicated low back pain on the index episode start date (IESD) or in the 28 days following the IESD. Denied claims are not included when assessing the numerator, but all claims (paid, suspended, pending and denied) are included when identifying the eligible population.

Pediatric Measure: Developmental Screening in the First Three Years of Life

This measure assesses the percentage of children screened for risk of developmental, behavioral, or social delays using a standardized screening tool in the first three years of life: by 12 months of age, by 24 months of age, and by 36 months of age.

The denominator includes children who turn 1, 2, or 3 years of age during the measurement year. The numerator identifies children in the denominator who were screened for risk of developmental, behavioral, and social delays using a standardized tool:

- Numerator 1: Children in Denominator 1 who had screening for risk of developmental, behavioral, and social delays using a standardized screening tool that was documented by their first birthday
- Numerator 2: Children in Denominator 2 who had screening for risk of developmental, behavioral, and social delays using a standardized screening tool that was documented by their second birthday
- Numerator 3: Children in Denominator 3 who had screening for risk of developmental, behavioral, and social delays using a standardized screening tool that was documented by their third birthday
- Numerator 4: Children in Denominator 4 who had screening for risk of developmental, behavioral, and social delays using a standardized screening tool that was documented by their first, second, or third birthday.

Pediatric Measure: Well-Child Visits in the 3rd to 6th Year of Life

This measure assesses the percentage of members, ages 3–6 years, who received one or more well-child visits during the measurement year.

The denominator includes only those members who are continuously enrolled during the year. The numerator includes children with at least one visit to a primary care physician during the measurement year. Well-child visits are identified with preventive visit CPT codes or ICD-9 V20, V70 codes and ICD-10 Z00, Z02 codes. Primary care practitioners are identified through taxonomy codes indicating that the rendering provider was a pediatrician, family practitioner, internal medicine physician, nurse practitioner, or physician assistant.

Pediatric Measure: Adolescent Well-Care Visits

This measure assesses the percentage of members, ages 12–21 years, who had at least one well-care visit with a primary care practitioner or OB/GYN during the measurement year.

The denominator includes only members who are continuously enrolled during the year. Well-care visits are identified with preventive visit CPT codes or ICD-9 V20, V70 and ICD-10 Z00, Z02 codes. Practitioners are identified through taxonomy codes indicating the rendering provider was a pediatrician, family practitioner, internal medicine physician, nurse practitioner, physician assistant, or OB/GYN.

Pediatric Measure: Appropriate Testing for Children with Pharyngitis

This measure assesses the percentage of children, ages 3–18 years, who were diagnosed with pharyngitis, dispensed an antibiotic, and received a group A streptococcus (strep) test for the episode. A higher rate represents appropriate testing for children with pharyngitis.

The denominator includes members with an outpatient, observation, or ED visit with a diagnosis of only pharyngitis (ICD-9 codes 462, 463, and 034.0 and ICD-10 codes J02 and J03). Claims/encounters with more than one diagnosis and visits that result in an inpatient stay are excluded. Members are excluded from the denominator if dispensed an antibiotic prescription within 30 days prior to the episode start date or have an active prescription on the episode start date. Numerator is a streptococcus test (identified through CPT codes) during the seven-day period (i.e., three days prior and three days after the prescription date).

Pediatric Measure: Appropriate Treatment for Children with Upper Respiratory Infection

This measure assesses the percentage of children, ages 1–17 years, who were diagnosed with upper respiratory infection (URI) and were not dispensed an antibiotic prescription. A higher rate indicates appropriate treatment of children with URI (i.e., the proportion for whom antibiotics were not prescribed).

The denominator consists of members with an outpatient or ED visit with a diagnosis of URI (ICD-9 codes 460 and 465 and ICD-10 codes J00 and J06). Claims/encounters with more than one diagnosis are excluded. Members are excluded if there is a competing diagnosis within three days of the initial diagnosis or if the member has filled an antibiotic prescription within the prior 30 days. The numerator consists of members who were prescribed an antibiotic either on the same day as or during the three days after the diagnosis date. The measure is expressed as a percentage and inverted (i.e., the result of the numerator divided by the denominator with the resulting value subtracted from the number 1).

Linked Clinical Data: Obesity & Hypertension, & HbA1c

Starting with the data for calendar year 2014, Blueprint began to integrate clinical data from the statewide Blueprint Clinical Registry (formerly DocSite). This table presents the proportion of distinct members and distinct members with diabetes linked to clinical data with valid body mass index (BMI), blood pressure, and HbA1c measurements meeting the criteria for obesity (BMI \geq 30.0), hypertension (mmHg \geq 140/90), and HbA1c in poor control ($>$ 9%).

The top, blue section of Table 8, below, shows the rates of availability of clinical measures, obesity, and hypertension for all distinct adult members in the profile, while the bottom, green section shows the rates of availability of clinical measures, hypertension, and obesity for distinct adult members with diabetes. For distinct members with diabetes, the age range was restricted to ages 18–75 years to conform to NCQA HEDIS specifications.

The overall number of distinct members in the practice are provided in the headings. The “N = Count of All Distinct Members” will be higher than the “Average Members” reported on the profiles’ first page, which adjusts for partial lengths of enrollment. The indented row labels indicate that they are reporting a subset of the distinct members from the row immediately above; in these cases, the member numerator of the preceding row (not shown) served as the denominator.

Table 8. Measure Descriptions for the “Linked Clinical Data: Obesity, Hypertension, & HbA1c” Table

Measure	Description
% Linked to Clinical Data	Percent of distinct members who were linked to clinical data and who had data for at least one clinical measurement
% with BMI Data	Percent of distinct members who have a valid Body Mass Index measurement
% Meeting Obesity Criteria	Among the distinct members who had a valid Body Mass Index measurement, percent who met the obesity criteria
% with Blood Pressure Data	Percent of distinct members who have a valid blood pressure measurement
% Meeting Hypertension Criteria	Among the distinct members who had a valid blood pressure measurement, percent who met the hypertension criteria
% with BMI and Blood Pressure Data	Percent of distinct members with diabetes who had both a valid blood pressure measurement and a valid Body Mass Index measurement
% Meeting Obesity and Hypertension Criteria	Among the distinct members who had both a valid Body Mass Index measurement and a valid blood pressure measurement, percent who met the obesity and hypertension criteria
% Linked to Clinical Data	Percent of distinct members with diabetes who were linked to clinical data and who had data for at least one clinical measurement
% with BMI Data	Percent of distinct members with diabetes who had a valid Body Mass Index measurement
% Meeting Obesity Criteria	Among the distinct members with diabetes who had a valid Body Mass Index measurement, percent who met the obesity criteria
% with Blood Pressure Data	Percent of distinct members with diabetes who had a valid blood pressure measurement
% Meeting Hypertension Criteria	Among the distinct members with diabetes who had a valid blood pressure measurement, percent who met the hypertension criteria
% with Valid HbA1c	Percent of distinct members with diabetes who had both a valid HbA1c measurement
% with HbA1c >9%	Among the distinct members who had both a valid HbA1c measurement, percent who met the HbA1c >9% criteria

Patient Experience Survey Data

The Blueprint Practice Profiles include a section for patient experience based on the Consumer Assessment of Healthcare Providers and Systems (CAHPS) Patient-Centered Medical Home (PCMH) survey data. Patient experience data is a required component of PCMH recognition by NCQA. There are two versions of the survey: one for the adult population (ages 18 years and older) and another for the pediatric population (ages 17 years and younger) based on the parent’s experience with the child’s practice. The survey is conducted by DataStat, Inc., which compiles and reports the resulting data in accordance with NCQA standards. If CAHPS PCMH survey data is not available for a practice, then the Blueprint Practice Profile will omit pages that typically display survey results.

The key areas of care for the adult survey include: Access, communication, office staff, self-management support, and information. The key areas of care for the pediatric survey include: Access, communication, office staff, and information. Two additional focus areas, coordination of care and specialists, are not standard in the CAHPS PCMH but have been included in the Vermont survey.

A composite measure for each key area of care was calculated by averaging the responses to individual questions within each key area and is presented graphically in figures in the profiles with 95% confidence intervals. NCQA does not have a composite measure benchmark for Coordination of Care or for Specialists, which have been created for these profiles. Individual questions and responses are reported in the tables, which show the denominator (N) for each question, the rate (%), and the error (+/-), which reflects the degree of uncertainty of the measure at the 95% confidence level. Cells in the table have been blinded if the numerator of the response was less than 11, in adherence to CMS blinding rules.



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