REPORT TO
THE VERMONT LEGISLATURE

Defining Primary Care and Determining Primary Care's Proportion of Health Care Spending in Vermont

In Accordance with Sec. 2 of Act 17 (2019): An act relating to determining the proportion of health care spending allocated to primary care.

Submitted to: House Committee on Health Care
Senate Committee on Health and Welfare
Senate Committee on Finance

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Report Date: January 15th, 2020
Resubmitted February 21, 2020

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GREEN MOUNTAIN CARE BOARD
DEPARTMENT OF VERMONT HEALTH ACCESS

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EXECUTIVE SUMMARY

Act 17 of 2019, an act relating to determining the proportion of health care spending allocated to primary care, adopts a methodological approach for engaging stakeholders to define primary care and determine the percentage of total health care spending allocated to primary care in Vermont through use of a consensus-based definition of primary care.[1] This report is being submitted in accordance with the requirements of Act 17 to the House Committee on Health Care, the Senate Committee on Health and Welfare, and the Senate Committee on Finance as well as all stakeholders that participated in the working group.

The Green Mountain Care Board (GMCB) and the Department of Vermont Health Access (DVHA) facilitated a multi-party stakeholder engagement process to reach a consensus-based definition of primary care. The final consensus-based definition is largely inclusive of the categories of health care professionals and primary care services comprising the GMCB's existing definition of primary care; however, the working group developed an additional stratification methodology.[2] Stakeholders indicated the importance of stratifying the data by procedure codes within two categories of services (i.e., for obstetrics-gynecology and mental health, inclusive of substance use disorder), to identify primary care services within those categories. The presentation of calculations for health care spending within this report are in a format that easily identifies the primary care contributions of these categories of service.

GMCB staff utilized the most recent full calendar year of data (2018) available from the Vermont Health Care Uniform Reporting and Evaluation System (VHCURES), also known as the All Payer Claims Database (APCD), to produce calculations for the total health care spending in Vermont and the amount allocated to primary care based on the agreed upon definition and preferred stratifications.

Below are the notable findings presented for review and discussion:

- The stakeholder working group achieved consensus for a definition of primary care that met participant's expectations and conveyed broad understanding, and was in alignment with the Milbank Memorial Fund report;
- Use of that definition resulted in a calculation of Total Primary Care Spend (Claims-based and Non-Claims-based) of **10.2% for primary care in 2018 but percentages both differed by payer and were calculated with data limitations necessary for consideration prior to any conclusions being developed**;
- Claims-based or traditional fee-for-service primary care spend was **8.9% in 2018 but percentages both differed by payer and were calculated with data limitations necessary for consideration prior to any conclusions being developed**;

[1] An act relating to determining the proportion of health care spending allocated to primary care.

[2] The Green Mountain Care Board utilizes its existing definition of primary care for its total cost of care reporting to the Center for Medicare and Medicaid Innovation (CMMI).

- **Approximately $86 million in prospective capitated payments for primary care and acute services are not included due to data limitations that do not allow the authors to quantify the proportion of primary care spending** with sufficient accuracy at this time but form a key component for future analysis;
- A consistent methodology for reporting and analyzing "would have paid" or "shadow" claims across providers and payers is needed to more precisely determine the proportion of health care spending allocated to primary care; and
- Future analysis would also benefit from the tracking and analysis of utilization metrics.

Given data limitations, the results of this study should not be considered conclusive. First, and perhaps most important, there are limitations to the nature of data available within VHCURES which are further discussed in this report.[3] Second, caution should be used when interpreting the claims-based and non-claims-based data. APCDs such as VHCURES are large-scale databases that systematically collect health care claims data from a variety of payer sources which include claims from most health care providers. A claim is "[a] request for payment that you or your health care provider submits to your health insurer when you get items or services you think are covered.[4]" If Vermont successfully transitions to a system where most providers are paid a set amount (capitation) prospectively for services delivered to Vermonters, rather than charging a fee for each service, claims as we know them that are submitted for the purposes of payment will naturally change and alternative methodologies for tracking health care services received by Vermonters will emerge.

The Vermont All-Payer Accountable Care Organization Model Agreement also creates new flexibility for accountable care organizations to invest in population health improvement initiatives that are not billable through the claims system, which is why this Act required stakeholders to look into those other, non-claims-based, expenditures that are utilized for primary care, but are not tracked through the APCD. However, these other dollars are often difficult to separate between primary care and other spending. Through several discussions amongst working group participants, it became clear that identifying exact amounts of non-claims-based spending is challenging but imperative in order to accurately calculate a proportion of overall spending on primary care. This report is a first attempt at developing a methodology for including this spending. With this understanding, the work group discussed potential future iterations of this report, including incorporating utilization in conjunction with spending to gather a more holistic view of how behavior may be changing among providers through the health care reform efforts underway. Finally, this report was written and submitted in accordance with a key conclusion of the Milbank Memorial Fund report: the system improves what it measures and thus, measuring primary care spending will serve as a crucial tool for

[3] VHCURES Overview.
[4] https://www.healthcare.gov/glossary/claim/.

assessing progress of health care reform over time. Several stakeholders indicated the potential they hoped this definition, methodology and report would serve – an ongoing opportunity to measure the effect of current health care reform work within the State by evaluating the trend of spending allocated to primary care as a proportion of total health care spending.

The authors of this report would be remiss if they did not mention the myriad health benefits of comprehensive primary care as described in Section 1 of the Act. For these reasons, Vermont has continued to promote investments in primary care over time. States use various approaches to increase primary care spending, including:

- Regulatory approaches focused on total primary care spending or proportions of spending that must be allocated to primary care;
- Payment and care delivery reform initiatives such as value-based payment reforms;[5] and
- Certifications of providers or accountable care organizations.

While primary care is associated with improved care and outcomes, studies have also shown that additional interventions may be needed to control health care spending while increasing investments in primary care.[6] To this end, the GMCB continues to use its regulatory authority to regulate, innovate and evaluate health care cost growth in Vermont while ensuring that the State maintains a high quality, accessible health care system. This authority includes payment and delivery system reform oversight, provider rate-setting, health information technology (HIT) plan approval, workforce plan approval, hospital budget approval, ACO budget approval and certification, health insurance rate approval, certificate of need review, and oversight of the State's APCD. In relation to the specific charge in Act 17, the GMCB identified two regulatory levers that have the potential to impact primary care spending; review of rate increases for comprehensive major medical plans, and provider rate setting, though this has never been staffed nor funded.

BACKGROUND

Act 17 was signed by Governor Scott on May 6th, 2019. The Act includes two major areas of work that are the responsibility of the Green Mountain Care Board (GMCB or Board) and the Department of Vermont Health Access (DVHA) – defining the providers and services that comprise primary care and determining the amount of total health care spending that is currently allocated to primary care. In accordance with Sec. 2(b) of Act 17, entitled Definition of Primary Care, the GMCB and DVHA convened four working group sessions where representatives from health insurers, hospitals, federally qualified health centers, Vermont's accountable care organization (OneCare Vermont), primary care providers, and other professionals/stakeholders discussed and determined the categories of health care

[5] Koller, C., Khullar, D. (2017). Primary Care Spending Rate – A Lever for Encouraging Investment in Primary Care. New England Journal of Medicine; 377:1709-1711.
[6] Song, Z., Gondi, S. (2019). Will Increasing Primary Care Spending Alone Save Money?. JAMA; 322(14:1349-1350.

professionals considered to be primary care providers and identified the specific procedure codes that should be considered primary care services. Participating working group members are listed in Appendix I. It should be noted that the working group was able to achieve consensus for a definition of primary care that met participant's expectations and conveyed broad understanding. The provider types and codes that comprise that definition are included in Appendices VII and VIII and used throughout this report.

The working group compiled a crosswalk of included provider types and services to efficiently and effectively compare the ways in which the provider types and services recommended for inclusion in the consensus-based definition of primary care were consistent with, or differed from, definitions used in national publications or by other states. After reaching consensus regarding the definition of primary care, the GMCB began the process of analyzing available data from VHCURES for the most recent full calendar year to produce the calculation of total health care spending and the associated proportion allocated to primary care, based upon the working group's definition. Act 17 of 2019, Sec. 2(c)(1), specified the ways in which the calculations should be presented, including for the entire Vermont health care system to the extent possible and by payer. Subsequent sections of this report will provide detailed reporting in accordance with the requirements of Act 17 and describe any limitations encountered in attaining compliance with the requirements of the Act.

In addition, Sec. 2(c)(2)(B) of Act 17 indicated the importance of including data beyond what is contained within VHCURES to ensure that non-claims-based payments to primary care providers and practices, and within the system as a whole, are also represented in the determined proportion. The analysis conducted using the working group's definitions focused on two categories of payments made for primary care: claims-based and non-claims-based. Claims-based payments are those paid through fee-for-service claims and are available through VHCURES. Non-claims-based payments include payments that are not paid fee-for-service such as payments for the Blueprint for Health's Patient Centered Medical Home, Community Health Team, Spoke program, and Women's Health Initiative and other value-based payments. For the analysis, the working group identified multiple types of non-claims-based payments to primary care providers and practices that should be included in the total proportion of health care spending allocated to primary care. Another type of payment is a prospective capitated payment for covered services where "shadow" or zero-paid claims are typically submitted to payers for reporting purposes and could be included in VHCURES. As an increasing proportion of payments to providers are shifting away from fee-for-service toward capitated payments, and it is anticipated that this trend will continue, it is essential that future analyses accurately quantify utilization and spending in this category.

DEFINING PRIMARY CARE

Members of the working group began by reviewing Act 17 of 2019 in its entirety, including the purpose of the working group, the required report and its components that would be produced by the working group, and a proposed project schedule for ensuring delivery of the final report on or before January 15, 2020. Next, expectations for the working group were established to ensure that commitment was obtained; each of the required organizations, associations and entities had identified one individual to participate in the working group; and that the individual accepted responsibility for communicating work group progress back to the organizations they represented and to their networks as appropriate. The working group then reviewed the provider types and services included within the GMCB's current definition of primary care, fundamental aspects of the Rhode Island model, components of existing payer definitions, and other source documents further discussed below.

Green Mountain Care Board – Primary Care Definition for Total Cost of Care Reporting
The GMCB developed a definition of primary care for use within its Total Cost of Care (TCOC) reporting to the Center for Medicare and Medicaid Innovation (CMMI), within the Centers for Medicare and Medicaid Services (CMS), to fulfill reporting obligations laid out in the All-Payer Accountable Care Organization Model Agreement.[7] In 2018, GMCB staff met weekly to discuss the provider types and services that should be included in order to determine primary care spending for reporting on the All-Payer Model. In an effort to build off of and leverage existing state initiatives, staff used reports and lessons learned from Universal Primary Care, Vermont's State Innovation Model, Rhode Island, Oregon, Milbank Memorial Fund, and OneCare Vermont to develop the primary care spend definition. The Board staff and its Primary Care Advisory Group worked with the Milbank Memorial Fund to finalize the draft definition, with Rachel Block of the Milbank Memorial Fund presenting to both the Board and Primary Care Advisory Group. The primary care spend definition was used to calculate the 2017 TCOC baseline and will continue to be used for All-Payer Model TCOC reporting and monitoring.

The final definition utilized by the GMCB for primary care spending in its All-Payer Model TCOC reporting includes the following provider taxonomies: [8]

- family practice,
- internal medicine (no subspecialty),
- internal medicine (subspecialty geriatrics),
- pediatrics (no subspecialty),
- general practice,
- nurse practitioner,

[7] All-Payer Accountable Care Organization Model Agreement.
[8] Complete taxonomy table available in Appendix VI.

- physician assistant,
- naturopath,
- osteopath, and
- obstetrics/gynecology.

The final definition utilized by the GMCB for primary care spending in its All-Payer Model TCOC reporting includes the following Current Procedural Terminology (CPT) codes for claims-based spending as follows: [9]

- office visits,
- encounter payments,
- preventive visits,
- vaccine administration,
- care management,
- chronic care management,
- obstetrics/gynecology,
- nursing facility,
- home services, and
- domiciliary/rest home/custodial care. [10]

In addition to reviewing the primary care definition and primary care spend measure developed by the GMCB and Milbank, working group members reviewed the Department of Financial Regulation's (DFR) guidance on determining mental health/substance use services that should be considered primary care. Summaries of these documents are included below.

Milbank Memorial Fund – Measurement of Commercial Health Plan Primary Care Spending

In its 2017 report "Standardizing the Measurement of Commercial Health Plan Primary Care Spending," Milbank Memorial Fund considered the ideal proportion of total health care funding that should be allocated to primary care).[11] The report prefaced the findings by:

- Acknowledging the consensus of available literature that the foundation of a high-performing health care system is a strong primary care delivery system;
- Emphasizing that defining primary care is more involved than it may appear;
- Reminding the reader that the system improves what it measures and thus, measuring primary care spending serves as an important method for assessing progress over time; and

- Establishing the primary care infrastructure as a known contributor to high value care indicates the importance of this measure as a high priority for assessment

[9] Complete list of CPT codes available in Appendix VII.

[10] Green Mountain Care Board Primary Care Definition Development Process.

[11] Standardizing the Measurement of Commercial Health Plan Primary Care Spending.

amongst many competing priorities.

The Milbank Memorial Fund worked with Bailit Health and the RAND Corporation to assess the feasibility of calculating the percentage of commercial insurer medical spending that was paid to primary care providers. The study was intended to assess feasibility of measuring comparably across insurers, to determine whether the work could be completed with voluntary insurer participation, and to test the calculation of primary care spending when different definitions of primary care were utilized. The Milbank Memorial Fund, in collaboration with the Patient-Centered Primary Care Collaborative, convened a 16-person expert panel; the panel reviewed methodology, including definitions for primary care providers and services as multiple definitions of primary care currently exist. Six potential definitions of primary care were considered. These definitions were determined based upon working definitions of provider-based, service-based or a combination thereof. Consultation with the expert panel led to the operationalization of 2 definitions – one that was provider-based and one that was provider- and service-based – with detailed data specifications documented and published as an appendix within the report. Importantly, these specifications were used by the Act 17 working group in the creation of a crosswalk that compared existing primary care definitions for providers & services (Appendix II).

The "Standardizing the Measurement of Commercial Health Plan Primary Care Spending" report authors utilized the established definitions in a request to each health insurer to calculate the per-member per-month spending for subsets of patients (by year, health insurance plan product type, sex, age category, and comorbidities). The total medical and total medical plus prescription drug spending was requested and patients of insurers that have mental health or prescription drug carve-outs were analyzed separately given differences in spending between insurers with and without carve-outs. The fee-for-service spending amounts in the analysis were allowed amounts and inclusive of any payments made by health insurer members directly (for example, deductibles and co-payments). Notable findings from the Milbank Memorial Fund report indicated that:

- It is possible to measure primary care spending using expert consensus definitions of primary care translated into data specifications and using information provided by commercial health insurers;
- It was challenging to obtain necessary information voluntarily from health insurers;
- Significant work was required to obtain the accurate data required for analysis from the health insurers; and
- The process of measuring primary care spending presents new challenges as delivery system and payment reform results in new models being adopted.

At the time of the report's publication, most primary care spending still occurred by fee-for-service payments. The Act 17 working group discussed this conclusion as it was anticipated

that this would also be the finding in the working group's analysis. Importantly, one of the main findings of the Milbank Memorial Fund report that was important for the working group's consideration was the indicated impact of population characteristics on primary care spending as a percentage of total medical spending. In the completed analysis, the authors indicated that the percentage of total spending allocated to primary care differed by age, chronic condition (i.e. diabetes, asthma), and the population in its entirety. Finally, the report indicated that the differences in determined spending between narrow and broad definitions of primary care providers were less than the differences between definitions of primary care services. This finding influenced the Act 17 working group's determined definition in two important ways: 1) it allowed for a more expansive definition of the provider types included to be utilized as the report indicated this was unlikely to result in large increases in primary care spending and 2) it illustrated the importance of carving out certain services (e.g. OB-GYN, mental health inclusive of substance use disorder) to quantify service type-specific contributions to determined primary care spend.

Department of Financial Regulation's Guidelines for Distinguishing between Primary and Specialty Mental Health and Substance Use Disorder Services

The Act 17 working group quickly achieved consensus in the importance of developing a definition of primary care that was representative of a holistic approach to health – inclusive of physical and mental health. As a result, the existing Department of Financial Regulation's Guidelines for Distinguishing between Primary and Specialty Mental Health and Substance Use Disorder Services were discussed.[12] The Guidelines were developed to distinguish between primary and specialty services as under Vermont law,

> 'a health plan shall apply member co-pays to mental health services and to medical services consistently in its health insurance policies/certificates. The member co-pay applicable to mental health and substance [use disorder] services designated as "primary" when rendered by a mental health care provider shall be no greater than the member co-pay applicable to medical services rendered by a primary care provider. The member co-pay for "specialty" mental health and substance [use disorder] services shall be no greater than the member co-pay applicable to specialty medical services and shall apply only to those mental health and substance [use disorder] services not deemed "primary."'

The Guidelines include a list of services and related procedure codes that are deemed "primary" mental health and substance [use disorder] services and include the most common/routine mental health and substance [use disorder] services, only outpatient/office mental health and substance [use disorder] services, and those services provided to all persons regardless of age or gender. The Act 17 working group employed this list of services to distinguish the services defined as primary mental health/substance use disorder

[12] https://dfr.vermont.gov/reg-bul-ord/guidelines-distinguishing-between-primary-and-specialty-mental-health-and-substance.

services within the definition for primary care. The list is included in Appendix III.

DETERMINING TOTAL HEALTH CARE SPENDING

For the purposes of this report, total healthcare spending is derived from the GMCB's TCOC calculation as required and reported through the All-Payer ACO Model Agreement ("APM" or "Agreement"). Under the Agreement, the methodology for calculating All-Payer TCOC per Beneficiary is specified as below:

$$\frac{\textit{Vermont All-Payer TCOC}}{\textit{Vermont All-Payer TCOC Beneficiaries}}$$

TCOC is utilized in many facets of legislative, federal, and public reporting. The collective decision by the GMCB, DVHA and the stakeholder working group to utilize this definition allows for comparison across various existing reports and allows for more regular updates of the primary care spend results. This definition includes both claims-based and non-claims-based payments, with regular reporting submitted by payers.

The Vermont All-Payer TCOC numerator includes payment data from:

- Claims-based payments
    - Medicare claims payments: Relies on data submissions by CMS and validation performed using Medicare eligibility and claims submitted to VHCURES. Based on the timing of Medicare claims in VHCURES, quarterly summary reports provided by CMS to track Medicare payments may provide interim results. The 2018 Medicare Fee-For-Service equivalent spend of $142,853,734 is included in this analysis.
    - Medicaid claims payments[13]: Relies on data submissions by the Department of Vermont Health Access (DVHA) to VHCURES of Medicaid eligibility and medical claims data.
    - Commercial Payers and Self-Insured Plan claims payments: Relies on data submitted by health insurers and third-party administrators (TPAs), including Medicare Advantage plans, to the (VHCURES) for both claims and eligibility.
- Non-claims-based payments
    - These payments include shared savings/losses made to providers as well as additional payments outside of claims reporting such as Blueprint for Health Patient Centered Medical Home, Community Health Team, Spoke program, and Women's Health Initiative payments and payments for Support and Services at Home. Annual calculations rely on data submitted by payers.

[13] Prospective capitated payments are not included in this analysis.

It is equally important to identify those payments that are not included in the below analysis, as they add an additional $86,124,112 to the overall healthcare system. The below categories of payment have been removed from the total spend calculations as they flow through the system as a non-claims-based payment, yet a proportion of primary care, or numerator, cannot be readily identified.

- Capacity Payments to Designated Agencies ($16,183,090)[14]
- Medicaid Prospective Payments ($69,941,022): these payments are made prospectively to the ACO for Medicaid aligned beneficiaries.

DETERMINING THE PROPORTION ALLOCATED TO PRIMARY CARE

This section of the report will focus on the specific payer types as requested in Section 2(c)(1) of the Act. The Act requires the GMCB and DVHA to provide primary care spending information on each health insurer with 500 or more covered lives for comprehensive major medical coverage. This analysis is not provided in the tables below. Self-funded commercial plans have the option to submit to VHCURES; as a result, a large proportion of this spend is missing. Breaking out performance by commercial insurer without access to their full population, or "book of business," would likely produce a distorted result. Additionally, results from the State Employee's Health Benefit Plan are not included in the analysis below. Disaggregating these health plans from existing data in VHCURES is especially burdensome as it involves matching within free-text fields; given report timing and staff capacity, it was not feasible to include these breakouts. Also, health benefit plans offered pursuant to 24 V.S.A. § 4947 are not included in the analysis. Much like the issue noted regarding the State Employee's Health Benefit Plan, this breakout involves matching of free-text fields and has the potential to produce an inaccurate result. However, both State Employee's Health Benefit Plans and health benefit plans offered via 24 V.S.A. § 4947 are included in the overall claims-based analysis utilizing VHCURES data, as well as the analysis voluntarily provided by Blue Cross Blue Shield in Appendix IV. Finally, the Act indicates that the report must provide primary care spending results for the entire Vermont health care system to the extent data are available, including a breakout for Vermont Medicaid spending.

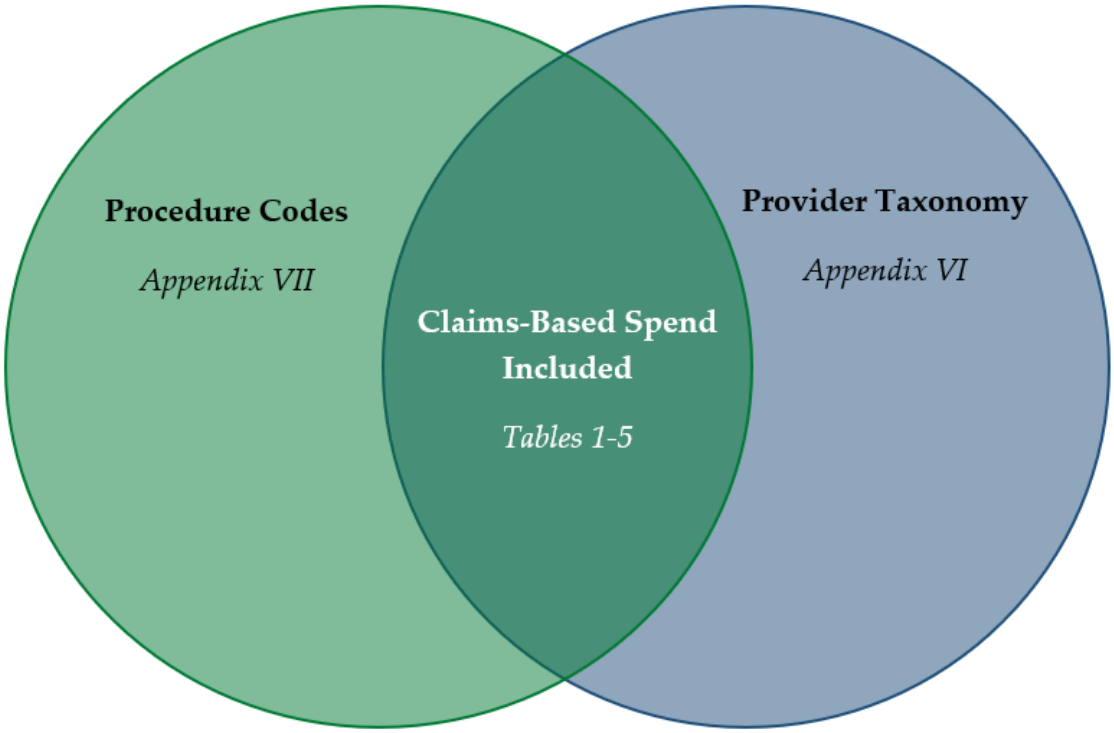
Caution should be exercised when reviewing due to data availability in VHCURES as it includes data for roughly 70% of the entire Vermont population. The data presented in the following tables will include all Vermont Medicare fee-for-service enrollees, including dual eligibles; all Vermont Medicaid enrollees with the exception of third party coverage or limited benefit, and all Vermont members of commercial fully insured plans, self-funded employer plans who submit data to VHCURES (i.e. excludes *Gobeille* decision), and Medicare Advantage plans. Uninsured Vermonters, TRICARE, Federal Employee Health Benefit Plans, and plans

[14] Financial information for the capacity payments to designated agencies were produced by the Agency of Human Services' Central Office – Finance and were submitted to the Green Mountain Care Board for inclusion within this report at the request of participating stakeholders.

without a Certificate of Authority from DFR are not represented. Finally, claims for services provided at federally qualified health centers regularly include dental services and as such, dental services are included when analysis is performed. This data does not include any dental claims unless the service was rendered in a hospital setting.

Data presented in the tables below must meet two requirements: the procedure code must be captured in the list in Appendix VII *and* must be delivered by a provider as noted in Appendix VI. See Figure 1, below.

FIGURE 1



Stakeholders requested a specific presentation of data as follows:

- Primary care claims-based spending, not inclusive of obstetric-gynecology or mental health/substance use disorder services (Table 1);
- Obstetric-gynecology claims-based spending (Table 2);
- Mental health/substance use disorder claims-based spending (Table 3);
- Combined claims-based spend that is comprised of data from Tables 1-3 (Table 4).

Table 4, below, shows primary care claims-based spending as a proportion of the Total Cost of Care (TCOC) for 2018. The 2018 result shows a total claims-based-payments expenditure from VHCURES of 8.9%. As noted above, capitated payments for Medicaid, as well as capacity payments to designated agencies, are not included in this calculation. Medicare Prospective Payments have been included as they are reconciled to their Fee-For-Service equivalent amounts ($142,853,734). Prospective capitated payments are increasingly used to pay for an array of primary care and acute services delivered by providers and have the potential to shift a greater proportion of overall spending towards primary care. Further implementation and analytic activity is needed to consistently collect utilization and expenditure data associated with prospective capitated payments. To accurately portray primary care expenditures across the health care system, a methodology for including prospective capitated payment "shadow claims" is essential.

Table 1: Primary Care Claims-Based Spending by Payer

PRIMARY CARE ALL VHCURES – CLAIMS-BASED ONLY	COMMERCIAL	MEDICAID	MEDICARE [15]	TOTAL
2018				
PRIMARY CARE COSTS	$59,030,340.85	$45,310,641.10	$52,500,234.99	**$156,841,216.94**
PRIMARY CARE COSTS PMPY	$291.59	$337.32	$430.08	**$341.82**
PRIMARY CARE COSTS PERCENT OF TOTAL	5.4%	12.3%	4.4%	**5.9%**

Table 2: OB/GYN Claims-Based Spending by Payer

OB/GYN ALL VHCURES – CLAIMS-BASED ONLY	COMMERCIAL	MEDICAID	MEDICARE	TOTAL
2018				
PRIMARY CARE COSTS[16]	$2,722,484.38	$445,597.38	$573,443.13	**$3,741,524.89**
PRIMARY CARE COSTS PMPY	$13.45	$3.32	$4.70	**$8.15**
PRIMARY CARE COSTS PERCENT OF TOTAL	0.2%	0.1%	0.0%	**0.1%**

Table 3: Mental Health and Substance Use Disorder Claims-Based Spending by Payer

MENTAL HEALTH AND SUBSTANCE USE DISORDER ALL VHCURES – CLAIMS-BASED ONLY	COMMERCIAL	MEDICAID	MEDICARE	TOTAL
2018				
PRIMARY CARE COSTS	$26,885,552.86	$36,070,371.47	$13,368,196.57	**$76,324,120.90**
PRIMARY CARE COSTS PMPY	$132.80	$268.53	$109.51	**$166.34**
PRIMARY CARE COSTS PERCENT OF TOTAL	2.5%	9.8%	1.1%	**2.9%**

[15] Medicare data include approximately $142,853,734 in PBP payments (fee-for-service equivalent amounts).

[16] Please note: the codes 11981 and 58300 are not included in the table above for primary care spending but are related to the insertion of intrauterine devices. As vaccine administration is included in the primary care spending presented above, it could be argued that the spend associated with these codes should also be included. The allowed amount for these two codes in calendar year 2018 was $817,499.42. For further comparison, neither vaccine cost nor the cost of intrauterine devices are included in the calculations for primary care spending.

Table 4: Combined Primary Care Spending by Payer (Tables 1 – 3 Combined and Included within this Table No. 4)

PRIMARY CARE, OB/GYN, MENTAL HEALTH AND SUBSTANCE USE DISORDER TOTAL ALL VHCURES – CLAIMS-BASED ONLY	COMMERCIAL	MEDICAID	MEDICARE	TOTAL
2018				
PRIMARY CARE COSTS	$88,638,378.09	$81,826,609.95	$66,441,874.69	**$236,906,862.73**
PRIMARY CARE COSTS PMPY	$437.84	$609.17	$544.30	**$516.32**
PRIMARY CARE COSTS PERCENT OF TOTAL	8.1%	22.3%	5.5%	**8.9%**

It is important to note when considering the combined primary care spend represented in Table 4 that the impact of the Mental Health and Substance Use Disorder payments is most apparent in the Medicaid column within Table 3, page 13, with more than $20 additional PMPM (or $268 PMPY).

Table 5 shows the total claims spending (represented in Table 4 above) combined with additional non-claims-based primary care spending. For the purposes of this report, the GMCB utilized non-claims-based data submitted by the payers for the purposes of TCOC reporting. Additionally, stakeholder working group members submitted additional data on primary care expenditures that are not submitted as fee-for-service claims. These "non-claims-based" expenditures include Blueprint for Health dollars (Patient Centered Medical Home, Community Health Team, Spoke and Women's Health Initiative payments) for primary care services rendered. As noted earlier, quantifying non-claims-based payments and accurately allocating the appropriate amount to primary care is exceedingly difficult. For example, one could assume that all Blueprint for Health expenditures ($27,584,159 in 2018) are for primary care; however, within the Spoke program as an example, some Spokes are not primary care practices. Similarly, it is challenging to allocate the primary care component of bundled payments for women's health initiative services or Support and Services at Home (SASH). When it comes to allocating a proportion of these dollars to primary care, the denominator, or total payment to the system, must also be added to the TCOC base. Amounts included below were submitted by payers and state agencies and are the best estimate of non-claims-based expenditures flowing through the system. To this end, in Appendix V, additional sources of funds have been outlined, as they are known to exist in the state system and support primary care yet are not currently quantifiable.

Table 5: Total Spending by Payer (Claims and Non-Claims)

COMBINED SPEND CLAIMS & NON-CLAIMS	COMMERCIAL	MEDICAID	MEDICARE	TOTAL
2018				
PRIMARY CARE CLAIMS COSTS (A) – FROM TABLE 4	$88,638,378.09	$81,826,609.95	$66,441,874.69	**$236,906,862.73**
PRIMARY CARE NON-CLAIMS COSTS (B)	$15,696,378.00[17]	$12,170,605.09[18]	$7,776,760.00[19]	**$34,734,647.09**
STATEWIDE CLAIMS-BASED TCOC (C)	$1,124,513,841.06	$374,502,572.49	$1,129,993,016.00	**$2,629,009,429.55**
STATEWIDE NON-CLAIMS-BASED COSTS (D)	$14,787,281.00[20]	$13,111,840.13	$13,345,337.00	**$42,153,555.13**
PRIMARY CARE COSTS PERCENT OF TCOC (A+B/C+D)	9.2%	24.3%	6.5%	**10.2%**

[17] BCBSVT and MVP Patient Centered Medical Home and Community Health Team payments.
[18] Medicaid Patient Centered Medical Home, Community Health Team, Women's Health Initiative and Spoke payments.
[19] Medicare Patient Centered Medical Home, Community Health Team and Support and Services at Home payments.
[20] Non-Claims-Based total includes negative adjustment for BCBSVT risk settlement.

RELEVANT COMPARISONS

There are currently no national benchmarks available for primary care spending. The New England States Consortium Systems Organization (NESCSO), of which GMCB staff participate regularly, plans to issue a Request for Proposals early in 2020 to explore the possibility of collecting and reporting comparable primary care spending results across New England. This proposal will not include all categories of service that are currently captured in the Vermont spend, as not all states include the same provider types as required by Vermont law, or cannot capture data through an all-payer claims database.

It is often noted by interested stakeholders that Rhode Island has appealing primary care spending legislation. Caution must be exercised when comparing Rhode Island to Vermont in a primary care space for two significant reasons. First, Rhode Island utilized the increase in primary care spending to build up their Patient Centered Medical Home (PCMH) program. The increase in primary care spending as a proportion of total health expenditures largely occurred through this PCMH initiative. In Vermont, the Blueprint for Health has been standing up and operating the PCMH program since 2008. Second, existing Vermont law (18 VSA 704(b)[21]) which qualifies naturopaths as primary care providers precludes comparison between Vermont and Rhode Island as this is an additional provider type that is not represented in Rhode Island, or several other states for that matter.

Oregon data were especially helpful in the development of non-claims-based spending definitions. The Oregon Health Authority has defined non-claims-based expenditures for the purposes of their legislative reporting. These definitions include capitation payments, PCMH payments, both retro-and-prospective payments and workforce expenses, among others. The GMCB utilized these existing definitions to determine which apply to Vermont and how to translate them to our healthcare landscape.

Finally, part of the Legislative charge was directed at comparing the primary care results in this report to existing projections of changes in primary care spending through 2022 under the All-Payer Accountable Care Organization Model Agreement. These comparisons are not currently available. The GMCB is currently working with Federal partners to close out year one (2018) of the model – this type of analysis requires subsequent years of data to produce reliable comparisons.

[21] https://legislature.vermont.gov/statutes/fullchapter/18/013.

ANALYSIS OF ANTICIPATED IMPACT OF INCREASING PRIMARY CARE SPEND & FORWARD-FACING RECOMMENDATIONS

Increasing Vermonters' access to and availability of primary care is a foundational goal embedded in the All-Payer ACO Model Agreement between the State of Vermont and the Center for Medicare and Medicaid Innovation. Additionally, ACO-payer contracts highlight the importance of health outcomes, patient satisfaction, patient access to and availability of primary, specialty, and mental health services with a requirement that ACO investments be primary care centered.[22] At the time of this report's production, analysis of anticipated impact is not available due to reliability and validity concerns given limitations in the number of full calendar years of data that are available; analysis should be revisited when subsequent years of data become available. One proposal that emerged for future iterations of this evaluation was to estimate the total spending per person associated with payer populations as this may provide a more comprehensive and appropriate lens for evaluating health care system spending, especially for value-based payment mechanisms. In addition to per person spending, utilization may be monitored as one potential factor, which would illustrate the proportion of primary care services delivered. Finally, this report was written and submitted in accordance with a key conclusion of the Milbank Memorial Fund report: the system improves what it measures and thus, measuring primary care spending will serve as a crucial tool for assessing progress of health care reform over time. Several stakeholders indicated the potential they hoped this definition and report would serve – an ongoing opportunity to measure the effect of current health care reform work within the State by evaluating the trend of spending allocated to primary care as a proportion of total health care spending in a consistent manner that confers understanding and commitment by a broad range of stakeholders.

ADDITIONAL STRATEGIES

Increasing primary care spending could be accomplished through modifications to a fee-for-service system, through payment reform, or a combination of the two. The policy question in a fee-for-service system is whether to increase spending on primary care by: 1) increasing the utilization of primary care services; 2) increasing the types of medical services received in a primary care setting; or 3) increasing the reimbursement for primary care providers – or any combination of all three. A discussion of increasing utilization of primary care services and increasing the types of services available in a primary care setting are beyond the scope of this report but could be accomplished through changes in benefit design or scope of practice laws.

Increasing reimbursements for primary care would need to be considered on a payer by payer basis. Table 6, below, outlines the number of Vermonters aligned with each payer category utilizing 2018 Census data. Medicaid currently reimburses primary care services at the level of

[22] 18 VSA § 9551.

Medicare. Increases above Medicare levels would need further research to determine if this is compliant with federal law, which provides an upper payment limit. Federal employees, military plans, Medicare fee-for-service, Medicare Advantage, and self-insured employer plans are not subject to state oversight.

Table 6: Vermont Population Estimates by Payer[23]

Payer	Sub-Category	2018 Vermont Population
Medicare	*Parts A & B*	113,272
	Part A or B only	4,524
	TOTAL	**117,796**
Medicaid	*Attributable*	135,879
	Limited Coverage or Evidence of TPL	4,943
	TOTAL	**140,822**
Commercial: Self-Funded Employers	*In VHCURES*	96,996
	Not in VHCURES	70,000
	TOTAL	**166,996**
Commercial: Fully Insured	*COA*	92,978
	No COA	5,819
	No evidence of comprehensive, primary coverage	37,901
	TOTAL	**136,698**
Commercial: Medicare Advantage	**TOTAL**	**12,693**
TRICARE	**TOTAL**	**16,900**
FEHBP	**TOTAL**	**14,594**
Uninsured	**TOTAL**	**19,800**
	GRAND TOTAL	**626,299 (Census)**

The Green Mountain Care Board has two levers which may be used to increase primary care reimbursements in fee-for-service for the individual and small group market and the large group insurance market, which comprises 92,978 Vermonters (including approximately 74,000 on the Exchange). These levers[24] are:

- Modifications to insurance rate review to require carriers to shift spending within an established premium; and
- Establishing provider rate-setting.

Without additional resources for actuarial or other contractor support, it would only be feasible to implement a broad requirement that insurers increase spending on primary care services. This requirement would necessarily increase premiums, unless insurers were required to reduce spending on other health care services. Given the timeline of this report, analyzing the

[23] Table excerpt from the 2018 Scale Target and Alignment Report. COA = Certificate of Authority from VT Department of Financial Regulation.

[24] In the hospital budget process, the Board sets a cap on charges. Primary care reimbursements, however, are largely set through a negotiated fee schedule and, therefore, are not impacted by changes in charges.

impacts of this type of requirement on patient access or provider solvency was not feasible and would require a detailed actuarial study to predict potential impacts.

The Board currently has authority to set providers rates, however, this authority has never been staffed or funded. In Fiscal Year 2016, Board staff estimated that the cost of implementing a fee-for-service rate setting program could range up to $2.3 million, depending on complexity and structure.

APPENDIX I – WORKGROUP MEMBERSHIP

Member Name	Organization
Michele Degree, Sarah Lindberg, David Glavin, Susan Barrett	Green Mountain Care Board
Nissa L. James, Jeffrey Ross, Candy Covey, Alicia Cooper	Commissioner's Office, Data & Payment Reform units, Department of Vermont Health Access
Mary Kate Mohlman, Beth Tanzman	Blueprint for Health, Department of Vermont Health Access
Ena Backus	Director, Health Care Reform
Sara Teachout	BlueCross BlueShield of Vermont
Susan Gretowski	MVP Health Care
Jeanne Kennedy	JB Kennedy Associates, representing Cigna
Devon Green, Emma Harrigan	Vermont Association of Hospital and Health Systems
Helen Labun, Georgia Maheras	Bi-State Primary Care Association
Norman S. Ward	OneCare Vermont
Jessa Barnard	Vermont Medical Society
Heidi Hall	Washington County Mental Health Services & Vermont Care Partners
Michael Fisher	Vermont Legal Aid, Office of the Health Care Advocate

APPENDIX II – PRIMARY CARE PROVIDERS & SERVICES DEFINITION COMPARISON

Provider Taxonomies - Included	GMCB	Milbank Memorial Fund	SIM	Universal Primary Care	OneCare Vermont CPR†	Blueprint for Health	Vermont Medicaid (HEDIS)	Vermont Medicaid (EPCP)	Medicare	MA	RI	CT
Family Practice	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Internal Medicine – No subspecialty	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Internal Medicine – Geriatric subspecialty	✓	✓	✓	✓	✓	✓	✓	✓	✓	No	✓	✓
Pediatrics – No subspecialty	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
General Practice	✓	✓	✓	No	✓	✓	✓	✓	✓	✓	✓	✓
Nurse Practitioner	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Physician Assistant	✓	✓	✓	✓	✓	✓	✓	✓		No	✓	✓
Naturopath	✓			✓	✓	✓	✓	✓				
OB/GYN	✓	✓		✓	No	No	✓	No	No	No	No	

†CPR: Comprehensive Payment Reform Primary Care Code Set ‡admin, not actual vaccine costs.

CPT Code Categories - Included	GMCB	Milbank Memorial Fund	SIM	Universal Primary Care	OneCare Vermont CPR†	Blueprint for Health	Vermont Medicaid (HEDIS)	Vermont Medicaid (EPCP)	Medicare	MA	RI	CT
Office visits	✓	✓	✓	✓	✓	✓	✓	✓	Part B	✓	✓	✓
Encounter Payments (FQHC)	✓	No	✓	✓	✓	✓	✓	No		No	No	✓
Preventive visits	✓	✓	✓	✓	✓	✓	✓	✓	Part B	✓	✓	✓
Vaccine admin.‡	✓	No	✓	✓	✓	No	No	✓		No	No	✓
Care Management	✓	No	✓	✓	No	No	No	No		No	No	✓
Chronic Care Management	✓	No	✓	No	No	No	No	No		No	No	✓
OB-GYN	✓	No	No	No	No	Bundle? (newborn)	No	Bundle 99464		No	No	No
Nursing Facility	✓	No	No	✓	No	✓	✓	✓* 99318	Part A	No	No	No
Domiciliary/ Rest Home/ Custodial Care	✓	No	No		No	✓	✓	✓		No	No	No
Prolonged Services	✓	No	No	✓	✓	✓	No	✓* 99354/55		No	✓	No
Mental Health / SUD	No	No	No* Chronic care only	✓	No	No	No	No	Part B	No	No	No

†CPR: Comprehensive Payment Reform Primary Care Code Set ‡admin, not actual vaccine costs.

APPENDIX III – DFR LIST OF PRIMARY MENTAL HEALTH & SUBSTANCE USE DISORDER SERVICES

Primary Care Mental Health & Substance Abuse Procedure Codes.[25]

Initial Psychiatric Evaluation

90791, Psychiatric diagnostic evaluation (no medical services);
90792, Psychiatric diagnostic evaluation with medical services (E/M new patient codes may be used in lieu of 90792)

Interactive Psychiatric Diagnostic Evaluation

90791 or 90792, with +90785 (interactive complexity add-on code)

Outpatient Psychotherapy

(Time is face-to-face with patient and/or family)
90832, Psychotherapy, 30 minutes
With medical evaluation and management services: appropriate outpatient E/M code (not selected on the basis of time), and +90833, 30-minute psychotherapy add-on-code
90834, Psychotherapy 45 minutes
With medical evaluation and management services: appropriate outpatient E/M code (not selected on the basis of time), and +90836, 45-minute psychotherapy add on-code
90837, Psychotherapy, 60 minutes
With medical evaluation and management services: appropriate outpatient E/M code (not selected on the basis of time), and +90838, 60-minute psychotherapy add-on-code

Outpatient Interactive Psychotherapy

(Time is with patient and/or family)
90832, Psychotherapy, 30 minutes and +90785, interactive complexity add-on-code
With medical evaluation and management services: appropriate outpatient E/M code (not selected on the basis of time), and +90833, 30-minute psychotherapy add-on-code, and +90785, interactive complexity add-on-code
90834, Psychotherapy, 45 minutes and +90785, interactive complexity add-on-code
With medical evaluation and management services: appropriate outpatient E/M code (not selected on the basis of time), and +90836, 45-minute psychotherapy add-on-code, and +90785, interactive complexity add-on-code
90837, psychotherapy, 60 minutes and +90785, interactive complexity add-on-code
With medical evaluation and management services; appropriate outpatient E/M code (not selected on the basis of time), and +90838, 60-minute psychotherapy add-on-code, and +90785, interactive complexity add-on-code

Other Psychotherapy

90846, Family psychotherapy (without the patient present)
90847, Family psychotherapy (conjoint psychotherapy) (with patient present)

[25] https://dfr.vermont.gov/reg-bul-ord/guidelines-distinguishing-between-primary-and-specialty-mental-health-and-substance.

90853, Group psychotherapy (for other than multiple-family group), +90875, interactive complexity add-on

Interactive Group Psychotherapy

Use 90853 (for other than multiple-family group), +90875, interactive complexity

Other Psychiatric Services or Procedures

Pharmacologic management, including prescription, use, and review of medication with no more than minimal medical psychotherapy; use appropriate E/M code (Psychologists will use +90863)

HCPCS Codes for Substance Abuse Treatment

H0001, Alcohol and/or drug assessment

H0004, Behavioral health counseling and therapy, per 15 minutes

H0005, Alcohol and/or drug services; group counseling by a clinician

H0006, Alcohol and/or drug services; case management

H0015, Alcohol and/or drug services; intensive outpatient (treatment program that operates at least 3 hours/day and at least 3 days/week and is based on an individualized treatment plan), including assessment, counseling; crisis intervention, and activity therapies or education

H0020, Alcohol and/or drug services; methadone administration and/or service (provision of the drug by a licensed program)

APPENDIX IV – BLUE CROSS BLUE SHIELD ANALYSIS

In this analysis, BCBSVT used our 2018 data to calculate the percent of total medical spending that is attributed to primary care using the methodology developed by the Vermont Primary Care Spending study work group. The overall result, while slightly higher, is similar to the calculation for all commercial payers in the report. The purpose of this appendix is to highlight the impact of demographics and some key primary care spending definitional choices on the resulting percentage attributed to primary care.

CALCULATION AND FINDINGS

First, all claims from providers that meet the working group's definition of a primary care provider were identified (column b). This, by definition, excludes primary care medical services performed in the office of a specialist. The second part of the calculation (column c) further narrowed the claims to only primary care services. The policy question in a fee-for-service system is whether increasing spending on primary care will be achieved by 1) increasing the utilization of primary care services; 2) increasing the types of medical services received in a primary care setting; or 3) increasing the reimbursement for primary care providers – or any combination of all three. This methodology would not track an increase in the second scenario. Third is the addition of non-claims spending for primary care services (column d). BCBSVT has several types of non-claims based primary care spending including: Blueprint payments, primary care and laboratory capitated payments, ACO care coordination payments, and Vermont Vaccine Purchasing Pool payments. This is a smaller, but growing, portion of primary care spending as BCBSVT works to move away from fee-for-service and increase value-based payments across the health care system. As payment reform progresses in Vermont, capitated or fixed payments should drive delivery system reform with an emphasis on primary care.

BCBSVT PRIMARY CARE SPENDING - 2018 ANALYSIS

A	B	C	D	E	F
BCBSVT	ALL PCP CLAIMS	PCP CLAIMS & DEFINED PCP SERVICES	NON-CLAIMS PCP SPENDING	**TOTAL PRIMARY CARE SPENDING**	TOTAL (IF MEDICAL RX EXCLUDED FROM THE DENOMINATOR)
CHILDREN <18	23.6%	13.2%	4.6%	**17.8%**	19.1%
ADULTS 18+	16.9%	4.8%	1.5%	**6.3%**	7.3%
ALL MEMBERS	17.5%	5.5%	1.8%	**7.3%**	8.4%

Finally, the amount of primary care spending is divided by the total amount of medical spending to calculate the percentage (column e). The decisions about what to include in the denominator has a significant impact on the results. For example, pharmaceutical spending – except for vaccines – is not included in either the numerator or the denominator. Spending on pharmaceuticals in a medical setting such as a hospital, (column f - Medical Rx), is included in the denominator and has a significant, and increasing impact, on the resulting percentage. As the price of specialty drugs increases – which are a large component of medical pharmacy costs – the resulting primary care spending percentage will decrease.

BCBSVT has additionally provided estimates of primary care spending divided by children and adults to illustrate that population demographics are a driver of the results. Any comparative measure of primary care spending should adjust for demographic differences. BCBSVT's membership population is 20% under age 18; an adult population of 77% between 18 and 65; and 3% over age 65 (not Medicare primary).

Primary care services are provided in both hospital-owned and independent primary care settings. In 2018, approximately 48.1% of primary care service spending was delivered by a provider affiliated with a hospital, while the remaining 51.9% of the spending was at an unaffiliated provider. This dynamic is also a significant driver of the outcomes. The 2018 GMCB Qualified Health Plan (QHP) Rate Decision ordered an adjustment to the evaluation and management codes (E/M) paid to academic medical centers. This was in response to the Payment Differential and Provider Reimbursement Report, Act 85 (2017) § E.345.1. Beginning 1/1/2018 UVMMC's professional reimbursement was reduced by 35%. The overall primary care spending calculation is 4% lower in 2018 than in 2017 due only to this policy change.

METHODOLOGY AND DATA DIFFERENCES

Claims Data: **All** BCBSVT member (not limited to VT residents or fully insured) primary payer claims paid to a contracted provider (VT and contiguous NH counties) included. BCBSVT provider data is based on provider enrollment rather than established through claims (VHCURES). Non-Claims Data: capitated laboratory payments not included as primary care spending but in the denominator.

SUMMARY

BCBSVT is committed to primary care services and reimbursement. BCBSVT is a partner in statewide primary care initiatives such as The Blueprint for Health and the Accountable Care Organization. Setting a baseline for measurement of the statewide spending on primary care spending is one way to evaluate our progress as a state in achieving our health care system-wide transformation goals.

APPENDIX V – CONSIDERATIONS FOR OTHER HEALTH CARE FUNDING

Grants to Support Clinics for the Uninsured

In Vermont, 9 clinics offered programs across the State for uninsured Vermonters. Frequently referred to as "free clinics," these facilities offer crucial access to care for Vermonters who are often living paycheck to paycheck and have a complex set of health care needs. In fact, the Vermont Coalition of Clinics for the Uninsured indicated that the number of Vermonters served by the nine clinics has more than doubled from 2006 - 2017 (3,594 in 2006 to 7,831 in 2017). The Department of Health's State Office of Rural Health and Primary Care provides grant funding on a state fiscal year basis to support these nine clinics in offering health care services at locations across the State. The funding was increased by $340,000, from $688,000 to $1,028,000 in 2019.

330 Funding for Federally Qualified Health Centers

Bi-State Primary Care Association indicates that the 330 Funds total slightly more than $20 million of federal funding that flows to Vermont's health centers. The funding is authorized through section 330 of the federal statutes and is thus referred to as the '330 Funds'. The funds are distributed as competitive grants to health centers that meet federal requirements for eligibility. The 330 Funds are a combination of a mandatory trust fund (70%) that requires renewals and discretionary funding (30%) through the annual federal appropriations; this federal funding is not matched by state funds.

The 330 Funds are designed to allow federally qualified health centers (FQHCs) to serve all patients with comprehensive primary health care regardless of their location or ability to pay. A key requirement for FQHCs is that they must offer a sliding fee scale for patients and this, essentially, writes a payment gap into their budgets that other sources must cover. The requirements behind "comprehensive" services also mean that FQHCs need to offer some services even when they may not have the income to fully cover them, but they are considered essential to primary care for a community. Among other things, 330 Funds cover services, opening new access points, IT projects, workforce recruitment, and targeted programs prioritized by Congress, such as opioid use disorder treatment. These funds also include quality improvement awards.

330 Funds are difficult to map to Vermont's current Primary Care Investment measures for several reasons. These funds cover a range of items that go beyond the services the Working Group is considering – they support annual operations for primary care providers, but also support projects like IT infrastructure, creating new access points, or targeted equipment investment. Nonetheless, 330 Funds are critical to primary care access, particularly for rural populations. These funds allow FQHCs to offer services even in locations where the population size would not be able to carry the costs of those services on their own. These funds also allow FQHCs to address the need for Enabling Services, services like translation, transportation, child care, or financial planning assistance, that are not directly health care but remove barriers to effectively accessing health care. They also support the sliding fee scale.

Another way to look at the impact of 330 Funds on primary care access would be to consider the services that would *not* be available to Vermonters if this funding source were removed. In 2017, Bi-State estimated that removing this funding would remove access to care for 41% of current FQHC patients (who are in turn more than a quarter of all Vermonters). The services most vulnerable to funding loss at the time were mental health, substance use disorder, and dental. Nationally, 330 Funds provide 18% of FQHCs' annual revenues. About 70% of the federal 330 Funds are through a program called the Community Health Center Fund that was established through the ACA. The current authorization period expires in May 2020. This funding will not necessarily be renewed and in the past there has been real doubt about its continuation. Loss of this funding would cause significant disruption to Vermonters – 37% of Medicaid patients rely on uninterrupted FQHC service for their primary care, along with other vulnerable Vermont populations. Plus, there are sites in over 60 locations throughout the state, creating potential disruptions based both on payer type and on geography. Losing 330 Funds would also hinder FQHCs' ability to participate collaboratively in value-focused projects, such as around Social Determinants of Health. This funding is crucial both for its magnitude and for the types of services that it can facilitate.

APPENDIX VI – TCOC TAXONOMIES

Taxonomy Code	Taxonomy Group
175F00000X	Primary Care / Other
207Q00000X	Primary Care / Other
207QA0000X	Primary Care / Other
207QA0401X	Primary Care / Other
207QA0505X	Primary Care / Other
207QB0002X	Primary Care / Other
207QG0300X	Primary Care / Other
207QH0002X	Primary Care / Other
207QS0010X	Primary Care / Other
207QS1201X	Primary Care / Other
207R00000X	Primary Care / Other
207RA0000X	Primary Care / Other
207RG0300X	Primary Care / Other
207V00000X	Primary Care / OBGYN
207VG0400X	Primary Care / Other
208000000X	Primary Care / Other
2080A0000X	Primary Care / Other
208D00000X	Primary Care / Other
261QC0050X	Primary Care / Medical Specialist
261QF0400X	Primary Care / Medical Specialist
261QP2300X	Primary Care / Other
261QR1300X	Primary Care / Medical Specialist
282NC0060X	Primary Care / Medical Specialist
282NR1301X	Primary Care / Medical Specialist
363A00000X	Primary Care / Other
363AM0700X	Primary Care / Other
363L00000X	Primary Care / Other
363LA2200X	Primary Care / Other
363LF0000X	Primary Care / Other
363LG0600X	Primary Care / Other
363LP0200X	Primary Care / Other
363LP2300X	Primary Care / Other

APPENDIX VII – TCOC PROCEDURE CODES

PROCEDURE CATEGORY	PROCEDURE CODE	DESCRIPTION
OFFICE/OTHER OUTPATIENT SERVICES	99201	OFFICE/OUTPATIENT VISIT NEW
OFFICE/OTHER OUTPATIENT SERVICES	99202	OFFICE/OUTPATIENT VISIT NEW
OFFICE/OTHER OUTPATIENT SERVICES	99203	OFFICE/OUTPATIENT VISIT NEW
OFFICE/OTHER OUTPATIENT SERVICES	99204	OFFICE/OUTPATIENT VISIT NEW
OFFICE/OTHER OUTPATIENT SERVICES	99205	OFFICE/OUTPATIENT VISIT NEW
OFFICE/OTHER OUTPATIENT SERVICES	99211	OFFICE/OUTPATIENT VISIT EST
OFFICE/OTHER OUTPATIENT SERVICES	99212	OFFICE/OUTPATIENT VISIT EST
OFFICE/OTHER OUTPATIENT SERVICES	99213	OFFICE/OUTPATIENT VISIT EST
OFFICE/OTHER OUTPATIENT SERVICES	99214	OFFICE/OUTPATIENT VISIT EST
OFFICE/OTHER OUTPATIENT SERVICES	99215	OFFICE/OUTPATIENT VISIT EST
CONSULTATION SERVICES	99241	OFFICE CONSULTATION
CONSULTATION SERVICES	99242	OFFICE CONSULTATION
CONSULTATION SERVICES	99243	OFFICE CONSULTATION
CONSULTATION SERVICES	99244	OFFICE CONSULTATION
CONSULTATION SERVICES	99241	OFFICE CONSULTATION
NURSING FACILITY SERVICES	99304	NURSING FACILITY CARE INIT
NURSING FACILITY SERVICES	99305	NURSING FACILITY CARE INIT
NURSING FACILITY SERVICES	99306	NURSING FACILITY CARE INIT
NURSING FACILITY SERVICES	99307	NURSING FAC CARE SUBSEQ
NURSING FACILITY SERVICES	99308	NURSING FAC CARE SUBSEQ
NURSING FACILITY SERVICES	99309	NURSING FAC CARE SUBSEQ
NURSING FACILITY SERVICES	99310	NURSING FAC CARE SUBSEQ
NURSING FACILITY SERVICES	99315	NURSING FAC DISCHARGE DAY
NURSING FACILITY SERVICES	99316	NURSING FAC DISCHARGE DAY
NURSING FACILITY SERVICES	99318	ANNUAL NURSING FAC ASSESSMNT
DOMICILIARY, REST HOME OR CUSTODIAL CARE	99324	DOMICIL/R-HOME VISIT NEW PAT
DOMICILIARY, REST HOME OR CUSTODIAL CARE	99325	DOMICIL/R-HOME VISIT NEW PAT
DOMICILIARY, REST HOME OR CUSTODIAL CARE	99326	DOMICIL/R-HOME VISIT NEW PAT
DOMICILIARY, REST HOME OR CUSTODIAL CARE	99327	DOMICIL/R-HOME VISIT NEW PAT
DOMICILIARY, REST HOME OR CUSTODIAL CARE	99328	DOMICIL/R-HOME VISIT NEW PAT
DOMICILIARY, REST HOME OR CUSTODIAL CARE	99334	DOMICIL/R-HOME VISIT EST PAT
DOMICILIARY, REST HOME OR CUSTODIAL CARE	99335	DOMICIL/R-HOME VISIT EST PAT

PROCEDURE CATEGORY	PROCEDURE CODE	DESCRIPTION
DOMICILIARY, REST HOME OR CUSTODIAL CARE	99336	DOMICIL/R-HOME VISIT EST PAT
DOMICILIARY, REST HOME OR CUSTODIAL CARE	99337	DOMICIL/R-HOME VISIT EST PAT
HOME HEALTH SERVICES	99341	HOME VISIT NEW PATIENT
HOME HEALTH SERVICES	99342	HOME VISIT NEW PATIENT
HOME HEALTH SERVICES	99343	HOME VISIT NEW PATIENT
HOME HEALTH SERVICES	99344	HOME VISIT NEW PATIENT
HOME HEALTH SERVICES	99345	HOME VISIT NEW PATIENT
HOME HEALTH SERVICES	99347	HOME VISIT EST PATIENT
HOME HEALTH SERVICES	99348	HOME VISIT EST PATIENT
HOME HEALTH SERVICES	99349	HOME VISIT EST PATIENT
HOME HEALTH SERVICES	99350	HOME VISIT EST PATIENT
PROLONGED SERVICES	99354	PROLONG E&M/PSYCTX SERV O/P
PROLONGED SERVICES	99355	PROLONG E&M/PSYCTX SERV O/P
PROLONGED SERVICES	99358	PROLONG SERVICE W/O CONTACT
PROLONGED SERVICES	99359	PROLONG SERV W/O CONTACT ADD
CASE MANAGEMENT SERVICES	99366	TEAM CONF W/PAT BY HC PROF
CASE MANAGEMENT SERVICES	99367	TEAM CONF W/O PAT BY PHYS
CASE MANAGEMENT SERVICES	99368	TEAM CONF W/O PAT BY HC PRO
PREVENTIVE MEDICINE SERVICES	99381	INIT PM E/M NEW PAT INFANT
PREVENTIVE MEDICINE SERVICES	99382	INIT PM E/M NEW PAT 1-4 YRS
PREVENTIVE MEDICINE SERVICES	99383	PREV VISIT NEW AGE 5-11
PREVENTIVE MEDICINE SERVICES	99384	PREV VISIT NEW AGE 12-17
PREVENTIVE MEDICINE SERVICES	99385	PREV VISIT NEW AGE 18-39
PREVENTIVE MEDICINE SERVICES	99386	PREV VISIT NEW AGE 40-64
PREVENTIVE MEDICINE SERVICES	99387	INIT PM E/M NEW PAT 65+ YRS
PREVENTIVE MEDICINE SERVICES	99391	PER PM REEVAL EST PAT INFANT
PREVENTIVE MEDICINE SERVICES	99392	PREV VISIT EST AGE 1-4
PREVENTIVE MEDICINE SERVICES	99393	PREV VISIT EST AGE 5-11
PREVENTIVE MEDICINE SERVICES	99394	PREV VISIT EST AGE 12-17
PREVENTIVE MEDICINE SERVICES	99395	PREV VISIT EST AGE 18-39
PREVENTIVE MEDICINE SERVICES	99396	PREV VISIT EST AGE 40-64
PREVENTIVE MEDICINE SERVICES	99397	PER PM REEVAL EST PAT 65+ YR
PREVENTIVE MEDICINE SERVICES	99401	PREVENTIVE COUNSELING INDIV
PREVENTIVE MEDICINE SERVICES	99402	PREVENTIVE COUNSELING INDIV
PREVENTIVE MEDICINE SERVICES	99403	PREVENTIVE COUNSELING INDIV
PREVENTIVE MEDICINE SERVICES	99404	PREVENTIVE COUNSELING INDIV

PROCEDURE CATEGORY	PROCEDURE CODE	DESCRIPTION
PREVENTIVE MEDICINE SERVICES	99406	BEHAV CHNG SMOKING 3-10 MIN
PREVENTIVE MEDICINE SERVICES	99407	BEHAV CHNG SMOKING > 10 MIN
PREVENTIVE MEDICINE SERVICES	99408	AUDIT/DAST 15-30 MIN
PREVENTIVE MEDICINE SERVICES	99409	AUDIT/DAST OVER 30 MIN
PREVENTIVE MEDICINE SERVICES	99411	PREVENTIVE COUNSELING GROUP
PREVENTIVE MEDICINE SERVICES	99412	PREVENTIVE COUNSELING GROUP
PREVENTIVE MEDICINE SERVICES	99420	ADMINISTRATION AND INTERPRETATION OF HEALTH RISK ASSESSMENT
PREVENTIVE MEDICINE SERVICES	99429	UNLISTED PREVENTIVE SERVICE
NON-FACE-TO-FACE PHYSICIAN SERVICES	99441	PHONE E/M PHYS/QHP 5-10 MIN
NON-FACE-TO-FACE PHYSICIAN SERVICES	99442	PHONE E/M PHYS/QHP 11-20 MIN
NON-FACE-TO-FACE PHYSICIAN SERVICES	99443	PHONE E/M PHYS/QHP 21-30 MIN
NON-FACE-TO-FACE PHYSICIAN SERVICES	99444	ONLINE E/M BY PHYS/QHP
NON-FACE-TO-FACE PHYSICIAN SERVICES	99446	NTRPROF PH1/NTRNET/EHR 5-10
NON-FACE-TO-FACE PHYSICIAN SERVICES	99447	NTRPROF PH1/NTRNET/EHR 11-20
NON-FACE-TO-FACE PHYSICIAN SERVICES	99448	NTRPROF PH1/NTRNET/EHR 21-30
NON-FACE-TO-FACE PHYSICIAN SERVICES	99449	NTRPROF PH1/NTRNET/EHR 31/>
NON-FACE-TO-FACE PHYSICIAN SERVICES	99451	NTRPROF PH1/NTRNET/EHR 5/>
NON-FACE-TO-FACE PHYSICIAN SERVICES	99452	NTRPROF PH1/NTRNET/EHR RFRL
NEWBORN CARE SERVICES	99460	INIT NB EM PER DAY HOSP
NEWBORN CARE SERVICES	99461	INIT NB EM PER DAY NON-FAC
NEWBORN CARE SERVICES	99462	SBSQ NB EM PER DAY HOSP
NEWBORN CARE SERVICES	99463	SAME DAY NB DISCHARGE
DELIVERY/BIRTHING ROOM ATTENDANCE AND RESUSCITATION SERVICES	99464	ATTENDANCE AT DELIVERY
DELIVERY/BIRTHING ROOM ATTENDANCE AND RESUSCITATION SERVICES	99465	NB RESUSCITATION
TRANSITIONAL CARE MANAGEMENT SERVICES	99495	TRANS CARE MGMT 14 DAY DISCH
TRANSITIONAL CARE MANAGEMENT SERVICES	99496	TRANS CARE MGMT 7 DAY DISCH
ADVANCE CARE PLANNING EVALUATION AND MANAGEMENT SERVICES	99497	ADVNCD CARE PLAN 30 MIN
ADVANCE CARE PLANNING EVALUATION AND MANAGEMENT SERVICES	99498	ADVNCD CARE PLAN ADDL 30 MIN
IMMUNIZATION ADMINISTRATION FOR VACCINES/TOXOIDS	90460	IM ADMIN 1ST/ONLY COMPONENT

PROCEDURE CATEGORY	PROCEDURE CODE	DESCRIPTION
IMMUNIZATION ADMINISTRATION FOR VACCINES/TOXOIDS	90461	IM ADMIN EACH ADDL COMPONENT
IMMUNIZATION ADMINISTRATION FOR VACCINES/TOXOIDS	90471	IMMUNIZATION ADMIN
IMMUNIZATION ADMINISTRATION FOR VACCINES/TOXOIDS	90472	IMMUNIZATION ADMIN EACH ADD
IMMUNIZATION ADMINISTRATION FOR VACCINES/TOXOIDS	90473	IMMUNE ADMIN ORAL/NASAL
IMMUNIZATION ADMINISTRATION FOR VACCINES/TOXOIDS	90474	IMMUNE ADMIN ORAL/NASAL ADDL
VAGINAL DELIVERY, ANTEPARTUM AND POSTPARTUM CARE PROCEDURES	59400	OBSTETRICAL CARE
VAGINAL DELIVERY, ANTEPARTUM AND POSTPARTUM CARE PROCEDURES	59410	OBSTETRICAL CARE
VAGINAL DELIVERY, ANTEPARTUM AND POSTPARTUM CARE PROCEDURES	59425	ANTEPARTUM CARE ONLY
VAGINAL DELIVERY, ANTEPARTUM AND POSTPARTUM CARE PROCEDURES	59426	ANTEPARTUM CARE ONLY
VAGINAL DELIVERY, ANTEPARTUM AND POSTPARTUM CARE PROCEDURES	59430	CARE AFTER DELIVERY
CESAREAN DELIVERY PROCEDURES	59510	CESAREAN DELIVERY
CESAREAN DELIVERY PROCEDURES	59515	CESAREAN DELIVERY
DELIVERY PROCEDURES AFTER PREVIOUS CESAREAN DELIVERY	59610	VBAC DELIVERY
DELIVERY PROCEDURES AFTER PREVIOUS CESAREAN DELIVERY	59614	VBAC CARE AFTER DELIVERY
DELIVERY PROCEDURES AFTER PREVIOUS CESAREAN DELIVERY	59618	ATTEMPTED VBAC DELIVERY
DELIVERY PROCEDURES AFTER PREVIOUS CESAREAN DELIVERY	59622	ATTEMPTED VBAC AFTER CARE
INITIAL SERVICES FOR MEDICARE ENROLLMENT	G0402	INITIAL PREVENTIVE EXAM
INITIAL SERVICES FOR MEDICARE ENROLLMENT	G0403	EKG FOR INITIAL PREVENT EXAM
INITIAL SERVICES FOR MEDICARE ENROLLMENT	G0404	EKG TRACING FOR INITIAL PREV
INITIAL SERVICES FOR MEDICARE ENROLLMENT	G0405	EKG INTERPRET & REPORT PREVE
VACCINE ADMINISTRATION	G0008	ADMIN INFLUENZA VIRUS VAC
VACCINE ADMINISTRATION	G0009	ADMIN PNEUMOCOCCAL VACCINE
VACCINE ADMINISTRATION	G0010	ADMIN HEPATITIS B VACCINE
COUNSELING, SCREENING, AND PREVENTION SERVICES	G0438	PPPS, INITIAL VISIT
COUNSELING, SCREENING, AND PREVENTION SERVICES	G0439	PPPS, SUBSEQ VISIT
COUNSELING, SCREENING, AND PREVENTION SERVICES	G0442	ANNUAL ALCOHOL SCREEN 15 MIN

PROCEDURE CATEGORY	PROCEDURE CODE	DESCRIPTION
COUNSELING, SCREENING, AND PREVENTION SERVICES	G0443	BRIEF ALCOHOL MISUSE COUNSEL
MISCELLANEOUS SERVICES	G0463	HOSPITAL OUTPT CLINIC VISIT
FQHC VISITS	G0466	FQHC VISIT NEW PATIENT
FQHC VISITS	G0467	FQHC VISIT, ESTAB PT
FQHC VISITS	G0468	FQHC VISIT, IPPE OR AWV
FQHC VISITS	G0469	FQHC VISIT, MH NEW PT
FQHC VISITS	G0470	FQHC VISIT, MH ESTAB PT
FQHC VISITS	T1015	CLINIC SERVICE (FQHCS)
OTHER SERVICES	G0506	COMP ASSES CARE PLAN CCM SVC
OTHER SERVICES	G0513	PROLONG PREV SVCS, FIRST 30M
OTHER SERVICES	G0514	PROLONG PREV SVCS, ADDL 30M

APPENDIX VIII – MILBANK MEMORIAL FUND REPORT

REPORT

Standardizing the Measurement of Commercial Health Plan Primary Care Spending

by Michael H. Bailit, Mark W. Friedberg, and Margaret L. Houy

JULY 2017

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Message from the President

How much of our health care dollars go to support primary care, the acknowledged foundation of any high-performing health care delivery system? This Milbank Memorial Fund report, "Standardizing the Measurement of Commercial Health Plan Primary Care Spending," by Michael Bailit, Mark Friedberg, and Margaret Houy, outlines a methodological approach to measuring "primary care spending rates"—the portion of total health care expenditures that goes to primary care. The report provides some preliminary answers, using information from a group of commercial insurers.

The Fund believes this is an important question for several reasons:

- Society confers value, in part, though monetary payments. If primary care is so important to society, do our collective payments reflect it?
- It turns out defining primary care is harder than it first seems. Should we define it by the type of provider offering the service? The type of services available, regardless of provider? The definition needs to be easily operationalized with available financial information. It must be standardized to allow for comparative measurement. This report tests several definitions of primary care and measures the resulting differences in spending rate. The definitions are specified in this report so other researchers can use them in the future.
- As quality improvement experts remind us, we improve what we measure. If, as many maintain, the US health care system relies too heavily on specialty and institutional services, resulting in poor health care value, then measuring the primary care spending rate for communities, states, and risk-bearing entities can be an important way to call attention to this underinvestment and assess progress over time. This report provides standards and baseline performance measures for other measurement organizations to use.
- The United States is in the midst of an unprecedented era of provider payment reform. Assessing the effects of these innovations on a known contributor to high value care—our primary care infrastructure—should be a high priority.

This report adds to a growing body of effort regarding primary care spending rates. The states of Oregon and Rhode Island have taken the lead in the United States—assessing both insurers and accountable delivery systems in their states. Internationally, the United Kingdom's National Health Service regularly measures primary care spending rates, and the World Health Organization is investigating how to use these rates as a performance comparator between countries. With these increased efforts come opportunities for learning, evidence development, and public attention.

As provider payment reform innovations continue in the United States, and purchasers, providers, and policymakers work to measure and improve the value of our significant health care expenditures, we hope this report will provide a useful guide to measuring primary care spending and help focus public attention on the importance of building a robust primary care infrastructure.

Christopher F. Koller
President, Milbank Memorial Fund

Introduction

The benefits of primary care are well documented. Studies have consistently shown positive relationships between delivery of primary care services and health systems with greater primary care orientations to better outcomes, efficiency, and patient experience of care.[1,2]

Despite the demonstrated value of primary care, primary care physicians are compensated significantly less than physicians in other medical specialties.[3] For this reason and others, most medical school graduates pursue careers in non-primary care specialties.[4]

Concern about an increasingly specialist-oriented health care system has led to increased national discussion and action over the past decade to strengthen the nation's primary care foundation. Some of the strategies being pursued include adoption of patient-centered medical home practice models, increased use of non-physician practice team members, and increased financial investment in and support for primary care.

To meaningfully quantify current and future health system investment in primary care, we need a standardized basis for measuring this investment.

Study Purpose

The Milbank Memorial Fund engaged Bailit Health and the RAND Corporation to undertake a proof-of-concept study to assess the feasibility of calculating the percentage of commercial insurer medical spending that was paid to primary care providers among a sample of highly rated commercial health plans.

Specifically, the primary purposes of the study were to (1) assess whether it is feasible to perform the measurement comparably across insurers, and (2) determine whether the work could be performed with voluntary insurer participation.

Should it be possible to measure relative investment in primary care, there may be a basis for objectively comparing primary care spending across geographic areas and organizations and for focusing attention on the extent of financial support primary care receives.

The study also had a secondary objective: to test the calculation of primary care spending using different definitions of primary care.

Study Methodology

Health Insurer Selection Criteria

Primary care orientation (including investment in primary care) has been associated with higher quality of care. Therefore, the study sought to test the feasibility of identifying health plans highly rated for quality as a means of establishing a benchmark for primary care spending. We anticipated that primary care spending as a percentage of total spending among these plans might be higher than among plans poorly rated for quality.

The quality ratings published by the National Committee for Quality Assurance (NCQA) were employed for selecting highly rated health insurers. We identified commercial health plans that had NCQA overall ratings of at least 80 (maximum score of 100) and a score of 4 or 5 (maximum score of 5) for prevention and treatment in the 2014-2015 plan rankings.[5]

Health insurers often submit data to NCQA for multiple products. For example, a health plan may submit information to NCQA for a health maintenance organization (HMO), preferred provider organization (PPO), and/or a point-of-service (POS) product as individual health plans or combined into one health plan. In selecting insurers to target, we gave preference to those with both a high-performing HMO and a high-performing PPO to support a comparative assessment of primary care spending for HMO- and PPO-enrolled populations.

In recognition of the volatility of measures of health spending with small populations, as a selection criterion, we required a minimum enrollment of 10,000 members, as reported in NCQA's Quality Compass.

To obtain diverse geographic representation, the high-performing plans were selected based on NCQA's regions.[6] NCQA divides the country into eight regions. Because we were seeking 10 plans for the study and high-performing plans are not equally distributed across regions, we grouped NCQA's regions into four (listed below) and identified the top three or four qualifying health plans from each region:

- *East and West North Central:* Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin
- *Mountain and Pacific:* Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming
- *New England and Mid-Atlantic:* Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont
- *South Atlantic and South Central:* Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia

In addition, we initially chose only one plan from each state. This meant skipping some high-performing plans when there were multiple high-performing plans in some states.

Health Insurer Participant Recruitment

Health insurers meeting the selection criteria were invited to participate in the study with the understanding that each insurer would be required to generate reports using study-prescribed data specifications (see Appendix B) and would in return receive a customized report comparing the individual health insurer's performance to that of the other study participants.

Twenty-nine health insurers were contacted before 10 agreed to participate. The scarcity of internal analytic resources was the most common reason health insurers reported when electing not to participate.

Participating Health Insurer Characteristics

The 10 health insurers that chose to participate had some degree of geographic representativeness, but not to the extent initially sought.

- East and West North Central: 2
- Mountain and Pacific: 2
- New England and Mid-Atlantic: 5
- South Atlantic and South Central: 1

The geographic distribution of participating health insurers was consistent with the uneven national distribution of health insurers highly rated by NCQA for quality. For example, there are many more such insurers in the New England and Mid-Atlantic region than in the South Atlantic and South Central regions. In addition, some national insurers that had strong market presence in multiple states either declined participation or did not rate high on quality in many markets. For this reason, eight of the 10 participating health insurers were regional or single-state insurers.

Ultimately, one of the participating national carriers (for a New England market) was unable to produce accurate data and was therefore excluded from the analysis, resulting in a total of nine insurers.

External Expert Methodology Review

To inform the research methodology design, the Milbank Memorial Fund, in collaboration with the Patient-Centered Primary Care Collaborative, convened a 16-person expert panel (see Appendix A for a list of members) to serve in an advisory role to review the study methodology, including the definitions of primary care services (PCS) and primary care providers (PCPs). In addition, the authors consulted with three health services researchers with experience in primary care and with four state insurance commissioners to review the methodology.

Primary Care Service and Provider Definitions

Multiple definitions of primary care exist. For example, the Organisation for Economic Co-operation and Development (OECD) has used the general definition "first point of contact that the population has with health systems," as well as more specific definitions including those from the Alma-Ata Declaration,[7] the Institute of Medicine[8] (now known as the National Academy of Medicine), and the Primary Health Care Activity Monitor for Europe.[9] Based on these definitions, the OECD has proposed that primary care spending be estimated in two ways, based on System of Health Accounts (SHA) categories:[10]

1. [Narrower] Outpatient curative and rehabilitative care (excluding specialist care and dental care), home-based curative and rehabilitative care, ancillary services, and preventive services *if provided in an ambulatory setting*.
2. [Broader] Outpatient curative and rehabilitative care including specialist care (excluding dental care), home-based curative and rehabilitative care, ancillary services if provided in an ambulatory setting, and total preventive services *in all settings (including hospitals and long-term care facilities*).

Unfortunately, this OECD framework, which was designed to compare primary care spending across member countries (and was challenging for many countries to implement, especially for the narrower version), is not available for individual health plans in the United States, which do not use SHA codes in their business operations.

Another framework, the Primary Health Care Performance Index, also designed for comparing countries and also using SHA codes,[11] has similar barriers to application among US health plans.

To estimate the percentage of total health care spending that high-performing commercial health insurers expend on primary care services, we considered six potential definitions of primary care spending:

- *Definition 1 (provider-based):* All medical services delivered by primary care providers (including non-evaluation and management [E&M] services, such as office-based procedures). In this definition, primary care providers are identified by specialty, the setting in which the provider typically delivers care, and health insurer designation.
    - *Specialty:* Most agree that family medicine, general internal medicine, general pediatrics, and general practice are primary care specialties. Some may argue that geriatrics, adolescent medicine, and gynecology also can be primary care specialties. It is worth noting that nurse practitioners (NPs) and other allied health professionals lacked specialty information for all but one plan; no plan was able to input missing specialty information. However, we also note that in many practices, these professionals are likely to bill under a physician's name.
    - *Setting:* A large share of the provider's billings must be for services delivered in ambulatory settings.
    - *Plan designation:* A provider must be designated as a primary care provider (PCP) by health insurers. Most health insurers have such designations, especially in their HMO products, where a referral from an insurer-designated PCP is necessary for many services.
- *Definition 2 (service-based, Starfield version[12]):* Services that support the fulfillment of four cardinal functions of primary care (comprehensive care, first-contact care for a wide variety of conditions, coordinated care, longitudinal care). There are no widely accepted claims-based measures corresponding to these cardinal functions. The

closest approximations to one of these dimensions (longitudinal care) might be continuity of care indices. There are many such indices (e.g., Bice-Boxerman[13]), each with its relative strengths and weaknesses. In addition, researchers at the Robert Graham Center have recently developed a claims-based definition of comprehensiveness, which has shown modest correlation with physician self-reported measures of comprehensiveness.[14]

- *Definition 3 (service-based, claims version):* All office visits and preventive services (e.g., immunizations), regardless of provider. The Medicare Payment Advisory Commission has used this definition implicitly in some older reports to Congress.[15]
- *Definition 4 (provider- and service-based):* All office visits and preventive services delivered by primary care providers (defined by specialty). This is a subset of definition 1, which includes all services delivered by specialty-defined primary care providers (not limited to office visits and preventive services).
- *Definition 5 (system-based):* Health systems that support fulfillment of the cardinal functions of primary care. This option is most attractive for fully capitated systems, where service-based definitions cannot be operationalized, but measuring fulfillment of cardinal functions was outside the feasible scope of work for this study.

After discussion among project team members and with our expert panel, we operationalized definitions 1 (provider-based) and 4 (provider- and service-based).

Our study definitions of primary care provider differ from the OECD definitions of general practitioner (the closest category of provider used by the OECD to calculate primary care spending) in an important way: the OECD allows considerable country-to-country variation in the clinician specialties considered to represent "general practitioners."[16] In contrast, our definitions of primary care provider are uniform among units of analysis (health plans).

Study Data Specifications

To enable health plans to calculate provider-based and provider- and service-based primary care spending using the two definitions selected, we wrote detailed data specifications with four specific definitions of primary care providers and one specific definition of primary care services. In all PCP definitions, we excluded primarily inpatient providers (e.g., hospitalists) using the method of Welch et al.,[17] in which any provider receiving 90% or more of revenues in the inpatient setting was designated a primarily inpatient provider.

- Primary care providers:
  - PCP-A: family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP
  - PCP-B: family medicine, general internal medicine, general pediatrics, general practice, NP, or physician assistant (PA) *and* designated by health insurer as a PCP

- PCP-C: family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP
- PCP-D: designated by health insurer as a PCP (no specialty requirement)

- Primary care services: fee-for-service claims for any of the following Healthcare Common Procedure Coding System (HCPCS) codes: 9920x, 9921x, 9924x, 99339-99345, 99347-99350, 99381-99387, 99391-99397, 99401-99404, 99411, 99412, 99420-99429, 99495, 99496, G0402, G0438, G0439

For all possible combinations of primary care providers (PCP-A through PCP-D) and payment types (all fee-for-service [FFS] payments, all FFS plus non-FFS payments, and primary care service payments), we asked analysts from each health insurer to calculate per-member per-month spending, for all combinations of the following subsets of patients:

- Year: 2013 and 2014
- Product type: HMO/POS (i.e., combining HMO and POS product types) and PPO
- Sex: male and female
- Age category: 18 years or younger; 19-24; 25-34; 35-44; 45-54; 55-64
- Comorbidities: asthma, diabetes mellitus, or neither (using each insurer's own definition or Healthcare Effectiveness Data and Information Set measure denominator specifications for insurers that had no preferred method of defining these conditions)

We also requested total medical and total medical plus prescription drug spending (i.e., the payment denominator) per-member per-month in each of these categories. We identified and separately analyzed members in insurers with mental health or prescription drug carve-outs, since these can reduce denominator spending relative to insurers without such carve-outs. All FFS spending amounts were *allowed amounts* and therefore included any payments made by health insurer members directly (e.g., deductibles and co-payments). The categorization of non-FFS primary care spending varied by health insurer. Some reported this in multiple categories (e.g., pay-for-performance, patient-centered medical home per-member per-month, shared savings, primary care partial capitation); others reported a per-member per-month lump sum that aggregated the insurer's non-FFS payment methods.

In addition, we requested data on the percentage of primary care services (defined as above) that were delivered by primary care providers, using each definition of PCP. The requested data included only members for whom the health insurer was the primary insurance and only for commercial lines of insurance.

The general technical specifications of the data request are available in Appendix B. We reviewed these general specifications with analysts from each health insurer and then customized them as needed (e.g., to request the exact types of non-FFS payment used by the insurer). Each health insurer submitted initial spending data, which we reviewed for inconsistencies with the data request. We requested at least one round of revised data from most insurers. Nine high-performing insurers were able to provide complete FFS data, but one insurer was unable to send data consistent with the request by time of publication. Of these nine insurers, seven made non-FFS payments to primary care providers in 2013 and 2014. Of these seven insurers making non-FFS payments, one insurer was unable to report non-FFS payment data and is therefore excluded from analyses that incorporate non-FFS payments.

Study Data Calculations

We calculated descriptive statistics (mean, minimum, and maximum) for all spending and utilization variables, weighting each health insurer equally. Results were similar for 2013 and 2014 across patient subsets. Results for 2014 alone can be found in Appendix C. Results for 2013 and 2014 are available in Appendix D.

Findings

The study findings are intended to inform future efforts to measure and set policies regarding primary care spending. We present findings on the feasibility of calculating primary care spending in commercial health insurers, followed by preliminary estimates of primary care spending among our study's sample of high-performing health insurers.

Feasibility of Calculating Primary Care Spending

1. *It is possible to measure primary care spending using insurers' financial information and expert consensus definitions of primary care translated into data specifications.* While considerably more effort would be required to assure the consistency of interpretation of the data specifications by the insurers, we have shown the feasibility of developing and operationalizing a measure of primary care spending.

2. *Voluntary reporting was challenging to obtain.* We had to contact nearly three times as many health insurers as needed to obtain a set of 10 participating insurers. Our methods required commitment of time and effort from data analysts (a scarce resource) at each participating health plan. The demands already placed on those staff made many insurers unwilling to commit to study participation, even when they supported the policy aims of the study. As a result, it seems unlikely that a voluntary approach will be adequate to support broad state-level or national-level measurement of commercial insurer spending on primary care. Alternative approaches to the voluntary submission method used for this study may be more effective.

First, it may be possible to use third-party databases such as state all-payer claims databases and those assembled by voluntary state-level collaboratives.[18] We tested this approach with one such collaborative and found that some data elements necessary to identify primary care spending according to our definitions were absent.

Second, states can require by statute the reporting of primary care spending (as does Oregon) or by regulation (as does Rhode Island). This approach appears to have worked reasonably well.

Regardless of the approach, multi-state insurers with an interest in measuring primary care spending will likely prefer a standard definition to facilitate data submission and reporting in multiple states.

3. *Acquisition of accurate data required significant work with insurers.* For most participating health insurers, analysts required detailed guidance and multiple rounds of submission to produce the requested data. This learning curve, which varied considerably from insurer to insurer, suggests that future efforts with new health insurers are likely to require similar guidance. We expect, but cannot be certain, that subsequent data requests from the same insurers would become easier with each repetition, as analysts gain experience.

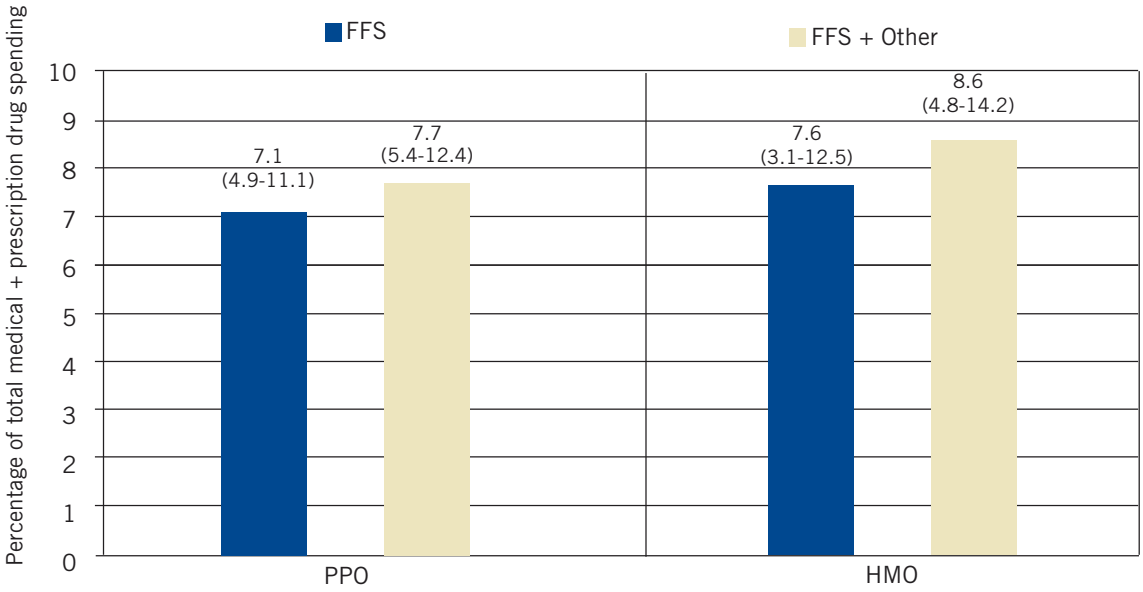
4. *New payment models and delivery system structures will create new measurement challenges.* While global capitation of health systems is not a common payment model in the United States, there are signs of its emergence as a more frequently adopted design.[19] We encountered this challenge when considering a few highly rated health insurers for the study. The adoption of such a payment model complicates measurement of the percentage of insurer spending directed to primary care, because the distribution of provider medical spending is controlled by the capitated provider entity and might not be visible to the insurer.

   The shared savings payment models employed by accountable care organizations (ACOs) can be similarly challenging if savings payments and/or quality incentive payments are made at the ACO level and then distributed across the ACO's primary care and non–primary care providers. New types of data capture and reporting will be necessary if primary care spending is to be measured for these new payment models.

Preliminary Insights Regarding Primary Care Spending

1. *Most primary care spending occurs via FFS payment.* As shown in Figure 1, only a small percentage of 2014 spending was made using non-FFS payments to primary care providers: the difference between FFS-only and FFS-plus-other spending was 0.6 percentage points for PPOs (7.7% vs. 7.1%) and 1 percentage point for HMOs (8.6% vs. 7.6%). While there is much national discussion about payment reform, including for primary care,[20] non-FFS spending on primary care was modest in 2014 among the health plans participating in the study.

Figure 1. Primary Care Spending by Payment and Product Type Among All Patients in 2014 as a Percentage of Total Medical + Prescription Drug Spending, Mean (Range)*



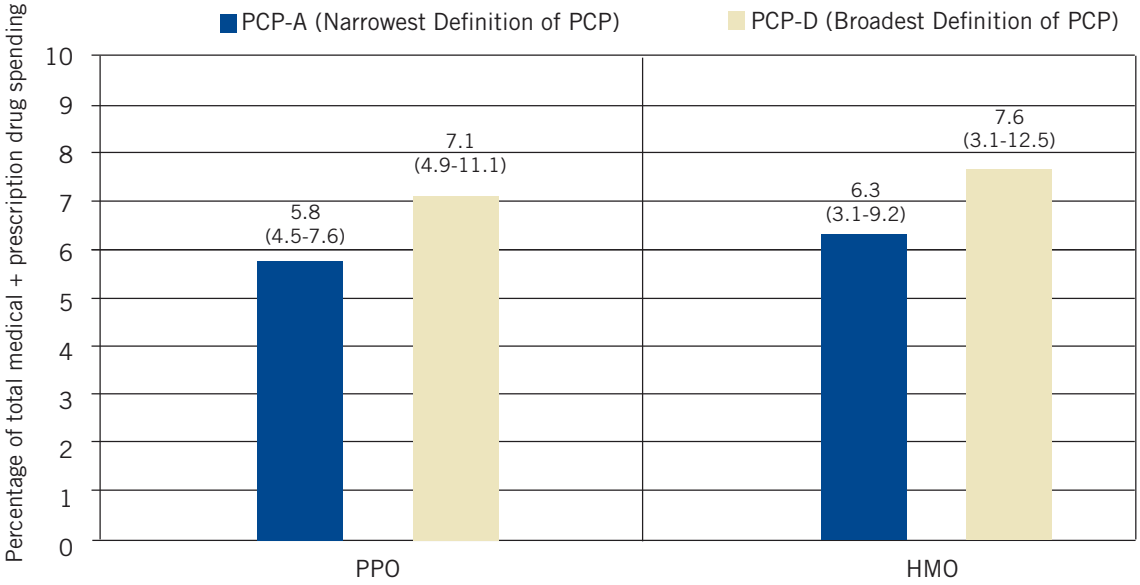
Abbreviations: FFS, fee-for-service; HMO, health maintenance organization; PCP, primary care provider; PPO, preferred provider organization.
*In this figure, FFS primary care spending includes all services billed by PCPs (definition 1), using the least restrictive definition of PCPs (PCP-D: any provider designated by health insurer as a PCP, regardless of specialty).

2. *Differences in spending between narrow and broad definitions of primary care providers were less than differences between definitions of primary care services.* This study used multiple definitions of primary care providers narrowly (PCP-A, which included only a limited range of physician specialties) and broadly (PCP-D, which included any provider that a health plan designated as a PCP, regardless of specialty).

   We also defined primary care services narrowly (definition 4, which included only evaluation and management and preventive services) and broadly (definition 1, which included any service delivered by a PCP). This broader definition of services might include minor surgical procedures and tests performed by PCPs.

   As shown in Figure 2, the difference in percentage primary care spending between narrower and broader PCP definitions ranged up to 1.3 percentage points (5.8% vs. 7.1% for PPO spending and 6.3% vs. 7.6% for HMO spending). This is smaller than the 2.8 percentage point difference between spending on primary care services only and all services delivered by PCPs (4.8% for PCS only vs. 7.6% for all services) as shown in Figure 3. Versions of this figure that use more restrictive PCP definitions are available in Appendix C.

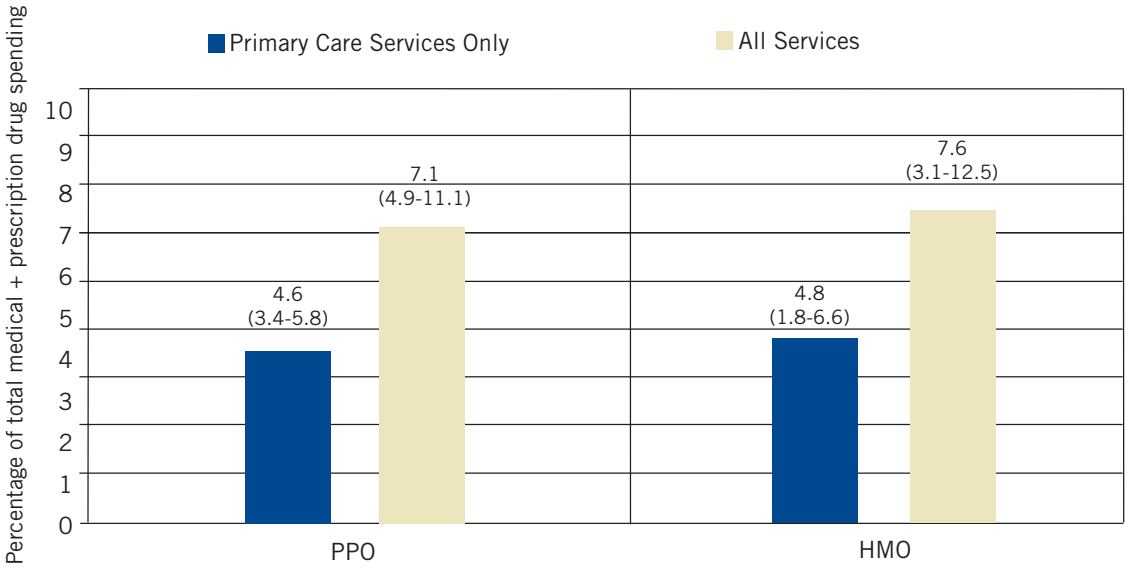
Figure 2. FFS Primary Care Spending Across All Service Types by Product and PCP Type Among All Patients in 2014 as a Percentage of Total Medical + Prescription Drug Spending, Mean (Range)*



Abbreviations: FFS, fee-for-service; HMO, health maintenance organization; PCP, primary care provider; PPO, preferred provider organization.

*In this figure, FFS primary care spending includes all services billed by PCPs (definition 1), using the most restrictive definition of PCPs (PCP-A: family medicine, general internal medicine, general pediatrics, or general practice provider designated by health insurer as a PCP) and least restrictive definition of PCPs (PCP-D: any provider designated by health insurer as a PCP, regardless of specialty).

Figure 3. FFS Primary Care Spending by Service Type Among PPO and HMO Members in 2014 as a Percentage of Total Medical + Prescription Drug Spending, Mean (Range)*



Abbreviations: FFS, fee-for-service; HMO, health maintenance organization; PCP, primary care provider; PPO, preferred provider organization.

* In this figure, we use the least restrictive definition of PCPs (PCP-D: any provider designated by health insurer as a PCP, regardless of specialty). "Primary care services only" corresponds to primary care definition 4, and "all services" corresponds to primary care definition 1. No non-FFS payments are included.

Our finding that provider definitions affected spending estimates less than service definitions suggests that more expansive PCP definitions can be employed in efforts to increase investment in primary care (like the primary care payment increases included in the Affordable Care Act) without causing large increases in primary care spending, relative to narrower PCP definitions. More expansive definitions such as these might help address challenges to achieving consensus on programs designed to increase primary care spending (i.e., lessen opposition from specialties that might be—but sometimes are not—considered "primary care" in regulatory definitions).

However, our study has a significant caveat in this regard: We required all such providers to be designated as PCPs by health plans. Some payers (e.g., Medicare) lack this PCP-designation variable and therefore cannot apply the PCP-designation requirement. Without this requirement, the range of included specialties might have a greater impact on primary care spending. In addition, plans might change their policies for designating providers as PCPs (if given the flexibility to do so) if they are incentivized to increase their percentage of spending on primary care.

3. *Primary care spending as a percentage of total spending varied greatly across high-performing health insurers.* The plan-to-plan range of percentage spending on primary care, depicted in Table 1, exceeded our expectations. Despite our best efforts to conduct uniform data collection across plans, much of this observed variation between plans might be due to differences in health plan analysts' interpretations of our specifications for calculating spending. In other words, some of this variation could be due to measurement error rather than true differences in spending. Our study was not designed to estimate the amount of such measurement error.

Table 1. Primary Care FFS Spending Among All PPO Patients in 2014 as a Percentage of Total Medical + Prescription Drug Spending, Mean (Range)

PCP Definition	PCP-A	PCP-B	PCP-C	PCP-D
Mean (Range)	5.8 (4.5-7.6)	6.0 (4.6-7.6)	6.4 (4.6-8.6)	7.1 (4.9-11.1)

Abbreviations: FFS, fee-for-service; PCP, primary care provider; PPO, preferred provider organization; PCP-A: family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP; PCP-B: family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), or physician assistant *and* designated by health insurer as a PCP; PCP-C: family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP; PCP-D: designated by health insurer as a PCP (no specialty requirement).

4. *The validity of comparisons between our spending estimates and others' spending estimates is unknown, reinforcing the need for a standard definition of primary care spending.* There are other calculations of primary care spending, both in the United States and internationally. The calculation that is most comparable to ours was pro-

duced by the state of Rhode Island (10.8% in 2015)[21] because of that state's regulatory focus on increasing primary care investment. Benchmarks from Oregon (5.9% in 2015),[22] research estimates (6%-8%),[23] and Medicare (3.6%)[24] are not comparable because they include non-primary care payments (e.g., for mental health services in Oregon, for investments in the state's health insurance exchange in Rhode Island) or are for populations with different health risk profiles and different expenditure patterns (e.g., Medicare, Medicaid). (See box on page 14, "Measuring Primary Care Spending: Policies in Two States.")

5. *Primary care spending as a percentage of total medical spending is influenced by population characteristics.* We found that the percentage of total spending devoted to primary care differed by patient age group and for patients with diabetes, patients with asthma, and the patient population as a whole (Table 2). Therefore, stratifying or adjusting calculated percentages by patient characteristics might be appropriate, especially when comparing health insurers with substantially different patient populations. At a minimum, the large distinction between children and adults as shown in Table 2 suggests a need for separate primary care spending benchmarks for these two patient populations.

Table 2. Per-Member Per-Month FFS + Other Primary Care Spending, as a Percentage of Total Medical + Prescription Drug Spending, by Patient Age and Comorbidity, Among HMO Members in 2014, Mean (Range)*

Patient Characteristic		**PCP-D (FFS + other)****
Age		
	18 or younger	18.3 (11-22)
	19-24	9.4 (5-15)
	25-34	7.8 (4-13)
	35-44	7.0 (4-13)
	45-54	6.9 (4-15)
	55-64	5.9 (3-14)
Comorbidity		
	All patients	8.6 (4.8-14.2)
	Diabetes	5.0 (2-13)
	Asthma	6.9 (4-13)

Abbreviations: FFS, fee-for-service; HMO, health maintenance organization; PCP, primary care provider; PCP-D, primary care provider designated by health insurer as a PCP (no specialty requirement).
* This table corresponds to definition 1, all service types.
** The FFS + other figures do not include the insurer that made non-FFS primary care payment but did not report them to us.

Measuring Primary Care Spending: Policies in Two States

There are two states that currently require commercial health plans to submit data about primary care spending. While their methodologies vary from those included in this report, the examples are worth noting for two reasons: (1) the state models demonstrate further that it is feasible to define measures and collect data for primary care spending, and (2) the states have used these measures to stimulate collaborative efforts for multi-payer primary care payment reform.

Rhode Island

In 2011, the Rhode Island Office of the Health Insurance Commissioner (OHIC) established initial guidance for health insurers that (1) defined primary care services, and (2) based on that definition, required insurers to demonstrate that they would increase primary care spending by five percentage points during the period 2010 to 2014. The guidance defines these expenditures as including direct FFS payments as well as payments provided for activities and services to enhance primary care capacity (e.g., electronic health records, care managers, and other practice transformation activities). Each health insurer was expected to spend 25% in 2011 and 30% in 2012 as the percentage of primary care payments that must be paid in the above categories in means other than FFS payments.

Additional requirements were promulgated in subsequent years. The percentage of insurer payments to be allocated for these enhanced service investments was increased to 40% in 2013 and 45% in 2014. The most recently adopted version of OHIC Regulation 2 (adopted 12-12-16) reflects the state's continued interest in directly supporting primary care. Expenditures to support medical home-related activities are as follows:

- Each health insurer's annual, actual primary care expenses, including both direct and indirect primary care expenses, shall be at least an amount calculated as 10.7% of its annual medical expenses for all insured lines of business.
- Within that amount, at least 9.7% of the calculated amount shall be for direct primary care expenses.
- Indirect primary care expenses shall include at least the insurer's proportionate share for the administrative expenses of the medical home initiative and for its proportionate share of the expenses of the health information exchange.

Oregon

Primary care is the cornerstone of Oregon's health care transformation strategy. Legislation in 2015-2016 required the state to report on the percentage of primary care spending by "prominent" carriers offering commercial and Medicare Advantage plans, health insurance plans contracting with state public employee boards, and the Medicaid coordinated care

organizations (CCOs). The same legislation required the Oregon Health Authority to convene a Primary Care Payment Collaborative to develop recommendations to improve primary care capacity.

The primary care spending analysis includes both claims-based payments (e.g., FFS payments) and non-claims-based payments (e.g., supplemental payments focused on quality improvement and practice capacity building). Information on claims-based payments are collected through the state's All Payer All Claims Database, while data on the non-claims-based payments are collected through a separate reporting template. Specific rules established the non-claims-based reporting requirements as follows:

- OAR 836-053-1500 through 836-053-1510, effective October 20, 2015: These rules define prominent carriers and require carriers to report non-claims-based primary care spending and total medical spending.
- OAR 409-027-0010 through 409-027-0030, effective November 5, 2015: These rules require CCOs to report non-claims-based primary care spending and total medical spending.

In 2017, Oregon enacted legislation that establishes primary care spending requirements for health coverage programs under the state's jurisdiction. The law requires the Medicaid CCOs to spend at least 12% of their total expenditures for physical and mental health services (excluding prescription drugs, vision, and dental care expenditures) on primary care services by 2023. If a CCO spends less than that amount, it will need to document how it will increase its primary care spending by at least one percent annually. The law also requires health insurers to meet the 12% spending threshold, and the public employee board is required to meet the same spending threshold through its health benefit plans.

Opportunities for Further Research

This research has shown the importance of precisely defining primary care spending, because different definitions can produce different estimates from the same underlying claims data. We found that calculating primary care spending by commercial health insurers was feasible. However, such data collection was difficult under a voluntary reporting model and was especially challenging for non-FFS payment models.

Additional research should consider the following questions:

1. How might generating primary care spending estimates be partially or fully automated to facilitate wider measurement participation and decrease administrative demands on health insurers?
2. Would the same variation in primary care spending percentage persist with a larger sample of health insurers? If so, what accounts for the significant observed variation in the percentages of commercial insurer spending targeted to primary care? How much

of the observed variation is due to measurement error, rather than variation in the true spending ratios?

3. What are the non-primary care services (i.e., non-E&M, non-preventive services) that account for a substantial proportion of total FFS billing by primary care providers?[25]
4. How do the findings differ for Medicaid and Medicare populations?
5. Are there viable methods for measuring percentage of spending dedicated to primary care when insurers and other payers are paying health systems global capitation rates that are inclusive of primary care and other services?
6. How will the distribution of primary care payments and the level of payment change as primary care payment models change and ACOs grow?
7. Does the share of primary care spending correlate with quality, cost, and provider satisfaction outcomes?

Finally, there is the practical question of who should apply and report a standardized measure of the percentage of medical spending dedicated to primary care if such a measure is indeed adopted.

We believe that the adoption and widespread application of a measure of primary care spending as a percentage of total medical spending will provide valuable information and focus to ensure a sound primary care foundation for the delivery system. While the total amount or fraction of money devoted to primary care in no way guarantees the provision of efficient and effective primary care in particular, or medical care in general, it might be an important marker of the extent to which a health care payer, a delivery system, or a geographic community is achieving these goals. With further development and validation, these measures of primary care spending could serve as the basis for national benchmarks and public policies seeking to orient health systems more strongly toward primary care.

Appendix A

Expert Panel Members

The panel members' affiliation at the time of review is listed.

Melinda Abrams	The Commonwealth Fund
Christine Bechtel	Bechtel Health Advisory Group
Louise Cohen	Primary Care Development Corporation
Shari Erickson	American College of Physicians
Rebecca Etz	Virginia Commonwealth University
Kevin Grumbach	University of California, San Francisco
Daniel Lowenstein	Primary Care Development Corporation
Shawn Martin	American Academy of Family Physicians
Len Nichols	George Mason University
Marci Nielsen	Patient-Centered Primary Care Collaborative
John O'Brien	CareFirst, Inc.
Diane Padden	American Association of Nurse Practitioners
Steven Peskin	Horizon Blue Cross Blue Shield of New Jersey
Bob Phillips	American Board of Family Medicine
Julie Schilz	Anthem, Inc.
Eric Schneider	The Commonwealth Fund

Appendix B

Primary Care Spending Study Technical Specifications

Part I: Identify Primary Care Providers (PCP).

- Find PCP identifiers in provider file.
  - Send list of specialty codes to RAND Corporation.
  - RAND identifies PCP-1 specialty codes: family medicine, general internal medicine, general pediatrics, general practice.
  - RAND identifies PCP-2 specialty codes: family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), and physician assistant (PA).
  - RAND identifies PCP-3 specialty codes: family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, and gynecology.
  - PCP designation flag (i.e., health plan has designated this provider as a PCP).
    - In general, we expect PCP flags to be present in health maintenance organization (HMO) products. Carry any PCP flags in HMO products over to preferred provider organization (PPO) products so that the same PCP flag status is applied to a given provider across all products.
- Identify primarily inpatient providers in adjudicated medical claims file.
  - Send list of site-of-service codes to RAND.
  - RAND identifies all site-of-service codes corresponding to "inpatient" or "other" settings.
  - For each claim line, attach designation "inpatient site" or "other site" based on RAND designation corresponding to site-of-service.
  - Perform classification check.
    - Identify "inpatient service" claims as Healthcare Common Procedure Coding System (HCPCS) in 99221, 99222, 99223, 99231, 99232-99233, 99234, 99235, 99236, 99238-99239.
    - Identify "outpatient service" claims as HCPCS in 9920x, 9921x, 9924x, 99341-99345, 99347-99350, 99381-99387, 99391-99397, 99401-99404, 99411-99412, G0402, G0438, G0439.
    - Populate this table and send to RAND:

% of adjudicated claims	Inpatient site	Other site
Inpatient service		
Outpatient service		

    - If >95% of adjudicated claims are in the shaded cells, proceed to next step.

- For each provider, calculate in the adjudicated claims.
  - Total allowed amounts in 2013 and 2014 in "inpatient site."
  - Total allowed amounts in 2013 and 2014 in "other site."
- For each provider, apply "inpatient provider" flag if total "inpatient site" allowed amount / (total "inpatient site" allowed amount + total "other site" allowed amount) >0.90.
- Merge new "inpatient provider" variable into provider file.

- Complete PCP identification in provider file.
  - Apply "PCP-A" flag if specialty code = "PCP-1" and PCP designation flag is present and "inpatient provider" flag is not present.
  - Apply "PCP-B" flag if specialty code = "PCP-2" and PCP designation flag is present and "inpatient provider" flag is not present.
  - Apply "PCP-C" flag if specialty code = "PCP-3" and PCP designation flag is present and "inpatient provider" flag is not present.
  - Apply "PCP-D" flag if PCP designation flag is present and "inpatient provider" flag is not present, regardless of specialty code.

Part II: Identify Members and Member Characteristics.

- Identify members and product and demographic variables.
  - Include only members for whom your plan is the primary insurance.
  - Identify and include all HMO and point-of-service (POS) members who were in the plan for one month or more in calendar year 2013 and who were 64 years of age or younger in 2013.
  - For each of these members, create a variable that counts the number of months in 2013 in which the member was enrolled (range: 1 to 12).
  - Apply a "prescription drug carve-out" flag if there is a prescription drug carve-out or if prescription drug claims data are otherwise unavailable.
  - Apply a "mental health carve-out" flag if there is a mental health carve-out or if mental health claims data are otherwise unavailable.
  - Include a variable indicating member sex.
  - Create a variable indicating member age category in 2013: 18 years or younger; 19-24; 25-34; 35-44; 45-54; 55-64.
  - Repeat above steps for HMO/POS members in 2014.
  - Repeat above steps for PPO members in 2013.
  - Repeat above steps for PPO members in 2014.

- Create chronic condition flags.
  - For each member in each year, apply the following comorbidity flags (two separate variables):
    - Presence of diabetes mellitus (type 1 or type 2)
    - Presence of asthma
  - If a chronic condition flag is present for a given member in 2013 but not present in 2014, please let 2013 *overwrite* 2014 (i.e., assume the chronic condition did not resolve between 2013 and 2014).

Part III: Identify Primary Care Services and Calculate Spending.

- Identify primary care services.
  - In adjudicated medical claims file, create a variable that flags all claim lines as "primary care services" for which the following HCPCS codes are present: 9920x, 9921x, 9924x, 99339-99340, 99341-99345, 99347-99350, 99381-99387, 99391-99397, 99401-99404, 99411-99412, 99420-99429, 99495, 99496, G0402, G0438, G0439.
  - Calculate the number (i.e., count) of primary care services (including a maximum of one per day per provider) for each member in 2013.
    - To any provider
    - To PCP-A providers
    - To PCP-B providers
    - To PCP-C providers
    - To PCP-D providers

- Calculate denominator spending (*allowed amounts*).
  - For each member identified above, calculate the following when there are *no* carve-outs:
    - Total medical spending* in 2013
    - Total medical spending + prescription drug spending in 2013
    - Total medical spending in 2014
    - Total medical spending + prescription drug spending in 2014
  - For each member identified above, calculate the following when there is a *prescription drug* carve-out:
    - Total medical spending in 2013
    - Total medical spending in 2014
  - For each member identified above, calculate the following when there is a mental health (MH) carve-out:
    - Total medical spending (MH carve-out) in 2013
    - Total medical spending (MH carve-out) + prescription drug spending in 2013
    - Total medical spending (MH carve-out) in 2014
    - Total medical spending (MH carve-out) + prescription drug spending in 2014

*Include fee-for-service and non-fee-for-service payments in the denominator.

- Calculate numerator spending.
  - For each member identified above, calculate:
    - PCP-A-all-2013 spending = total allowed amounts paid to PCP-A providers in 2013
    - PCP-A-all-2014 spending = total allowed amounts paid to PCP-A providers in 2014
    - PCP-B-all-2013 spending = total allowed amounts paid to PCP-B providers in 2013
    - PCP-B-all-2014 spending = total allowed amounts paid to PCP-B providers in 2014
    - PCP-C-all-2013 spending = total allowed amounts paid to PCP-C providers in 2013
    - PCP-C-all-2014 spending = total allowed amounts paid to PCP-C providers in 2014
    - PCP-D-all-2013 spending = total allowed amounts paid to PCP-D providers in 2013
    - PCP-D-all-2014 spending = total allowed amounts paid to PCP-D providers in 2014
  - For each member identified above, calculate:
    - PCP-A-PCS-2013 spending = total allowed amounts paid to PCP-A providers in 2013 for primary care services only
    - PCP-A-PCS-2014 spending = total allowed amounts paid to PCP-A providers in 2014 for primary care services only
    - PCP-B-PCS-2013 spending = total allowed amounts paid to PCP-B providers in 2013 for primary care services only
    - PCP-B-PCS-2014 spending = total allowed amounts paid to PCP-B providers in 2014 for primary care services only
    - PCP-C-PCS-2013 spending = total allowed amounts paid to PCP-C providers in 2013 for primary care services only
    - PCP-C-PCS-2014 spending = total allowed amounts paid to PCP-C providers in 2014 for primary care services only
    - PCP-D-PCS-2013 spending = total allowed amounts paid to PCP-D providers in 2013 for primary care services only
    - PCP-D-PCS-2014 spending = total allowed amounts paid to PCP-D providers in 2014 for primary care services only

Part IV: Create Aggregated Output File.

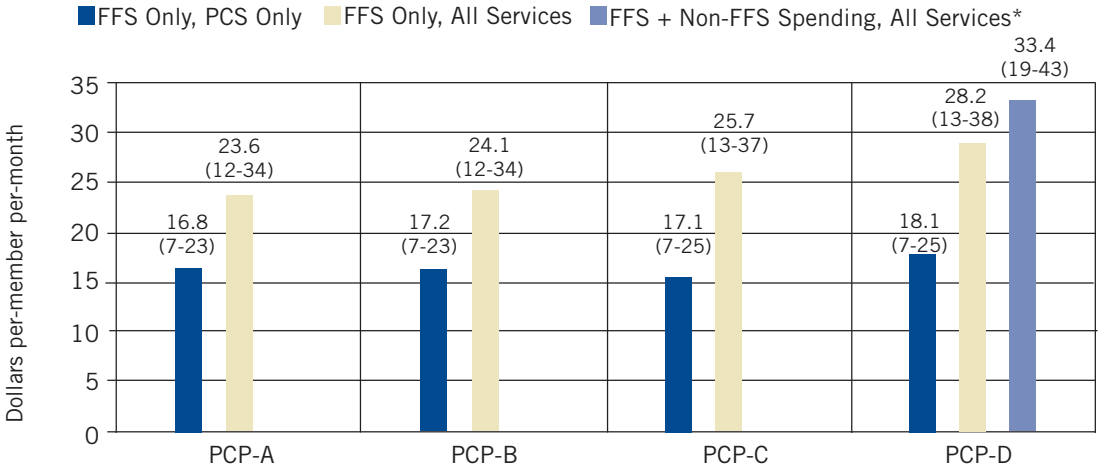
- Calculate monthly spending and utilization.
  - For each member, divide each 2013 denominator and numerator cost by the number of months the member was enrolled in 2013.
    - Repeat for 2014.
  - For each member, divide each 2013 count of primary care services by the number of months the member was enrolled in 2013.
    - Repeat for 2014.
  - Take the mean of each of the above figures, weighing all member-months equally, among 2013 HMO/POS members with no carve-outs, in each of the following subsets:
    - All members
    - Sex categories (women and men)
    - Age categories
    - Chronic condition categories
      - Among members with diabetes
      - Among members with asthma
  - Repeat the previous step for:
    - 2013 HMO/POS members with prescription drug carve-out
    - 2013 HMO/POS members with mental health carve-out
    - 2014 HMO/POS members with no carve-outs
    - 2014 HMO/POS members with prescription drug carve-out
    - 2014 HMO/POS members with mental health carve-out
    - 2013 PPO members with no carve-outs
    - 2013 PPO members with prescription drug carve-out
    - 2013 PPO members with mental health carve-out
    - 2014 PPO members with no carve-outs
    - 2014 PPO members with prescription drug carve-out
    - 2014 PPO members with mental health carve-out

Appendix C

Results for 2014

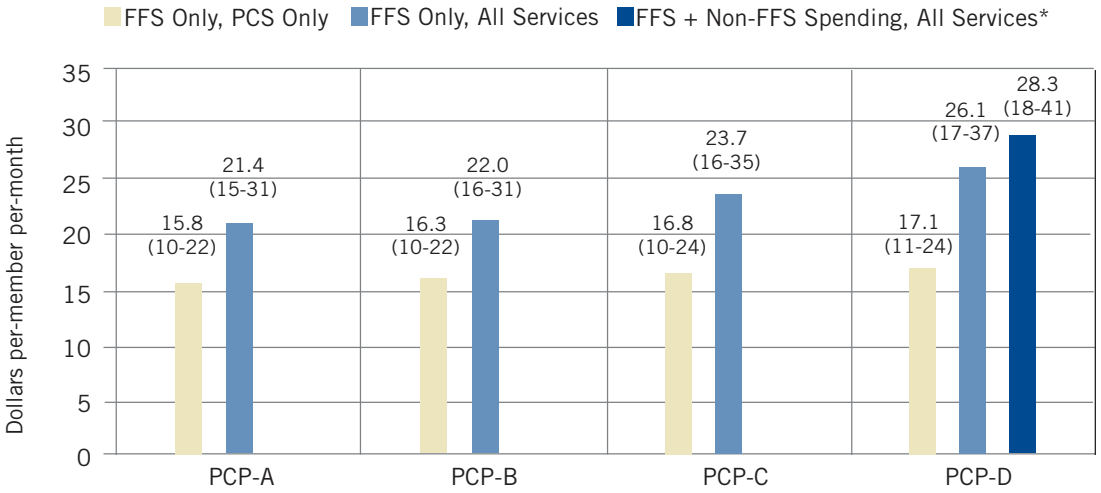
Figure C1. Per-Member Per-Month Primary Care Spending in Dollars, Among All Patients in 2014, Mean (Range), HMO and PPO

Per-Member Per-Month Primary Care Spending in Dollars, Among HMO Patients in 2014, Mean (Range)



Abbreviations: FFS, fee-for-service; HMO, health maintenance organization; PCP, primary care provider: PCS, primary care services (definition 4); service type "all" corresponds to definition 1; PCP-A, family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP; PCP-B, family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), or physician assistant *and* designated by health insurer as a PCP; PCP-C, family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP; PCP-D, designated by health insurer as a PCP (no specialty requirement).

Per-Member Per-Month Primary Care Spending in Dollars, Among PPO Patients in 2014, Mean (Range)



Abbreviations: FFS, fee-for-service; PCP, primary care provider; PCS, primary care services (definition 4); service type "all" corresponds to definition 1; PPO, preferred provider organization PCP-A, family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP; PCP-B, family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), or physician assistant (PA) *and* designated by health insurer as a PCP; PCP-C, family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP; PCP-D, designated by health insurer as a PCP (no specialty requirement).

* For most insurers, non-FFS payments cannot be subdivided by PCP specialty and are therefore only available for PCP-D (which does not rely on

specialty).

Table C1. Primary Care Spending Among All Patients in 2014 as a Percentage of Total Medical + Prescription Drug Spending, Mean (Range)

Payment Type	Product Type	Service Type	PCP-A	PCP-B	PCP-C	PCP-D
FFS	HMO	PCS only	4.5 (1.8-6.2)	4.6 (1.8-6.2)	4.7 (1.8-6.2)	4.8 (1.8-6.6)
FFS	PPO	PCS only	4.3 (3.0-5.4)	4.4 (3.1-5.4)	4.5 (3.1-5.8)	4.6 (3.4-5.8)
FFS	HMO	all	6.3 (3.1-9.2)	6.5 (3.1-9.2)	6.8 (3.1-9.2)	7.6 (3.1-12.5)
FFS	PPO	all	5.8 (4.5-7.6)	6.0 (4.6-7.6)	6.4 (4.6-8.6)	7.1 (4.9-11.1)
FFS + other	HMO	all	NA*	NA	NA	8.6 (4.8-14.2)
FFS + other	PPO	all	NA	NA	NA	7.7 (5.4-12.4)

Abbreviations: FFS, fee-for-service; HMO, health maintenance organization; PCP, primary care provider; PCS, primary care services (definition 4); service type "all" corresponds to definition 1; PPO, preferred provider organization; PCP-A, family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP; PCP-B, family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), or physician assistant (PA) *and* designated by health insurer as a PCP; PCP-C, family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP; PCP-D, designated by health insurer as a PCP (no specialty requirement).
* For most insurers, non-FFS payments cannot be subdivided by PCP type.

Table C2. Per-Member Per-Month FFS + Other Primary Care Spending, in Dollars, by Patient Subset, Among HMO Members in 2014, Mean (Range)*

Patient Characteristic		PCP-A (FFS)	PCP-B (FFS)	PCP-C (FFS)	PCP-D (FFS + other)
Sex					
	Female	24.8 (14-35)	25.5 (14-35)	28.7 (14-44)	31.3 (14-44)
	Male	22.2 (11-34)	22.7 (11-34)	22.8 (11-34)	25.4 (11-38)
Comorbidity					
	All patients	23.6 (12-34)	24.1 (12-34)	25.7 (13-37)	33.4 (19-43)
	Diabetes	33.8 (21-45)	34.6 (31-45)	36.0 (32-51)	42.6 (34-58)
	Asthma	32.6 (31-55)	33.3 (31-55)	34.6 (31-57)	39.0 (34-62)
Age					
	18 or younger	33.0 (17-45)	33.3 (17-45)	33.6 (18-45)	37.6 (24-45)
	19-24	14.0 (6-24)	14.6 (6-24)	16.4 (7-27)	20.8 (13-31)
	25-34	15.3 (7-22)	15.9 (7-22)	20.2 (7-42)	25.8 (14-48)
	35-44	18.4 (9-23)	19.0 (9-23)	21.3 (9-34)	27.0 (16-40)
	45-54	22.2 (13-29)	22.8 (13-29)	24.2 (13-35)	32.6 (19-58)
	55-64	26.9 (17-36)	27.6 (17-36)	28.5 (17-40)	37.8 (24-59)

Abbreviations: FFS, fee-for-service; PPO, preferred provider organization; PCP, primary care provider PCP-A, family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP; PCP-B, family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), or physician assistant (PA) *and* designated by health insurer as a PCP; PCP-C, family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP; PCP-D, designated by health insurer as a PCP (no specialty requirement).

* This table corresponds to definition 1, all service types.

Table C3. Per-Member Per-Month FFS + Other Primary Care Spending, as a Percentage of Total Medical + Prescription Drug Spending, by Patient Subset, Among HMO Members in 2014, Mean (Range)*

Patient Characteristic		PCP-A (FFS)	PCP-B (FFS)	PCP-C (FFS)	PCP-D (FFS + other)**
Sex					
	Female	5.7 (3.1-7.2)	5.9 (3.0-7.2)	6.7 (3.1-9.8)	8.2 (4.5-13.0)
	Male	6.3 (3.2-7.6)	6.5 (3.2-7.6)	6.5 (3.2-7.6)	8.4 (5.2-15.6)
Comorbidity					
	All patients	6.3 (3.1-9.2)	6.5 (3.1-9.2)	6.8 (3.1-9.2)	8.6 (4.8-14.2)
	Diabetes	3.5 (1.7-5.7)	3.5 (1.7-5.7)	3.6 (1.7-5.7)	5.0 (2.2-12.9)
	Asthma	5.6 (2.7-9.5)	5.7 (2.7-9.5)	6.8 (2.7-9.5)	6.9 (3.6-12.8)
Age					
	18 or younger	16.9 (8-24)	17.0 (8-24)	17.2 (8-24)	18.3 (11-22)
	19-24	6.4 (3-9)	6.7 (3-9)	7.5 (3-12)	9.4 (5-15)
	25-34	4.8 (2-7)	5.0 (2-7)	6.3 (2-11)	7.8 (4-13)
	35-44	5.0 (2-7)	5.2 (2-7)	5.7 (2-7)	7.0 (4-13)
	45-54	4.8 (3-7)	5.0 (3-7)	5.3 (3-7)	6.9 (4-15)
	55-64	4.2 (2-6)	4.2 (2-6)	4.4 (2-6)	5.9 (3-14)

Abbreviations: FFS, fee-for-service; HMO, health maintenance organization; PCP, primary care provider; PCP-A, family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP; PCP-B, family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), or physician assistant (PA) *and* designated by health insurer as a PCP; PCP-C, family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP; PCP-D, designated by health insurer as a PCP (no specialty requirement).
* This table corresponds to definition 1, all service types.
** The FFS + other figures do not include the insurer that made non-FFS primary care payment but did not report them to us.

In addition to the preceding calculations, we requested data on the percentage of primary care services (defined in the note below Table C4) that were *delivered by primary care providers*, using each definition of PCP. As shown in Table C4, mean rates of primary care service utilization among HMO members ranged from 0.17 to 0.18 services per-member per-month as the PCP definition ranged from PCP-A (narrowest) to PCP-D (broadest).

Table C4. Rates of Primary Care Service Utilization Delivered by Each Definition of PCP Per-Member Per-Month in 2014, Mean (Range)*

Product Type	PCP-A	PCP-B	PCP-C	PCP-D
HMO	0.17 (0.06-0.25)	0.17 (0.06-0.25)	0.18 (0.06-0.26)	0.18 (0.06-0.26)
PPO	0.16 (0.12-0.27)	0.16 (0.12-0.27)	0.17 (0.12-0.28)	0.17 (0.12-0.28)

*Abbreviations: HMO, health maintenance organization; PCP, primary care provider; PPO, preferred provider organization; PCP-A, family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP; PCP-B, family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), or physician assistant (PA) and designated by health insurer as a PCP; PCP-C, family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP; PCP-D, designated by health insurer as a PCP (no specialty requirement).
Primary care service utilization is the count of fee-for-service claims for any of the following Healthcare Common Procedure Coding System (HCPCS) codes: 9920x, 9921x, 9924x, 99381-99387, 99391-99397, 99401-99404, 99411-99412, 99420-99429, 99339-99340, 99341-99345, 99347-99350, 99495, 99496, G0402, G0438, G0439.

Primary care services also can be measured without regard to provider type (i.e., following definition 3 of primary care spending, which counts primary care services *provided by anyone as primary care*). The ratio of primary care services provided by PCPs to primary care services provided by anyone is another potential marker of primary care orientation—and one that is not as sensitive to prices as spending data might be. Table C5 shows that this ratio ranged from mean 52% to 56% as the PCP definition ranged from PCP-A (narrowest) to PCP-D (broadest).

Table C5. Primary Care Service Utilization Delivered by Each Definition of Primary Care Provider, as a Percentage of "Primary Care Utilization" Delivered by All Providers (Including Subspecialists) in 2014, Mean (Range)*

Year	Product Type	PCP-A	PCP-B	PCP-C	PCP-D
2014	HMO	52 (21-79)	53 (21-80)	55 (21-81)	56 (23-89)
2014	PPO	51 (21-74)	52 (21-74)	54 (21-75)	55 (22-82)

Abbreviations: HMO, health maintenance organization; PCP, primary care provider; PPO, preferred provider organization; PCP-A, family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP; PCP-B, family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), or physician assistant (PA) *and* designated by health insurer as a PCP; PCP-C, family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP; PCP-D, designated by health insurer as a PCP (no specialty requirement).
* This table uses definition 3 for primary care spending: all office visits and preventive services (e.g., immunizations), regardless of provider. This is a broader definition than used in the preceding tables. Primary care service utilization is the count of fee-for-service claims for any of the following Healthcare Common Procedure Coding System (HCPCS) codes: 9920x, 9921x, 9924x, 99339, 99340, 99341-99345, 99347-99350, 99381-99387, 99391-99397, 99401-99404, 99411, 99412, 99420-99429, 99495, 99496, G0402, G0438, G0439.

Appendix D

Results for 2013 and 2014

Table D1. Per-Member Per-Month Primary Care Spending in Dollars, Among All Patients, Mean (Range)

Year	Payment Type	Product Type	Service Type	PCP-A	PCP-B	PCP-C	PCP-D
2013	FFS	HMO	PCS only	17.5 (10-23)	17.9 (11-23)	18.4 (11-24)	18.9 (11-24)
2013	FFS	PPO	PCS only	15.9 (11-21)	16.4 (11-21)	16.9 (11-23)	17.3 (13-23)
2014	FFS	HMO	PCS only	16.8 (7-23)	17.2 (7-23)	17.7 (7-25)	18.1 (7-25)
2014	FFS	PPO	PCS only	15.8 (10-22)	16.3 (10-22)	16.8 (10-24)	17.1 (11-24)
2013	FFS	HMO	all	24.1 (16-35)	24.6 (16-35)	26.1 (16-37)	29.0 (16-49)
2013	FFS	PPO	all	21.5 (15-30)	22.1 (16-30)	23.9 (16-34)	26.0 (17-35)
2014	FFS	HMO	all	23.6 (12-34)	24.1 (12-34)	25.7 (13-37)	28.2 (13-38)
2014	FFS	PPO	all	21.4 (15-31)	22.0 (16-31)	23.7 (16-35)	26.1 (17-37)
2013	FFS + other	HMO	all	NA*	NA	NA	33.6 (23-55)
2013	FFS + other	PPO	all	NA	NA	NA	27.8 (18-39)
2014	FFS + other	HMO	all	NA	NA	NA	33.4 (19-43)
2014	FFS + other	PPO	all	NA	NA	NA	28.3 (18-41)

Abbreviations: FFS, fee-for-service; HMO, health maintenance organization; PCP, primary care provider; PCS, primary care services (definition 4); service type "all" corresponds to definition 1; PPO, preferred provider organization; PCP-A, family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP; PCP-B, family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), or physician assistant (PA) *and* designated by health insurer as a PCP; PCP-C, family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP; PCP-D, designated by health insurer as a PCP (no specialty requirement).

* For most insurers, non-FFS payments cannot be subdivided by PCP type.

Table D2. Primary Care Spending Among All Patients as a Percentage of Total Medical + Prescription Drug Spending, Mean (Range)

Year	Payment Type	Product Type	Service Type	PCP-A	PCP-B	PCP-C	PCP-D
2013	FFS	HMO	PCS only	4.9 (3.0-6.7)	5.0 (3.0-6.7)	5.1 (3.0-6.9)	5.2 (3.0-7.0)
2013	FFS	PPO	PCS only	4.5 (3.6-5.7)	4.7 (3.6-5.7)	4.8 (3.7-6.0)	4.9 (4.1-6.0)
2014	FFS	HMO	PCS only	4.5 (1.8-6.2)	4.6 (1.8-6.2)	4.7 (1.8-6.2)	4.8 (1.8-6.6)
2014	FFS	PPO	PCS only	4.3 (3.0-5.4)	4.4 (3.1-5.4)	4.5 (3.1-5.8)	4.6 (3.4-5.8)
2013	FFS	HMO	all	6.7 (4.4-9.0)	6.9 (4.4-9.0)	7.3 (4.4-9.6)	8.0 (4.4-12.2)
2013	FFS	PPO	all	6.2 (4.7-8.3)	6.3 (4.7-8.3)	6.8 (4.7-9.3)	7.5 (5.0-11.6)
2014	FFS	HMO	all	6.3 (3.1-9.2)	6.5 (3.1-9.2)	6.8 (3.1-9.2)	7.6 (3.1-12.5)
2014	FFS	PPO	all	5.8 (4.5-7.6)	6.0 (4.6-7.6)	6.4 (4.6-8.6)	7.1 (4.9-11.1)
2013	FFS + other	HMO	all	NA*	NA	NA	8.9 (6.4-13.7)
2013	FFS + other	PPO	all	NA	NA	NA	8.0 (5.5-12.8)
2014	FFS + other	HMO	all	NA	NA	NA	8.6 (4.8-14.2)
2014	FFS + other	PPO	all	NA	NA	NA	7.7 (5.4-12.4)

Abbreviations: FFS, fee-for-service; HMO, health maintenance organization; PCP, primary care provider; PCS, primary care services (definition 4); service type "all" corresponds to definition 1; PPO, preferred provider organization; PCP-A, family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP; PCP-B, family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), or physician assistant (PA) *and* designated by health insurer as a PCP; PCP-C, family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP; PCP-D, designated by health insurer as a PCP (no specialty requirement).
* For most insurers, non-FFS payments cannot be subdivided by PCP type.

Table D3. Rates of Primary Care Service Utilization Delivered by Each Definition of PCP Per-Member Per-Month, Mean (Range)*

Year	Product Type	PCP-A	PCP-B	PCP-C	PCP-D
2013	HMO	0.18 (0.10-0.26)	0.19 (0.10-0.26)	0.19 (0.10-0.27)	0.20 (0.10-0.27)
2013	PPO	0.16 (0.12-0.26)	0.17 (0.12-0.27)	0.18 (0.12-0.28)	0.18 (0.13-0.28)
2014	HMO	0.17 (0.06-0.25)	0.17 (0.06-0.25)	0.18 (0.06-0.26)	0.18 (0.06-0.26)
2014	PPO	0.16 (0.12-0.27)	0.16 (0.12-0.27)	0.17 (0.12-0.28)	0.17 (0.12-0.28)

Abbreviations: HMO, health maintenance organization; PCP, primary care provider; PPO, preferred provider organization; PCP-A, family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP; PCP-B, family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), or physician assistant (PA) *and* designated by health insurer as a PCP; PCP-C, family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP; PCP-D, designated by health insurer as a PCP (no specialty requirement).
* Primary care service utilization is the count of fee-for-service claims for any of the following Healthcare Common Procedure Coding System (HCPCS) codes: 9920x, 9921x, 9924x, 99339-99340, 99341-99345, 99347-99350, 99381-99387, 99391-99397, 99401-99404, 99411-99412, 99420-99429, 99495, 99496, G0402, G0438, G0439.

Table D4. Primary Care Service Utilization Delivered by Each Definition of Primary Care Provider, as a Percentage of Primary Care Utilization Delivered by All Providers (Including Subspecialists), Mean (Range)*

Year	Product Type	PCP-A	PCP-B	PCP-C	PCP-D
2013	HMO	53 (22-79)	54 (22-80)	56 (22-80)	57 (23-89)
2013	PPO	51 (22-74)	53 (23-75)	54 (23-75)	56 (24-82)
2014	HMO	52 (21-79)	53 (21-80)	55 (21-81)	56 (23-89)
2014	PPO	51 (21-74)	52 (21-74)	54 (21-75)	55 (22-82)

Abbreviations: HMO, health maintenance organization; PCP, primary care provider; PPO, preferred provider organization; PCP-A, family medicine, general internal medicine, general pediatrics, or general practice *and* designated by health insurer as a PCP; PCP-B, family medicine, general internal medicine, general pediatrics, general practice, nurse practitioner (NP), or physician assistant (PA) *and* designated by health insurer as a PCP; PCP-C, family medicine, general internal medicine, general pediatrics, general practice, NP, PA, geriatrics, adolescent medicine, or gynecology *and* designated by health insurer as a PCP; PCP-D, designated by health insurer as a PCP (no specialty requirement).

* This table uses definition 3 for primary care spending: all office visits and preventive services (e.g., immunizations), regardless of provider. This is a broader definition than used in the preceding tables. Primary care service utilization is the count of fee-for-service claims for any of the following Healthcare Common Procedure Coding System (HCPCS) codes: 9920x, 9921x, 9924x, 99339-99340, 99341-99345, 99347-99350, 99381-99387, 99391-99397, 99401-99404, 99411-99412, 99420-99429, 99495, 99496, G0402, G0438, G0439.

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[25] These non–primary care services create the differences between spending on "primary care services only" and "all services" displayed in Figure 3.

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