

New Models of Primary Care Workforce and Financing

Costs Associated with High Quality Comprehensive Primary Care

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Table of Contents

Introduction.....3

Identifying promising primary care practice team models.....4

Estimating primary care team costs.....6

How do these costs compare to current models?8

Using these models to plan and pay for high quality comprehensive primary care.....8

Conclusion9



Introduction

Primary care in the U.S. is under tremendous strain. It is characterized by lower compensation than for medical specialties, a fee-for-service payment model that motivates high volumes of brief patient visits, a patient population increasingly with chronic illness, and heightened demands for performance transparency and accountability.^{1,2} These factors have resulted in forecasts of shortages.³ Yet, simultaneously, there is heightened national awareness of the central role of primary care in improving population health and managing cost growth, recognizing that high quality primary care produces better outcomes and lower costs.⁴

In this context, health care provider organizations, payers and policy makers need to identify preferred and sustainable primary care workforce models that draw on available knowledge to ensure access to high quality, cost-efficient health care that is to the satisfaction of patients and providers. These models should empower the practice to deliver comprehensive and patient-centered care. Further, it is necessary to know how much these models are likely to cost employers, government payers and health insurers so that purchasers and payers understand the financial implications of these preferred approaches. To address this need, the Agency for Healthcare Research and Quality (AHRQ) funded Abt Associates and its partners, the MacColl Center for Health Care Innovation and Bailit Health Purchasing, LLC, to develop primary care workforce models for primary care practices that serve four types of patient populations, and estimate the associated costs. The results of this study were published in the *Journal of General Internal Medicine*, with extensive supplemental materials presented on the *JGIM* website.⁵ This brief intends to further explain the cost estimates and offer an interactive cost tool so that a user can change some staffing and cost assumptions that may align more closely to a specific primary care practice and re-calculate the costs.

¹ Ault A. "US Primary Care System Under Strain, Survey Shows." Medscape. December 8, 2015; www.medscape.com/viewarticle/855580. Accessed June 24, 2016.

² Porter ME, Pabo EA, & Lee TH. "Redesigning Primary Care: A Strategic Vision to Improve Value by Organizing Around Patients' Needs." *Health Affairs*. 2013; 32(3): 516-525.

³ IHS Inc. The Complexities of Physician Supply and Demand: Projections from 2013 to 2025. Prepared for the Association of American Medical Colleges. Washington, DC: Association of American Medical Colleges; 2015.

⁴ Whelan EM & Russell L. Better Health Care at Lower Costs: Why Health Care Reform Will Drive Better Models of Health Care Delivery. Washington, DC: Center for American Progress. March 2010.

⁵ For more information on the primary care workforce models, please see: Meyers D, LeRoy L, Bailit M, Schaefer J, Wagner E, & Zhan C. "Workforce Configurations to Provide High-Quality, Comprehensive Primary Care: a Mixed-Method Expansion of Staffing for Four Types of Primary Care Practices." *Journal of General Internal Medicine*. 2018.

Identifying promising primary care practice team models

We sought to identify the mix of personnel that would best deliver high quality, comprehensive primary care to a primarily adult population. To identify the most promising primary care practice team models, we reviewed published studies on the topic, conducted eight practice case studies of our own and consulted with a panel of experts. We focused on defining what functions met the team’s definition of “high quality and comprehensive care.”⁶ We then identified which personnel performed these practice functions.⁷ This led to identification of four models geared towards different patient populations. We believe these models will deliver better than “standard care” because of their configuration (including the number, type and mix of primary care team staff) and the size of their panels (smaller than standard care). The four models are as follows:

1. Average Adult Population
2. High Geriatric and/or High Multiple Chronic Conditions Population
3. Rural Population
4. High Social Need (Low Income) Population

We identified different practice team models for these varied populations in recognition that some patient groups have heightened medical and/or social service needs, and that labor scarcity limits workforce options in some communities. For all populations but the rural population practice, we assumed 10,000 active patients⁸ for modeling purposes only. We assumed 5,000 active patients for the rural practice.

There are some important characteristics of these models that are worth noting:

- Nurse practitioners and physician assistants assume principal responsibility for the care of a group of patients alongside physicians.
- Behavioral health providers are integrated members of the primary care team, as is a pharmacist.
- Clerks, medical assistants and nurses all assume specific functional responsibilities as members of the team.
- Practices with a preponderance of patients with high medical and/or social needs have additional team members (i.e., community health workers, patient navigators) to perform specialized roles, as well as larger numbers of staff per patient.

The resulting practice team models are described below:

⁶ For more information on the definition of “high quality and comprehensive care,” please see: Agency for Healthcare Research and Quality. “Redefining Primary Care for the 21st Century.” Rockville, MD. October 2016.

⁷ For more detail on the definitions of each of the practice functions, see “Workforce Configurations to Provide High-Quality, Comprehensive Primary Care”, *op. cit.*

⁸ An “active patient” is someone seen by the primary care practice in the past 12 months.

Practice Function	Average Adult Population	High Geriatric and/or High Multiple Chronic Conditions Population
Planned, Evidence-Based Care (PCP)	8.0 (6.0 MD/DO & 2.0 NP/PA)	12.0 (8.0 MD/DO & 4.0 NP/PA)
Planned, Evidence-Based Care (RN or LPN/LVN)	1.5 (1.0 RN & 0.5 LPN/LVN)	1.5 RN
Planned, Evidence-Based Care (MA or LPN/LVN)	9.0 MA	12.0 MA
Complex Care Management/ Transition Management	2.5 RN	3.5 RN
Behavioral Health Integration	2.5 (1.5 LCSW & 1.0 Master's-level Therapist)	3.0 LCSW
Medication Therapy Management	1.0 Pharmacist	2.0 (1.0 Pharmacist & 1.0 Pharmacy Assistant)
Care Coordination/ Referral Management	2.0 (1.0 MA & 1.0 Layperson)	4.0 (2.0 MA, 1.0 Layperson & 1.0 Pt. Navigator)
Self-Management Support	1.5 (1.0 MA & 0.5 RN)	2.5 (1.5 RN & 1.0 MA)
Community Linkages	Performed by other staff in the model.	Performed by other staff in the model.
Population Management	0.5 RN	0.5 RN
Front Desk Administration - Reception, Intake	8.0 Clerk	11.0 Clerk
Quality Improvement and Optimizing HIT	0.3 MD/DO	0.3 MD/DO
Total FTE Count	36.8	52.3

Practice Function	High Social Need Population	Rural Population
Planned, Evidence-Based Care (PCP)	10.0 (5.0 MD/DO & 5.0 NP/PA)	4.0 (2.0 MD/DO & 2.0 NP/PA)
Planned, Evidence-Based Care (RN or LPN/LVN)	2.5 RN	1.0 LPN/LVN
Planned, Evidence-Based Care (MA or LPN/LVN)	10.0 MA	6.0 MA
Complex Care Management/ Transition Management	3.0 RN	1.5 RN
Behavioral Health Integration	4.0 (2.0 LCSW, 1.0 PhD-level Psychologist, & 1.0 Substance Abuse Counselor)	1.75 LCSW

Practice Function	High Social Need Population	Rural Population
Medication Therapy Management	2.0 (1.0 Pharmacist & 1.0 Pharmacy Assistant)	0.5 Pharmacist
Care Coordination/ Referral Management	4.0 (2.0 MA/Laypersons & 2.0 Pt. Navigators)	1.0 MA/Layperson
Self-Management Support	2.0 (1.0 RN & 1.0 MA)	1.0 MA/Layperson
Community Linkages	2.0 Community Health Worker	1.0 Community Health Worker
Population Management	0.5 RN	0.3 RN
Front Desk Administration - Reception, Intake	10.0 Clerk	4.0 Clerk
Quality Improvement and Optimizing HIT	0.3 MD/DO	0.2 MD/DO
Total FTE Count	50.3	22.3

The four models do not account for centralized functions that might support the practice team (e.g., nutritional education services), or any central or contracted administrative functions (e.g., human resources, accounting, etc.).

Estimating primary care team costs

In order to estimate the costs necessary to administer and pay for these workforce models, we estimated labor costs and business operation costs⁹

For labor costs, we obtained salary data for the positions contained in each model using sources including but not limited to the U.S. Bureau of Labor Statistics. Because salaries for common positions vary significantly across the U.S., we selected low, medium and high values from the data sources we utilized whenever available,¹⁰ and imputed them when they were not.¹¹ We tested these salaries with a small sample of provider organizations who judged them to be reasonable. We then added 30% to the salary value to account for the value of employee benefits.^{12, 13}

⁹ For more detail on cost of the models, including the supporting data sources, see “Workforce Configurations to Provide High-Quality, Comprehensive Primary Care”, *op. cit.*

¹⁰ The low value was calculated using the 25th percentile in the national distribution whereas the high value was calculated using the 75th percentile.

¹¹ For more information on the individual costs of the four models, see “Workforce Configurations to Provide High-Quality, Comprehensive Primary Care”, *op. cit.*

¹² 30% of salary was used as the benefit cost, as that was the benefit cost assumption that was used in a study published by Patel et al.

¹³ Salary information was collected in 2015 dollars and brought forward to 2016 dollars using the Employment Cost Index for the fourth quarter of 2015 from the Bureau of Labor Statistics, which captures a 12-month percentage change in total compensation for all civilian workers in the hospital industry. The hospital industry was selected as the best index proxy for primary care labor costs.

For business operations costs, which include any overhead costs,¹⁴ we obtained and modified figures from the Medical Group Management Association’s (MGMA) responding survey population of medical group practices,^{15, 16} and then allocated them based on the number of primary care clinicians (MD/DO/NP/PA) per practice team model.

There are many limitations to the data sources we used. For example, the Bureau of Labor Statistics only reports data for employed physicians, and does not report the value of benefits. In addition, the MGMA data include information reported by physician-owned, hospital-owned and academic groups; small, medium and large-sized practices; practices from across the country; and federally-qualified health centers and rural health clinics. Data are collected through practice-reported surveys and therefore may not be completely representative of the true distribution of practices in the U.S..

Estimated Per Patient Per Month Cost¹⁷				
Cost Component	Average Adult Population	High Geriatric and/or High Multiple Chronic Conditions Population	Rural Population	High Social Need Population
Labor Costs	\$28 (\$25-\$34)	\$40 (\$35-\$47)	\$30 (\$26-\$35)	\$35 (\$30-\$42)
Business Operations Costs	\$16 (\$12-\$23)	\$24 (\$18-\$34)	\$16 (\$12-\$23)	\$20 (\$15-\$29)
Total Costs	\$45 (\$37-\$57)	\$64 (\$53-\$82)	\$46 (\$38-\$58)	\$56 (\$45-\$71)

¹⁴ *Business operations costs* includes general operating costs and business operations staffing costs from MGMA. General operating costs represent the following items (excluding salary costs): Information Technology, Drug Supply, Medical and Surgical Supply, Building and Occupancy, Building Depreciation, Furniture and Equipment, Furniture and Equipment Depreciation, Administrative Supplies Services, Professional Liability Insurance, Other Insurance Premiums, Legal Fees, Consulting Fees, Outside Professional Fees, Promotion and Marketing, Clinical Laboratory Radiology and Imaging, Ancillary Services, Billing and Collections Services, Management Fees Paid to a Management Services Organization, Miscellaneous Operating Cost and Cost Allocated to a Practice from a Parent Organization. Business operations staffing costs pertains to cost for the following positions: General Administrative (which includes non-clinical compensation for a Medical Director), Patient Accounting, General Accounting, Managed Care Administrative, Information Technology, Housekeeping Maintenance and Security.

¹⁵ We used the following two sources from MGMA: (1) MGMA Cost Survey for Primary Care Practices: 2014 Report Based on 2013 Data and (2) MGMA DataDive Cost and Revenue 2015 (based on 2014 survey data). For more information or to see all of MGMA’s benchmarking resources, visit: www.mgma.com/data.

¹⁶ Business operations costs were brought forward to 2016 dollars using the percentage change in general operating costs and business operations staffing costs between 2013 and 2014.

¹⁷ Per Patient Per Month (PPPM) cost is calculated by dividing the yearly cost by 12 months and the number of patients in the practice panel.

How do these costs compare to current models?

In order to test whether the above primary care team cost estimates are reflective of actual practices, we obtained practice cost data from practices with a primary care team workforce comparable to the Average Adult Population model. The obtained information was not directly comparable to the cost data in the table above due to a) inconsistency in how practices defined their patient panels, and b) how they defined their practice teams. Still, it was clear that the model of high quality, comprehensive primary care described in this brief is more expensive than the current cost incurred by and paid to primary care practices, which we estimate to range between \$20 and \$30 Per Patient Per Month based on information obtained from multiple sources.¹⁸

It appears that much of the cost difference is because our model is based on a smaller panel size than is common in the U.S. For the Average Adult Population, we call for eight PCPs per 10,000 patients seen in the past 12 months, resulting in a panel size of 1250 per PCP. Even if our panel definition was adjusted to include not only patients seen in the past 12 months, but the past 18 or 24 months, it would be far smaller than many U.S. primary care panels, for which there are some estimates of an average of 2200 to 2300^{19,20}. In addition, some of the cost difference is due to the more comprehensive staffing of the recommended practice teams relative to most adult primary care practices.

Still, given the small percentage of U.S. health care spending allocated to primary care and likely cost offsets from greater practice resources to attend to those patients with the greatest needs, the net impact of the model may be modest. More importantly, it may be necessary to delivery of high-quality care and to attract future clinicians to primary care.

Using these models to plan and pay for high quality comprehensive primary care

The workforce models described in this brief reflect primary care practice configurations for high quality comprehensive primary care. While there are significant limitations to the cost estimates associated with these models, they provide useful benchmarks based on actual practice costs. The range of costs that we estimate for each of the models

¹⁸ These sources include MGMA-published data, cost data shared by a subset of practices participating in The Primary Care Team: Learning From Effective Ambulatory Practices (LEAP) study, and primary care payment values obtained by the authors from several commercial and Medicaid payers through independent ongoing research and consultative work. Some of these values were for adult primary care, while some were for all primary care, i.e., including pediatrics.

¹⁹ Alexander GC, Kurlander J, Wynia MK. “Physicians in retainer practice (“concierge”) practice. A national survey of physician, patient, and practice characteristics” *J Gen Intern Med.* 2005;20(12):1079–1083.

²⁰ Raffoul et al. argue that “ the traditionally cited primary care panel size of 2500 patients per physician does not seem to be borne out in either study or practice”, and suggest that current primary care panel sizes are actually closer to 1200 to 1900 patients per PCP. Raffoul M, Moore M, Kamerow D and Bazemore A. “A Primary Care Panel Size of 2500 Is neither Accurate nor Reasonable” *J Am Board Fam Med* July-August 2016; 29:496-499.

provides a basis for conversation within provider, purchaser and payer organizations. They also provide a starting point for discussion among such organizations about how to ensure optimal primary care for patient populations.

Provider organizations can ask how the practice team composition and estimated costs compare to their own workforce strategy and cost experience. Purchasers and payers can ask whether their contracted providers are utilizing practice teams configured in the manner recommended by this brief, and compare the estimated costs to what they are currently paying through fee-for-service or capitated models.

Conclusion

Our ability as a nation to address population health needs and manage costs will be highly influenced by access to high quality, comprehensive primary care. Care will need to be delivered by teams that operate very differently than most primary care practices have historically. This brief identifies how those practices should be configured, and provides benchmarks and tools to help practices financially model and implement four practice team models specific to different patient populations.