Estimating the Costs of Implementing Comprehensive Primary Care: A Narrative Review

Grant R. Martsolf1,2, Ryan Kandrack1,3, Mark W. Friedberg4,5,6, Brian Briscombe7, Peter S. Hussey4, and Christiane LaBonte8

Abstract
The performance of the any health-care system relies on a high-functioning primary care system. Increasing primary care practices’ adoption of “comprehensive primary care” capabilities might yield meaningful improvements in the quality and efficiency of primary care. However, many comprehensive primary care capabilities, such as care management and coordination, are not compensated via traditional fee-for-service payment. To calculate new payments for these capabilities, policymakers would need estimates of the costs that practices incur when adopting, maintaining, and using the capabilities. We performed a narrative review of the existing literature on the costs of adopting and implementing comprehensive primary care capabilities. These studies have found that practices incur significant costs when adopting and implementing comprehensive primary care capabilities. However, the studies had significant limitations that prevent extensive use of their estimates for payment policy. Particularly, the strongest studies focused on a small numbers of practices in specific geographic areas and the concepts and methods used to assess costs varied greatly across the studies. Furthermore, none of the studies in our review attempted to estimate differences in costs across practices with patients at varying levels of complexity and illness burden which is important for risk-adjusting payments to practices. Therefore, due to the heterogeneous designs and limited generalizability of published studies highlight the need for additional research, especially if payers wish to link their financial support for comprehensive primary care capabilities to the costs of these capabilities for primary care practices.

Keywords
primary care, medical cost, patient-centeredness, health economics, practice management

Inquiry Submission Questions
1. What do we already know about this topic? We know that payers are experimenting with payment models for comprehensive primary care.
2. How does your research contribute to the field? We know little about much payments rates should be set within these models because we do not know how much it costs practices to deliver comprehensive primary care; our paper reviews the literature related to these costs.
3. What are your research’s implications toward theory, practice, or policy? Due to the heterogeneous designs and limited generalizability of published studies highlight the need for additional research, especially if payers wish to link their financial support for comprehensive primary care capabilities to the costs of these capabilities for primary care practices.

1 RAND Corporation, Pittsburgh, PA, USA
2 Department of Acute and Tertiary Care, School of Nursing, University of Pittsburgh, Pittsburgh, PA, USA
3 Department of Health Policy and Management, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA
4 RAND Corporation, Boston, MA, USA
5 Division of General Internal Medicine, Brigham and Women’s Hospital, Boston, MA, USA
6 Department of Medicine, Harvard Medical School, Boston, MA, USA
7 RAND Corporation, Washington, DC, USA
8 Centers for Medicare and Medicaid Innovation, Baltimore, MD, USA

Submitted February 4, 2019. Revised February 14, 2019. Accepted February 14, 2019.

Corresponding Author:
Grant R. Martsolf, Department of Acute and Tertiary Care, University of Pittsburgh School of Nursing, 3500 Victoria St, 315B, Pittsburgh, PA 15213, USA.
Email: grm32@pitt.edu

Creative Commons CC BY: This article is distributed under the terms of the Creative Commons Attribution 4.0 License (http://www.creativecommons.org/licenses/by/4.0/) which permits any use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (https://us.sagepub.com/en-us/nam/open-access-at-sage).
Introduction

The American health-care system is characterized by high costs and uneven quality, due in part to care fragmentation and payment systems that incentivize the utilization of low-value services. Evidence suggests that strengthening the primary care system could yield meaningful improvements in the quality, efficiency, and coordination of care in the United States. To this end, emerging primary care delivery models focus on helping primary care practices develop and implement capabilities that support “comprehensive primary care,” which for simplicity we use interchangeably with related concepts, such as advanced primary care and patient-centered medical home models.

Comprehensive primary care models include patient services above and beyond face-to-face visits that can be billed to payers through evaluation and management and preventive care visit codes. For example, comprehensive primary care practices are encouraged to adopt capabilities, such as care management, care coordination, expanded access including after-hours visits and electronic communication with providers, and advanced health information technology. Yet, because fee-for-service payment systems generally only pay practices for direct face-to-face patient care, practices that provide comprehensive primary care capabilities might do so without direct reimbursement from payers.

To promote comprehensive primary care, the Centers for Medicare and Medicaid Services (CMS) and other payers are experimenting with new primary care payment models. These payment models typically incorporate a combination of monthly care management fees, visit-based fee-for-service payments, and performance-based payments tied to quality and efficiency goals. To avoid over- or underpaying for comprehensive primary care capabilities, payers need accurate estimates of the costs that practices incur when adopting and delivering comprehensive primary care.

We performed a narrative review of empirical research studies that have attempted to estimate the costs that practices incur when adopting and delivering comprehensive primary care. We then discuss important limitations of that literature and discuss how it provides guidance on related primary care payment issues.

Review Methods

To identify relevant literature, we used a directed reference mining approach. First, we reviewed a recent Agency for Healthcare Research and Quality (AHRQ) report that outlined 15 AHRQ-funded projects that aimed to estimate the costs of medical home transformation and included 5 published studies resulting from these projects. We then mined the references of those 5 studies and used PubMed and Google Scholar to search for articles that have cited those studies. We excluded studies that estimated costs incurred by a health plan on behalf of a practice, or focused on care settings other than primary care practices. After exclusions, this search yielded 8 studies.

Costs Incurred by Practices Delivering Comprehensive Primary Care

In this section, we review the findings of the 8 studies estimating the costs that practices have incurred when adopting and delivering comprehensive primary care capabilities. We describe the methods that the researchers used to collect data, the types of costs collected, and the results of the studies. We present a summary of the approaches and findings in Table 1. In the table, we differentiate start-up versus annual ongoing costs. Where possible, we estimate annual costs as total, per clinician, and per patient.

Overview of Findings

Fleming et al used semi-structured interviews to collect data related to staff time and other expenses incurred by a 57-practice medical group in Texas to apply for NCQA level 3 recognition, including developing the guidelines, protocols, and processes required by National Committee for Quality Assurance (NCQA) (ie, excluding any comprehensive primary care capabilities not required by NCQA). The authors estimated that the group spent US$1,508,503 overall in staff time for the initial application and US$346,617 for renewal. This is equivalent to US$10,669 (US$2134 per provider) for an initial application for a typical 5-provider practice and US$49,577 (US$991 per provider) for renewal for a hypothetical 5-physician practice.

Halladay et al used semi-structured interviews to collect data related to the staff time and financial resources expended by 4 practices in North Carolina that were adopting new comprehensive primary care capabilities in order to apply for NCQA level 3 recognition. This study found that practices spent an average of US$13,633 per clinician in start-up costs and US$10,389 per clinician per year in ongoing costs to maintain new comprehensive primary care capabilities.

Magill et al used semi-structured interviews to estimate the costs that 16 practices in Utah and Colorado incurred delivering all capabilities related to comprehensive primary care. The average annual cost per clinician was approximately US$104,000 (or approximately US$52 per patient), and the average cost per clinical encounter was US$35 to adopt all capabilities consistent with the delivery of comprehensive primary care.

Martsolf et al also used semi-structured interviews to estimate the costs that 13 practices in Pennsylvania spent when adopting new comprehensive primary care capabilities as part of a medical home demonstration program. The median practice in this study spent US$30,991 per practice (US$9814 per clinician and US$8 per patient) on start-up costs and US$147,573 per year (US$64,768 per clinician and US$30 per patient) to maintain those capabilities.

Nocon et al used a regression-based approach to estimate the marginal increase in operating costs as practices increased the
number of comprehensive primary care capabilities among 669 safety net clinics. The authors measured comprehensive primary care using the Safety Net Medical Home (SNMH) scale, which uses a survey to count the number of comprehensive primary care capabilities adopted by a practice. Operating costs were collected via Uniform Data System reports that aggregate cost data reported by all health centers funded by the Health Resources and Services Administration's Bureau of Primary Health Care. This study found that a 10-point increase in the SNMH score was associated with an additional US$27,950 in operating costs per provider (US$27 per patient) per year. In order to contextualize a 10-point change in SNMH, the authors reported that “The following 3 differences, in aggregate, would yield a 10-point higher total Patient-Centered Medical Home (PCMH) score for health center A: health center A is usually able to accommodate a same- or next-day appointment compared with never for health center B, health center A usually sends care reminders to patients compared with never for health center B, and health center A reports patient satisfaction surveys at the provider and group level, whereas health center B conducts no patient satisfaction reporting.”

Patel et al compared staffing levels at 9 practices that the authors identified as having undergone medical home transformation to average staffing at primary care practices included in the Medical Group Management Association (MGMA) annual staffing survey. The researchers estimated that a successful medical home should have 4.25 FTE staff per physician, a figure equivalent to 59% more staff per physician than the national average. The marginal costs of these greater staffing levels were estimated to be US$120,652 per physician (US$56 per patient per year, range US$45-US$77). This study focused only on staff time and did not include other cost categories, such as capital investments.

### Table 1. Summary of Study Methods and Findings.

| Methods | Start-Up Costs | Annual Ongoing Costs |
|---------|----------------|----------------------|
| Fleming, et al, 2016 | Semi-structured interviews of related to staff time and financial resources to apply for and maintain NCQA level 3 recognition among a 57 practice health system in Texas | US$10 689 | US$2134 |
| Halladay, et al, 2016 | Semi-structured interviews to collect data related to the staff time and financial resources expended when adopting new comprehensive primary care capabilities needed to apply for and maintain level 3 NCQA recognition among 4 practices in North Carolina | – | US$13 633 | US$10 389 |
| Magill, et al, 2015 | Semi-structured interviews to estimate the costs that 16 practices incurred when delivering all capabilities related to comprehensive primary care among 20 practices in Utah and Colorado | – | – | – | US$104 799 | US$52 |
| Martsolf, et al, 2016 | Semi-structured interviews to estimate the costs that 13 practices in Pennsylvania incurred when adopting new comprehensive primary care capabilities as part of a medical home demonstration program | US$30 991 | US$9814 | US$5 | US$147 573 | US$64 768 | US$30 |
| Nocon et al, 2016 | Regression-based approach to estimate the marginal increase in operating costs as practices increased the number of comprehensive primary care capabilities among 669 safety net clinics | – | – | – | US$28,000 | US$27 |
| Patel et al, 2016 | Compared staffing levels at 9 practices that the authors identified as having experienced medical home transformation to average staffing levels of primary care practices in the MGMA annual staffing survey | – | – | – | US$120,652 | US$56 |
| Shao et al, 2016 | Regression-based approach to compare aggregated practice expenditures among 38 practices in New Orleans that received NCQA recognition, and 36 that did not, among safety net clinics participating in a federal primary care grant program | US$58 874 | US$73 358 | – |
| Zuckerman et al, 2009 | Regression-based approach to compare the operating costs of 11 practices that had high scores on the NCQA medical home recognition survey to 13 practices that had low scores | – | – | – | US$22 000 | US$5 |

*Estimates represent initial accreditation application for a hypothetical 5-physician practice, renewal application was 4957.
Analyzing data from New Orleans safety net clinics that participated in a federal primary care grant program, Shao et al used a regression-based approach to compare aggregated practice expenditures between 38 practices that received NCQA recognition and 36 that did not. Expenditures were estimated using program monitoring data for a large medical home demonstration program. Researchers found that practices that achieved NCQA recognition spent US$588 874 more than non-NCQA–accredited practices during the 1-year period of initial transformation and US$73 358 in the 3 years after transformation. This equates to US$38 and US$25 per patient visit, respectively.

Finally, Zuckerman et al recruited 44 practices that had completed MGMA and American College of Physicians (ACP) Practice Management Checkup Tool in 2006. Zuckerman et al administered the 2008 version of the NCQA Physician Practice Connections–PCMH (PPC-PCMH) online self-assessment tool to these practices, obtaining usable responses from 35 of them. Of these, 11 practices had high scores on the NCQA survey (which the authors describe as being consistent with achieving NCQA’s Level 3 recognition levels) and 13 had low scores (consistent with level 1 recognition). The researchers then used a regression-based approach to compare the operating costs of high-scoring practices to those of low-scoring practices. Researchers estimated that high-scoring practices incurred on average US$22 000 more per FTE physician per year in operating expenses, or US$5 per patient per year.18

Exploring Differences Across Estimates

Notable differences exist in the cost estimates across each of the studies that we have reviewed. First, studies measured different concepts. One study (Fleming et al) estimated the incremental costs of applying for NCQA medical home recognition without regard for baseline comprehensive capabilities within the practice, while others (Martsolf et al and Magill et al) estimated all comprehensive capabilities present in a practice regardless of NCQA application. This may explain the lower costs observed in the former studies, compared to the latter.

Second, studies used different comparison groups to assess the marginal costs of comprehensive capabilities. Two of the studies (Patel et al and Shao et al) compared operating costs (either all operating costs or labor costs) at practices that have been designated as “medical homes” (either by the authors’ assessment or by NCQA recognition) to the average practice that had not been so designated. However, it is possible that an “average” practice not designated as a medical home could have adopted some comprehensive primary care capabilities. Other studies (eg, Magill et al) estimated the costs of all capabilities within a practice, implicitly making the comparison for these studies in practices that lacked any capabilities at all. This methodological difference may account for lower estimates in Shao et al compared to Magill et al.

In addition, 2 of the studies performed cross-sectional comparisons of relative costs between practices that had varying scores on composite scales of practice capabilities. Nocon et al compared practices that scored higher on the SNMH scale to those that scored lower, and Zuckerman et al compared practices that had high NCQA PPC-PCMH self-assessment scores to those with lower scores. By basing their comparison on a continuous score, Nocon et al used an approach that is not directly comparable to the other studies in this review (all of which base their comparisons on discrete categories of practices). The approach employed by Zuckerman et al, which calculated marginal costs using lack of NCQA recognition or nonparticipation in a medical home pilot as a reference point, is similarly noncomparable to the other studies in this review. Moreover, Zuckerman et al collected practice cost data that preceded assessment of medical home capabilities by approximately 2 years, rather than collecting contemporaneous cost and capability data. If “level-3” practices transformed to a greater extent between 2006 and 2008 than “level 1” practices (as measured in 2008), the costs of new capabilities detected on the PPC-PCMH would not have been captured, thereby underestimating the marginal costs of achieving level-3 scores (compared to level-1 scores).

Methodological Limitations of Published Studies

The studies included in this literature review have limited generalizability. First, they focused on small numbers of practices in specific geographic areas (Pennsylvania, Utah, Colorado, North Carolina, and Texas),12–15 a convenience sample of practices chosen by the researchers,19 or on specific types of practices: safety net health centers11 or practices with NCQA recognition.18 As a result, these studies are unlikely to be representative of primary care practices nationwide. Second, although costs of comprehensive primary care capabilities are likely to vary based on patient and practice factors,20 none of the studies in our review attempted to estimate differences in costs across practices with patients at varying levels of complexity and illness burden. Only one study examined cost differences based on practice characteristics, finding higher costs per patient among small and independent practices12—though the sample sizes underlying this comparison were too small to allow meaningful statistical inference. Third, only 3 of the studies estimated startup costs associated with adopting comprehensive primary care capabilities. Accurate estimates of startup costs will be important to payers seeking to spur adoption of new capabilities among practices with limited access to capital.

Fourth, some studies measured comprehensive primary care capabilities in a steady state (ie, as a level of achievement),14 while others measured the costs of adopting new capabilities (ie, as practice transformation over time).12 As with startup costs, the difference between achievement and transformation is important to the purpose of the comprehensive primary care payments, that is, whether payers want to reimburse practices for all the capabilities that they have, as opposed to incentivizing practices to adopt new ones. Fifth, studies lacked a uniform method for measuring comprehensive primary care
capabilities. Methods ranged from practice leader surveys and interviews to practice NCQA recognition levels.

**Primary Care Payment Considerations**

Our findings raise important considerations for alternative payment models. The most common approach to paying practices for delivering comprehensive primary care—such as the approach used by CMS’ Comprehensive Primary Care+ program—is to pay practices a risk-adjusted per patient per month care management fee in addition to fee-for-service payments. The studies we reviewed provide some guidance on how to set these fees. Five of the studies estimated comprehensive primary care capability maintenance costs of US$2 to US$5 per patient per month, after excluding an outlier that only included NCQA-recognized practices (which estimated US$0.40 per patient per month). These estimates overlap the range of payments (US$3-US$5 per patient per month) offered by sponsors of recent medical home demonstrations. If care management fees are meant to reimburse practices for practices’ current levels of comprehensive primary care, these limited numbers of studies suggest that current per patient per month fees are likely set within a reasonable range. However, if payers want to encourage practices to shift even more of their resources away from face-to-face visits toward comprehensive primary care, they might need to consider a larger per patient per month fees. Studies using microsimulation models have attempted to estimate the size of comprehensive primary care payments that would incentivize practices to adopt comprehensive primary care capabilities. To estimate and account for effects on practice finances, these simulations require empirical estimates of the costs of comprehensive primary care capabilities. The studies we reviewed can provide such estimates.

In addition to per patient per month care management fees, some payers and policymakers have proposed a number of other approaches to constructing payments for comprehensive primary care, including: (1) enhanced fee for services payments, (2) additional codes for medical home activities, and (3) comprehensive capitated payments. The current literature has relatively little to say about payment amounts under these approaches. Two studies estimated the incremental per visit costs of comprehensive primary care, which could be used to estimate the payment levels for enhanced fee-for-service payments per visit or by payers to estimate capitated payments by including information about historic fee for service (FFS) payments. One study estimated that practices that have achieved medical home status have higher operating costs of US$25 per patient visit; another estimated that operating costs are US$1.40 more per visit when practices experience a 10% point increase on a 60-point medical home scale. Due to differences in how these studies measure comprehensive primary care, it is difficult to reconcile these estimates and translate them into enhanced fee-for-service payment rates. No studies included in our review directly addressed the issue of setting payment rates using additional codes for medical home activities and comprehensive capitated payments. Therefore, additional research is needed to better understand how such payments would be constructed and how associated rates would be set.

**Conclusion**

In an effort to promote comprehensive primary care, CMS and other payers have adopted new payment models. However, payers have little empirical basis, should they wish to use data, for structuring payments and setting payment levels in these new models. Our review of the existing literature relevant to estimating these costs finds that practices incur substantial costs when adopting and maintaining comprehensive primary care capabilities. However, the heterogeneous designs and limited generalizability of published studies highlight the need for additional research, especially if payers wish to link their financial support for comprehensive primary care capabilities to the costs of these capabilities for primary care practices.

**Declaration of Conflicting Interests**

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Since 2016, Dr. Friedberg has received financial support for research from the Agency for Healthcare Research and Quality, American Board of Medical Specialties Research and Education Foundation, American Medical Association, Center for Medicare & Medicaid Innovation, Centers for Medicare & Medicaid Services, Cedars-Sinai Medical Center, Commonwealth Fund, Milbank Memorial Fund, National Institute on Aging, National Institute on Drug Abuse, National Institute of Diabetes and Digestive and Kidney Diseases, National Institute on Minority Health and Health Disparities, Patient-Centered Outcomes Research Institute, and Washington State Institute for Public Policy. Since 2016, Dr. Friedberg has received payments from Consumer Reports for consulting services, from Wolters Kluwer for co-authorship of an UpToDate article about hospital quality measurement, and from Harvard Medical School for tutoring medical students in health policy. Since 2016, Dr. Friedberg has received support to attend meetings from the American Medical Association, Gordon and Betty Moore Foundation, and United States Department of Veterans Affairs. Dr. Friedberg also has a clinical practice in primary care at Brigham and Women’s Hospital and thus receives payment for clinical services, via the Brigham and Women’s Physician Organization, from dozens of commercial health plans and government payers, including but not limited to Medicare, Medicaid, Blue Cross and Blue Shield of Massachusetts, Tufts Health Plan, and Harvard Pilgrim Health Plan, which are the most prevalent payers in Massachusetts. The authors declare no other conflicts.

**Funding**

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The authors received funding from the Centers for Medicare and Medicaid Innovation.

**ORCID iD**

Grant R. Martsolf 🌐 https://orcid.org/0000-0003-1942-8683
References

1. Friedberg MW, Hussey PS, Schneider EC. Primary care: a critical review of the evidence on quality and costs of health care. *Health Aff (Millwood).* 2010;29(5):766-772.

2. Centers for Medicare and Medicaid Services. 2017. Pages https://innovation.cms.gov/initiatives/comprehensive-primary-care-plus. Accessed February 9, 2018.

3. Berry CA, Mijanovich T, Albert S, et al. Patient-centered medical home among small urban practices serving low-income and disadvantaged patients. *Ann Fam Med.* 2013;(11 suppl 1):S82-S89.

4. Gabbay RA, Friedberg MW, Miller-Day M, Cronholm PF, Adelman A, Schneider EC. A positive deviance approach to understanding key features to improving diabetes care in the medical home. *Ann Fam Med.* 2013;(11 suppl 1):S99-S107.

5. McNellis RJ, Genevro JL, Meyers DS. Lessons learned from the study of primary care transformation. *Ann Fam Med.* 2013;(11 suppl 1):S1-S5.

6. Agency for Healthcare Research and Quality. 2016; Pages http://www.ahrq.gov/professionals/systems/primary-care/tpc/tpcbib.html. Accessed February 9, 2018.

7. Bujold E. The impending death of the patient-centered medical home. *JAMA Intern Med.* 2017;177(11):1559-1560.

8. Petterson SM, Liaw WR, Phillips RL, Rabin DL, Meyers DS, Bazemore AW. Projecting US primary care physician workforce needs: 2010-2025. *Ann Fam Med.* 2012;10(6):503-509.

9. Edwards ST, Bitton A, Hong J, Landon BE. Patient-centered medical home initiatives expanded in 2009-13: providers, patients, and payment incentives increased. *Health Aff (Millwood).* 2014;33(10):1823-1831.

10. Wasserman M, Berninger J, Gerteis J. Estimating the Costs of Primary Care Transformation: A Practical Guide and Synthesis Report. Rockville, Maryland: AHRQ; 2015.

11. Shao H, Brown L, Diana ML, et al. Estimating the costs of supporting safety-net transformation into patient-centered medical homes in post-Katrina New Orleans. *Medicine (Baltimore).* 2016;95(39):e4990.

12. Martsolf GR, Kandrack R, Gabbay RA, Friedberg MW. Cost of transformation among primary care practices participating in a medical home pilot. *J Gen Intern Med.* 2016;31(7):723-731.

13. Halladay JR, Mottus K, Reiter K, et al. The cost to successfully apply for level 3 medical home recognition. *J Am Board Fam Med.* 2016;29(1):69-77.

14. Magill MK, Ehrenberger D, Scammon DL, et al. The cost of sustaining a patient-centered medical home: experience from 2 states. *Ann Fam Med.* 2015;13(5):429-435.

15. Fleming NS, da Graca B, Ogola GO, et al. Costs of transforming established Primary Care Practices to Patient-Centered Medical Homes (PCMHs). *J Am Board Fam Med.* 2017;30(4):460-471.

16. Nocon RS, Sharma R, Birnberg JM, Ngo-Metzger Q, Lee SM, Chin MH. Association between patient-centered medical home rating and operating cost at federally funded health centers. *JAMA.* 2012;308(1):60-66.

17. MGMA; Pages http://www.mgma.com/industry-data/mgma-surveys-reports/mgma-surveys-cost-revenue-and-staffing-surveys. Accessed February 9, 2018.

18. Zuckerman S, Merrell K, Berenson R, et al. Incremental Cost Estimates for the Patient-Centered Medical Home. Washington, DC: The Commonwealth Fund; 2009.

19. Patel MS, Arron MJ, Sinsky TA, et al. Estimating the staffing infrastructure for a patient-centered medical home. *Am J Manag Care.* 2013;19(6):509-516.

20. Merrell K, Berenson RA. Structuring payment for medical homes. *Health Aff.* 2010;29(5):852-858.

21. Basu S, Phillips RS, Song Z, Bitton A, Landon BE. High levels of capitation payments needed to shift primary care toward proactive team and nonvisit care. *Health Affairs.* 2017;36(9):1599-1605.

22. Basu S, Phillips RS, Song Z, Landon BE, Bitton A. Effects of new funding models for patient-centered medical homes on primary care practice finances and services: results of a microsimulation model. *Ann Fam Med.* 2016;14(5):404-414.

Author Biographies

Grant R. Martsolf, PhD, MPH, RN, FAAN, is a professor in the Department of Acute and Tertiary Care, University of Pittsburgh School of Nursing, and affiliated adjunct policy researcher at the RAND Corporation in Pittsburgh, PA.

Ryan Kandrack, BS, is a PhD student in the Department of Health Policy and Management, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, and adjunct analyst at the RAND Corporation.

Mark W. Friedberg, MD, MPP, is a senior physician policy researcher and Director of the Boston Office of the RAND Corporation, primary care physician in the Division of General Internal Medicine, Brigham and Women’s Hospital, and assistant professor in the Department of Medicine, Harvard Medical School, Boston, MA.

Brian Briscombe, MA, is a senior quantitative analyst at the RAND Corporation, Washington, DC.

Peter S. Hussey, is vice president and Director, RAND Health Care, and senior policy researcher, RAND Corporation, Boston, MA.

Christiane LaBonte, MS, is team lead in the Division of Advanced Primary Care at the Centers for Medicare and Medicaid Innovation.