



AHRQ Estimating the Costs of Supporting Primary Care Practice Transformation Grants

Estimating Costs of Supporting Safety Net Patient-Centered Medical Home Transformation in New Orleans

Principal Investigator: Lizheng Shi, PhD

Institution: Tulane University

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Overview of Estimating Costs Grant

In 2007, in the wake of Hurricane Katrina, the greater New Orleans safety net health care system embarked on a systemwide effort to rebuild and transform primary care using the patient-centered medical home (PCMH) model. The effort was supported by a \$100 million Primary Care Access and Stabilization Grant (PCASG) from the Federal Government.

The PCASG program led to rapid expansion of primary care and mental health capacity in the greater New Orleans area. Organizations participating in the transformation effort reflected the diversity of safety net clinics and included Federally-Qualified Health Centers, faith-based organizations, free grassroots community-based clinics, public-sector and university-affiliated primary care clinics, and behavioral health clinics. Participating clinics were required to implement PCMH quality standards, including evidence-based guidelines, formal arrangements for specialty referrals, 24-hour/7-days-per-week phone coverage, and same-day appointments. Many clinics also improved care management for patients with diabetes and depression, in some cases by integrating primary care and behavioral health care services. PCASG offered incentives for PCMH transformation by awarding bonus payments to clinics that attained PCMH recognition by the National Committee for Quality Assurance (NCQA).

The focus of this study is to understand the characteristics of PCASG clinics that transformed into PCMHs and attained NCQA PCMH recognition and to estimate the incremental cost of the transformation process. The study focused on 110 clinics (75 primary care and 35 behavioral health clinics) that participated in the PCASG program between September 2007 and September 2010. The 110 clinics included 39 primary care clinics and two behavioral health clinics that attained NCQA PCMH recognition.

Costs estimated by the study include the total cost of transformation, cost per full-time equivalent (FTE) physician, and cost per visit. The study also examined baseline cost and structural differences between primary care practices that attained PCMH recognition and those that did not.

Health Care Setting

This project included 110 primary care and behavioral health safety net clinics, representing 24 health care organizations. The clinics have on average fewer than five full-time providers and care for primarily uninsured and low-income patients.

Location

New Orleans, Louisiana

Costs Estimated

Baseline and incremental costs of PCMH transformation, including:

- Total costs
- Costs per visit
- Costs per full-time equivalent physician



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Data and Methods

The study used PCASG program data collected during a 3-year observation period (September 2007 to September 2010) that started shortly after the PCASG program began. The data included the patient encounter registry, the services delivery register, grant expenditure data, and the NCQA profiles of clinics that attained PCMH recognition. The data was examined in 6-month intervals, yielding six “waves” of data for the 3-year observation period.

Costs were estimated by tracking actual PCASG program expenditures in the following categories: personnel, fringe benefits, travel, equipment, supplies, contracts, and alteration and renovation. Because expenditure data were at the organization rather than clinic level, clinic-level expenditures were estimated by distributing an organization’s expenditures to each of its clinics in proportion to the number of patient encounters for each clinic site.

Trend analyses were conducted to understand cost trends for clinics that attained PCMH recognition (PCMH clinics) and clinics that did not (non-PCMH clinics). For PCMH clinics, the PCASG data were coded to identify the 6-month wave of data collection prior to NCQA application and the period concurrent

“This cost evaluation will provide key stakeholders (e.g., primary care practices, health care systems, health care payers, and health policymakers) with information about the costs of transformative primary care practice redesign and implementation in safety net clinics that serve vulnerable populations and have limited resources.”

- Lizheng Shi, PhD, Principal Investigator

with the application. Because all of the clinics attained PCMH recognition in the middle of wave 3 or the end of wave 4, the general transformation period was defined as wave 2 to 4. Wave 1 was defined as the baseline period, and waves 5 and 6 were defined as the post-transformation period. Costs were then summarized in terms of baseline practice expense (wave 1), incremental cost of PCMH transformation (i.e., mean costs of PCMH clinics minus the mean costs of non-PCMH clinics, calculated for each wave), and maintenance of practice change.

Wave 1 data were examined to understand baseline clinic characteristics. The study team used the Mann-Whitney test to compare PCMH and non-PCMH clinics at baseline in terms of the number of FTE physicians, number of patient visits, patient characteristics (age, percent female, percent African American, and percent uninsured), and costs (total costs, cost per visit, and cost per FTE physician). Results indicated significant differences at baseline between clinics that ultimately did and did not achieve PCMH certification. To reduce the potential for bias caused by these baseline differences, the study team used a propensity score matching technique to select two groups of clinics (i.e., PCMH and non-PCMH clinics) that were comparable at baseline for inclusion in subsequent analyses.

Econometric modeling was then used to estimate the incremental cost of PCMH transformation in terms of total costs per wave and cost per visit per wave. Control variables in the model included total visits, FTE physicians, mean age of patients, proportion of African American patients, proportion of female patients, and percent of uninsured patients. Each of these variables has been identified as a potential cost driver. Both fixed- and random-effects models were fitted. A Hausman test comparing fixed- and random-effects models provided evidence of time-invariant, unobserved bias ($p < 0.05$); thus, a fixed-effects model was retained for all cost analyses. As sensitivity analysis, the researchers applied a difference-in-difference model with fixed-effect specification to refit the model on the matched data. All of the analyses were also conducted on the subsample that excluded behavioral clinics. The consistency of model estimation indicated that the findings were robust to different subsamples and model specification.



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Anticipated Benefits

This study will provide policymakers and other stakeholders with a general sense of how much they need to allocate to support PCMH transformation in safety net clinics that serve vulnerable populations and operate with limited resources.

Challenges to Estimating Costs

- Safety net clinics pose special challenges for cost estimation studies. Because safety net clinics typically serve a high percentage of uninsured patients, claims data cannot be used for cost estimates. Additionally, most safety net clinics do not possess an infrastructure (e.g., advanced electronic health record systems and personnel resources) that can support data collection.
- The study team relied on PCASG data for the cost analyses. This reflects the team's assumption that the safety net clinics depended on an infusion of federal dollars in the form of PCASG funds for PCMH transformation.
- The total sample size of PCMH clinics included was small and consisted only of safety net clinics, which may limit the generalizability of the study's findings.
- The costs of transformation might be different in PCASG clinics that chose not to pursue PCMH recognition. The study team accounted for this by using statistical models to control for baseline differences between PCMH and non-PCMH clinics.

Results

Baseline differences between PCMH and non-PCMH clinics:

- Baseline comparisons involving all of the clinics (n=110) indicated that clinics attaining PCMH recognition had significantly higher total costs at baseline, a greater number of total patient visits, and a higher percentage of female patients than non-PCMH clinics. These findings suggest that clinics of larger size were more likely to transform into PCMH clinics and attain NCQA PCMH recognition.
- Baseline comparisons involving only primary care clinics (n=75) indicated that baseline total costs were not significantly different in PCMH and non-PCMH clinics. However, as with the full sample, primary care PCMH clinics had a significantly greater number of patient visits at baseline and a higher percentage of female patients. PCMH clinics also had fewer uninsured patients than non-PCMH clinics.

Costs of PMCH transformation (adjusted for aforementioned variables):

- The costs per visit per 6-month wave during the transformation period were higher in PCMH clinics than non-PCMH clinics, and this finding was robust for different subsamples and model specifications. Additionally, PCASG spent more per visit per wave for PCMH clinics than non-PCMH clinics.
- Estimates of total incremental costs were sensitive to model specifications and sample size and thus could not be generalized. Additionally, estimates of costs per FTE were deemed unreliable because of difficulty in quantifying FTE physicians due to physician turnover, and are therefore not reported.

Detailed results will be included in forthcoming publications.



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Relevant Information

The incremental cost methodology used in this study is discussed in:

Zuckerman S, Merrell K, Berenson R, et al. Incremental Cost Estimates for the Patient-Centered Medical Home. The Commonwealth Fund.

http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2009/Oct/1325_Zuckerman_Incremental_Cost_1019.pdf. Accessed May 11, 2015.

Publications

Publications from this study are forthcoming.

