

# AHRQ Estimating the Costs of Supporting Primary Care Practice Transformation Grants

## Estimating Costs Associated With Patient-Centered Medical Home Transformation

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AHRQ Grant Number: R03 HS22616

### Overview of Estimating Costs Grant

In 2008, Pennsylvania introduced a statewide Chronic Care Initiative that engaged primary care practices in improving the care of patients with chronic diseases through implementation of the patient-centered medical home (PCMH) model. The initiative was rolled out in the State's six geographic regions over the course of 1 year. Practices participating in the 3-year demonstration project received technical support from practice coaches and through participation in learning collaboratives. Practices that achieved PCMH recognition by the National Committee for Quality Assurance (NCQA) also received enhanced payments from a coalition of regional payers.

The extent of PCMH transformation varied across practices. For example, among participating practices in the southeast region of Pennsylvania, 50 percent achieved Level 3 NCQA PCMH recognition. The percentage of practices in the region that used electronic medication prescribing increased from 39 percent at the beginning of the project to 86 percent at the end. The percentage of practices using chronic disease registries similarly increased from 30 to 85 percent.

This study examined the costs of PCMH transformation among practices that participated in the Pennsylvania Chronic Care Initiative. The study had two specific aims:

**Aim 1:** Describe practice transformation and identify practices with varying levels of transformation.

**Aim 2:** Describe the costs associated with PCMH transformation across practices with varied levels of transformation.

For Aim 1, the study team examined 81 practices representing four regions of Pennsylvania. For Aim 2, the study examined a subsample of 12 selected practices.

Costs estimated include one-time and ongoing direct costs associated with PCMH transformation. Examples of one-time costs include initial investments in updating health information technology capabilities and fees required to hire consultants to help design the transformation. Examples of ongoing costs include salaries of new staff required to deliver after-hours care or to maintain new health information technology functions.

### Health Care Setting

This project includes 81 primary care practices that participated in the Pennsylvania Chronic Care Initiative, including general internal medicine and pediatric practices and nurse-managed health centers. The practices vary in size and include small independent practices.

### Location

Pennsylvania

### Costs Estimated

Costs of PCMH transformation:

- One-time costs
- Ongoing costs
- Total costs, costs per clinician, and costs per patient



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Total costs of PCMH transformation, costs per clinician, costs per patient, and variations within specific cost categories and across different practice types (e.g., defined by size and system affiliation) were evaluated.

### Data and Methods

The study team used a mixed-methods approach to understand the costs of PCMH transformation.

For Aim 1, survey and claims data were used to identify a sample of practices that varied in how much they transformed over the course of the pilot based on structural characteristics, clinical quality, and total costs per patient. Leaders in each practice completed a survey that obtained data on practice characteristics (e.g., number of physicians, revenue sources) and structural characteristics associated with key PCMH principles. Data related to seven PCMH principles (personal provider, physician-directed medical practice, whole person orientation, care coordination, quality and safety, enhanced access, and payment) were used to calculate pre- and post-transformation structural index scores for each practice.

Claims data representing all care delivered to patients were collected for 2 years prior to and 3 years during the Chronic Care Initiative. The claims data were used to calculate each practice's performance on 13 process measures of the quality of care (including diabetes, asthma, and preventive care) and five utilization measures. The study team then computed a pre- and post-transformation quality index score for each practice. The quality index score was calculated as the mean of nine individual process measures of quality of care for diabetes, asthma, and preventive care. The claims data were also used to calculate total costs per patient per month in each practice and to compare changes in per patient total costs during the 18 months before PCMH transformation and the final 6 months of transformation.

The study team classified the 81 primary care practices on the basis of the following indicators: 1) change in the structural index score, 2) change in the quality index score, and 3) change in total risk-adjusted per-patient costs of care. On the basis of these rankings, the team selected three practices from each region (12 practices in total), including two practices demonstrating high levels of PCMH

*“The cost estimates from this study will be important in informing payers and policymakers about the optimal level of investment necessary for successful PCMH transformation.”*

- Grant R. Martsof, PhD, MPH, RN,  
Principal Investigator

transformation and one practice demonstrating a lower level of transformation. The 12 practices participated in case studies focused on assessing the costs of PCMH transformation.

Data from the 12 case study practices were obtained through semistructured interviews with key informants from each practice. The key informant interviews focused on understanding practice changes related to PCMH transformation,

including one-time and ongoing changes, and changes that were directly and indirectly related to PCMH transformation. The study team also obtained staff estimates of direct one-time and ongoing costs of transformation. The estimates focused on the following cost categories: care management, quality improvement, enhanced access, information technology, and other.

Data obtained through the interviews were used to estimate total transformation costs for each practice, the range of costs across practices, and total transformation costs per clinician and per patient. Costs within each cost category were also described and used to identify the primary sources of variation across practices. Additionally, practices were grouped by practice characteristics (e.g., small vs. large, independent vs. affiliation with a larger system) and compared on the basis of total costs, costs per full-time provider equivalent, cost per patient, and category-specific costs. Because the subsamples



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for cost comparison were small, comparisons were strictly descriptive, with no testing for statistically significant differences.

### Anticipated Benefits

By providing a detailed description of the actual costs of PCMH transformation, this study will aid practices in allocating resources to PCMH transformation in an efficient and effective manner, and will aid payers in making optimal investments necessary to ensure successful transformation.

### Challenges to Estimating Costs

The study relied on practice representatives to identify costs that are truly relevant to PCMH transformation and to distinguish them from costs related to other initiatives and trends affecting the practice. Additionally, in some cases staff had difficulty recalling exact costs. However, by focusing only on practices that have deliberately and measurably transformed, the study improves upon earlier studies that have potentially captured costs that are unrelated or tangential to PCMH transformation efforts.

The study's focus on practices from a single State limits the generalizability of the study findings.

### Results

The study team has developed estimates of the direct costs of primary care transformation, including estimates of total costs, costs per patient, costs per clinician, and costs within specific cost categories.

Detailed results will be included in forthcoming publications.

### Publications

Martsof G, Kandrack R, Schneider E, et al. Categories of practice transformation in a statewide medical home pilot and their association with medical home recognition. *J Gen Intern Med*. In press.

Additional publications on this study are forthcoming.

