



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

## Estimating the Costs of Supporting Primary Care Practice Transformation

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### Overview of Estimating Costs Grant

Primary care practices affiliated with the Palo Alto Medical Foundation have been redesigning primary care delivery since 2000. The redesign efforts are guided by the core principles of team-based care, whole person orientation, integrated care, enhanced access, quality and safety, and appropriate reimbursement for services. Specific interventions implemented by primary care practices include shared medical appointments (SMAs), in which multiple patients are simultaneously seen by a physician in a group setting; cross-training staff and implementing team-based care, in which physicians, medical assistants, and nurses work together to manage and guide the care of patients with chronic conditions; and personal health records that allow patients to check laboratory results, make appointments, and exchange secure messages with their health care team. The interventions were implemented using Lean techniques, in which processes are redesigned to enhance efficiency and value.

Between 2007 and 2010, 10 of the 17 primary care practices affiliated with the Palo Alto Medical Foundation applied for and received recognition as patient-centered medical homes (PCMHs) from the National Committee for Quality Assurance (NCQA); five practices were recognized at Level 2 and five at Level 3. A previous grant from AHRQ assessed the impact of PCMH transformation on patient satisfaction, health outcomes, and utilization. The current study expands on the earlier evaluation by examining the costs of planning and rolling out key transformation interventions.

The specific aims of this cost evaluation study are:

**Aim 1:** To identify the key components of the transformation process and sources of indirect costs.

**Aim 2:** To determine the costs of the identified key components.

The study focuses on the costs associated with several specific PCMH interventions, including SMAs; team-based care for patients with chronic conditions (hypertension and diabetes); and “auto-pend” laboratory ordering, in which the electronic health record automatically prepares laboratory test orders, sends the orders to clinicians for review and approval, and sends a reminder email to patients. Indirect

### Health Care Setting

This study includes 17 primary care practices affiliated with Palo Alto Medical Foundation, a community-based multispecialty group practice that has more than 500 primary care physicians and 500 specialists. It serves four counties and more than 850,000 patients.

### Location

Northern California

### Costs Estimated

Indirect costs (estimated at the physician, practice, division, and organization level) of planning and introducing PCMH interventions, including:

- Shared medical appointments
- Team-based care
- Automatic laboratory test ordering



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costs involve resources such as project planning and shared management resources that support multiple interventions.

The study examines activities and costs associated with the early planning stage of each intervention and the initial rollout of the interventions in the clinics; ongoing maintenance activities and costs are not addressed. The earlier evaluation of PCMH transformation suggested that indirect costs account for the majority of costs associated with the PCMH interventions. This study will further examine the contribution of indirect costs and will calculate indirect costs at the physician, practice, division, and organization level.

### Data and Methods

The study is using an activity-based costing approach to calculate the indirect costs associated with each PCMH intervention. The costs are determined through a multistep process that involves: 1) identifying the activities or key components of each intervention (e.g., programming patient and provider reminders into the personal health record); 2) identifying the source of costs for each component (e.g., programmer time); 3) quantifying each cost source and multiplying it by the appropriate cost rate (e.g., hourly wage); and (4) summing the costs of each component to determine the total indirect cost of an intervention.

*“The lessons learned from this study will inform organization leaders and policymakers in future primary care transformation efforts by providing empirical evidence of the costs involved in substantially transforming primary care.”*

- Ming Tai-Seale, PhD, MPH, Principal Investigator

Data for the activity-based analyses were primarily collected through interviews with key informants/individuals who were involved in the target interventions. Through the interviews, the study team obtained details about practice personnel and resources used in the intervention, changes to workflow, and financial information. Additional data on staff participation were obtained from electronic calendars used by staff members, meeting minutes, and project tracking and payroll

data. For example, for team-based care, administrative assistants searched the electronic calendars of all of the leaders involved in the intervention and provided the study team with detailed counts of hours spent on meetings and events. Data on the number of full-time equivalent employees dedicated to the implementation of team-based care were also provided.

Data were analyzed as they were collected. Additional key informants were identified and interviewed through an iterative process to further clarify key activities and the total time spent on each activity, until all information needed for the analysis was identified and collected.

### Anticipated Benefits

This study provides empirical evidence of the costs involved in substantially transforming primary care that will be useful to organizational leaders and policymakers involved in future primary care transformation efforts. Understanding how much it costs to transform primary care in clinics of different sizes and serving various patient populations will help decisionmakers take a value-based approach to primary care redesign.

### Challenges to Estimating Costs

Information obtained from different informants was sometimes inconsistent. Similarly, informants sometimes found it difficult to provide accurate time estimates for key activities. Triangulating the



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qualitative data with archival and quantitative log data from electronic sources was helpful in addressing these limitations while improving the consistency and validity of the findings.

### Results

Costs estimated to date include the following:

- The study estimated the costs of developing and implementing an overall program to support SMAs, and the costs of introducing SMAs in a new clinical area after the overall program was developed. The work to develop and implement the overall program required 5 months. Human resource costs, particularly time spent by the SMA coordinator, accounted for the majority of the costs. The activity that required the most time was that of conducting research tasks, which included establishing the workflow and logistics of a SMA program. Once the overall SMA program was established, the costs of introducing a SMA in a new clinical area were relatively modest and reflected an incremental commitment of organizational resources and provider time.
- Implementing team-based care for patients with hypertension and diabetes required a significant investment. The majority of costs resulted from employee hours in the Lean Promotion Office and other consultants. Other main activities that required a significant amount of time and resources included training of front-line providers, mapping out new care processes, and meetings of the management guidance team.

Analyses for this project are still in progress. Additional results, including cost estimates for auto-pend laboratory test ordering, will be available once the study is complete.

### Relevant Information

The following publications discuss the activity-based approach to estimating costs:

Fleming NS, Culler SD, McCorkle R, et al. The financial and nonfinancial costs of implementing electronic health records in primary care practices. *Health Aff (Millwood)* 2011;30(3):481-9.

Kaplan RS, Anderson SR. Time-driven activity-based costing. *Harvard Business Review* 2004;82(11).

Drucker PF. *Management Challenges of the 21st Century*. New York: Harper Business; 1999.

### Publications

Publications from this study are forthcoming.

