



U.S. Department of Health and Human Services



Agency for Healthcare Research and Quality

Advancing Excellence in Health Care • www.ahrq.gov

Contemporary Issues in Economic Assessments of Interventions in Primary Care

Presented By:

Elbert Huang, M.D., M.P.H., F.A.C.P.; Robert Nocon, M.H.S.; Ming Tai-Seale, Ph.D., M.P.H.; Cheryl D. Stults, Ph.D.; Colleen Payton, M.P.H., C.H.E.S.

Moderated By:

Rebecca Roper, MS, MPH, Director, Practice-Based Research Network Initiative,
Agency for Healthcare Research and Quality

Sponsored by the AHRQ PBRN Resource Center

July 29, 2014



Agenda

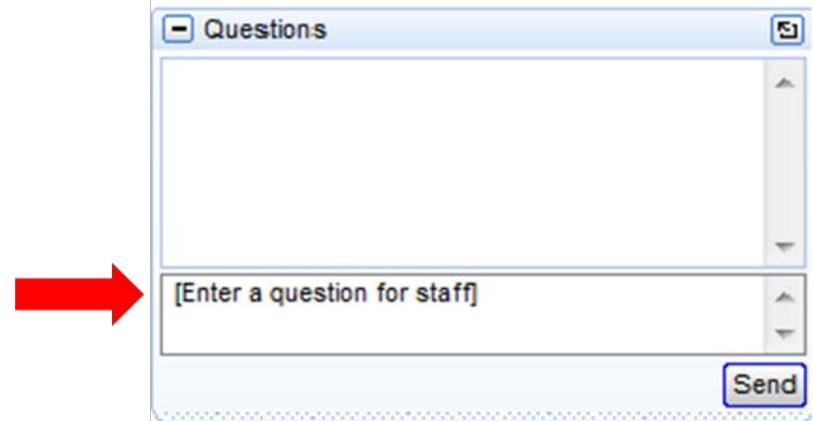
- Welcome and introductions
- Presentations
 - ▶ Brief Q&A session following each presentation
- Q&A session with all presenters
- Instructions for obtaining CME credits

Note: After today's webinar, a copy of the slides will be e-mailed to all webinar participants.



How to Submit a Question

- At any time during the presentation, type your question into the “Questions” section of your GoToWebinar control panel.
- Select “Send” to submit your question to the moderator.
- Questions will be read aloud by the moderator.





Today's Presenters

Methods for Economic Assessment of Practice Improvement Interventions in Safety Net Primary Care Settings



Elbert Huang, MD, MPH, FACP
Associate Professor of Medicine and
Director of the Center for Translational and Policy
Research of Chronic Diseases
The University of Chicago



Robert Nocon, MHS
Senior Health Services Researcher
The University of Chicago



CCDTR CHICAGO CENTER FOR
DIABETES TRANSLATION RESEARCH

Methods for Economic Assessment of Practice Improvement Interventions in Safety Net Primary Care Settings

Agency for Healthcare Research and Quality (AHRQ)
Practice Based Research Network Webinar

July 29, 2014

Goals for Today

- Describe three approaches for economic assessment of primary care interventions
 - Highlight key questions and challenges for you to consider in your own work
 - Show brief snapshots/examples from our work
- 

Controlling health care costs is the fundamental domestic policy challenge facing the United States...Physicians *[edit: all providers]* must commit themselves to act like the captain of the health care ship and take responsibility.

Emanuel EJ, Steinmetz A. July 2013

Intervention Settings

SAFETY NET MEDICAL HOME INITIATIVE



- 65 clinics in 5 states implemented PCMH model over 4 years ('09-'13)
- Facilitated practice transformation (“coaching”) model



IMPROVING DIABETES CARE AND OUTCOMES ON THE SOUTH SIDE OF CHICAGO

- 6 clinics in a regional diabetes QI collaborative ('09-ongoing)
- Emphasis on community engagement and provider/patient education on shared decision-making



- National QI collaborative among HRSA health centers
- Began in 1998 and reached >900 health centers by 2007

3 Types of Cost Questions for Primary Care Interventions

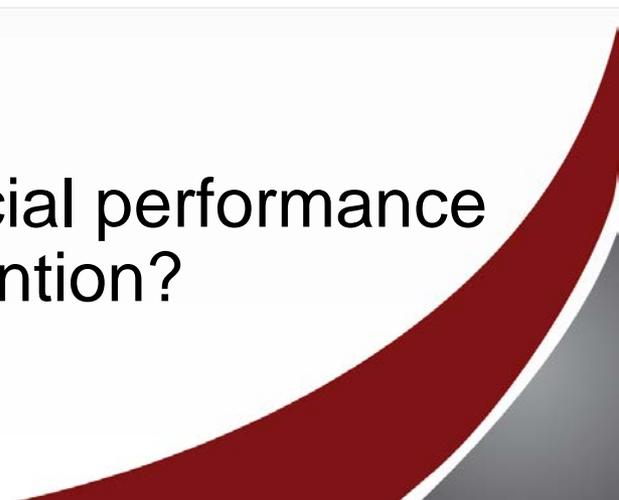
1. Cost of intervention

- What resources were used in planning and conducting the intervention?

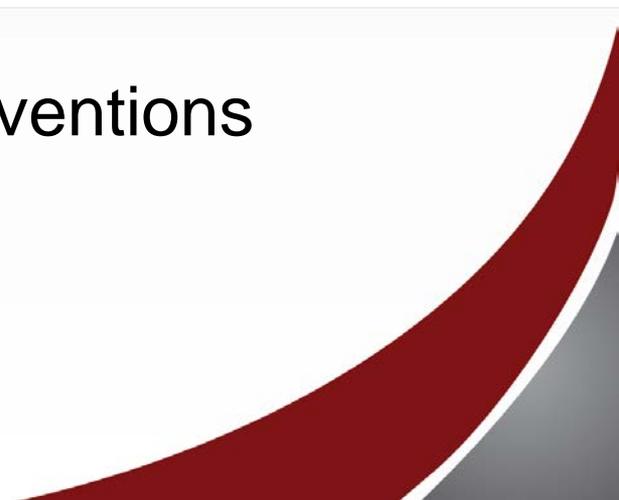
2. Cost of patient care

- How has the cost of patient care changed as a result of the intervention?

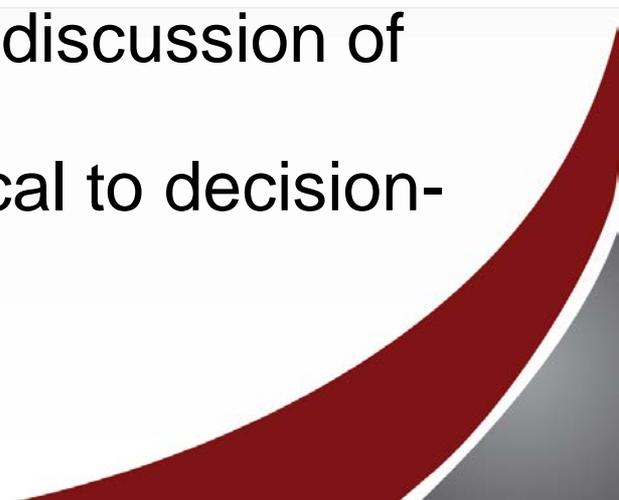
3. Organization finances

- How has the organization's financial performance changed as a result of the intervention?
- 

Question 1: Cost of Intervention

- What resources were used in planning and conducting the intervention?
 - Challenge: Contemporary primary care interventions are extremely complex:
 - Multi-factorial and multi-year
 - Changing over time (intentionally and not)
 - Running in starts and stops
 - Subject to personnel turnover
 - Occurring in context of other interventions
 - Intense competing demands for resources/attention
- 

Tips for Assessing Intervention Cost

- Break down complexity
 - Ask about individual parts of projects
 - Collect data as frequently as is reasonable
 - Count effort, including missteps
 - Understand context
 - Are there related efforts and how have they affected the intervention?
 - Robust qualitative interviews and discussion of non-financial costs/benefits
 - Many non-financial costs are critical to decision-makers (e.g. morale/burnout)
- 

Snapshots of Example Data Collection Tools

- Intervention Activity Survey
 - Outlines major components of intervention and breaks out staffing/time and purchases
 - Administered annually (if possible)
 - Qualitative Interview guide
 - Asks intervention leads and providers/staff about costs/benefits of the intervention
- 

Ex.: Intervention Activity Survey

A. PROJECT ACTIVITIES

The Improving Diabetes Care project invites your clinic to try many different activities to improve the care of patients with diabetes. We have listed all of the major project activities, to our knowledge, that have been implemented at your center, as well as key clinic staff that have been involved. If there are any activities listed below that you and the listed contact at your center are not familiar with, please contact *[Name]*, Project Manager, at *[email]* or *[phone]*.

Activity	Description of Activity	Contacts
Large group collaborative meetings / quarterly meetings	Meeting with other clinics also participating in the Improving Diabetes Care project in order to share ideas and learn from each others' experiences in improving diabetes care	<i>[Clinic contact 1]</i>
QI team meetings	Meeting internally with the Improving Diabetes Care project team	<i>[Clinic contact 2]</i>
Diabetes group visits	Developing and running group visits for patients with diabetes	<i>[Clinic contact 3]</i>
Wallet medication cards	Developing and implementing wallet-sized medication cards for patients	<i>[Clinic contact 1]</i> <i>[Clinic contact 2]</i>
Referrals tracking	Studying the process and outcomes of referrals to outside health care providers	<i>[Clinic contact 1]</i> <i>[Clinic contact 2]</i>
Community outreach events	Participating in community outreach events with Improving Diabetes Care Project, such as health fairs and CAN TV tapings	<i>[Clinic contact 1]</i> <i>[Clinic contact 2]</i> <i>[Clinic contact 3]</i>

Ex.: Intervention Activity Survey

4. *Wallet Medication Cards*

It is our understanding that *[Health Center]* developed and implemented wallet-sized medication cards that patients could discuss with their providers, and use at home. Please answer the questions below regarding the time that went into this activity and the staff members who participated.

B17. Apart from regular QI team meeting time, how much **total time** was spent on the entire medication card project? This may include, but is not limited to, such activities as developing the concept for the medication cards, designing the cards, producing the cards, distributing them to patients, and educating patients about them. List the name or position of each staff member involved in the process, and the total hours each staff member spent since the start of the project.

Name / position of staff member	Total hours spent on the medication cards
<i>[Clinic contact 1]</i>	15
<i>[Clinic contact 2]</i>	8

Intervention Assessment - Qualitative Interview Guide

Discussion Topics

- Impact on patients
- Impact on providers and staff
- Impact on the clinic overall
- Sustainability

Example Questions

- Has the project affected the clinic's reputation in the community?
- Do you think that the project has attracted new patients?
- Do you think that the project has affected provider productivity (positively or negatively)?
- What parts of the project are the most costly?

Example Work

Jt Comm J Qual Patient Saf. 2008 March ; 34(3): 138–146.

The Cost Consequences of Improving Diabetes Care:

The Community Health Center Experience

Elbert S. Huang, M.D., M.P.H., Sydney E.S. Brown, James X. Zhang, Ph.D., Anne C. Kirchhoff, M.P.H., Cynthia T. Schaefer, A.P.R.N., B.C., M.N.Sc., Lawrence P. Casalino, M.D., Ph.D., and Marshall H. Chin, M.D., M.P.H.

is Assistant Professor, Department of Medicine, University of Chicago, Chicago. Sydney E.S. Brown, formerly Project Manager, Department of Medicine, is a medical student, University of Pennsylvania, Philadelphia. James X. Zhang, Ph.D., formerly Director of Health Econometrics, University of Chicago, is Associate Professor, Department of Pharmacy, Virginia Commonwealth University, Richmond, Virginia. Anne C. Kirchhoff, M.P.H., formerly Project Manager, Department of Medicine, is a graduate student, University of Washington, Seattle. Cynthia T. Schaefer, A.P.R.N., B.C., M.N.Sc., is Assistant Professor of Nursing, University of Evansville, Evansville, Indiana. Lawrence P. Casalino, M.D., Ph.D., is Associate Professor, Department of Health Studies, University of Chicago. Marshall H. Chin, M.D., M.P.H., is Associate Professor, Department of Medicine, University of Chicago.

Article-at-a-Glance

Background—Despite significant interest in the business case for quality improvement (QI), there are few evaluations of the impact of QI programs on outpatient organizations. The financial impact of the Health Disparities Collaboratives (HDC), a national QI program conducted in community health centers (HCs), was examined.

Methods—Chief executive officers (CEOs) from health centers in two U.S. regions that participated in the Diabetes HDC (N = 74) were surveyed. In case studies of five selected centers, program costs/revenues, clinical costs/revenues, overall center financial health, and indirect costs/benefits were assessed.

Results—CEOs were divided on the HDC's overall effect on finances (38% worsened; 48% no change; 14% improved). Case studies showed that the HDC represented a new administrative cost (\$6-\$22/patient, year 1) without a regular revenue source. In centers with billing data, the balance of diabetes-related clinical costs/revenues and payor mix did not clearly worsen or improve with the program's start. The most commonly mentioned indirect benefits were improved chronic illness care and enhanced staff morale.

Discussion—CEO perceptions of the overall financial impact of the HDC vary widely; the case studies illustrate the numerous factors that may influence these perceptions. Whether the identified balance of costs and benefits is generalizable or sustainable will have to be addressed to optimally design financial reimbursement and incentives.

- Community Health Center perspectives on cost
- Broad survey of 74 HCs + 5 in-depth case studies
- High variation in intervention financial costs within the same initiative
- Non-financial costs and benefits carried heavy weight with clinic leaders

Huang ES, Brown SE, Zhang JX, et al. The Cost Consequences of Improving Diabetes Care: the Community Health Center Experience. *Jt Comm J Qual Pt Saf.* 2008; 34(3): 138-146.

Question 2: Cost of Patient Care

- How has the cost of patient care changed as a result of the intervention?
 - Challenges:
 - Patient care costs are distributed across organizations (specialists, hospitals) and time
 - Investments in primary care may have benefits in “downstream” utilization outcomes
 - The most costly types of patient care can be rare among a general primary care population (e.g. inpatient admissions)
- 

Tips for Assessing Cost of Patient Care

- Data from an integrated provider network may be ideal, but hard to find
 - Claims data from a common payer can cover large portion of patients
 - Medicare / Medicaid / large insurer
 - Challenge: identifying your intervention patients in claims
 - Consider focus analysis on subgroups most likely have high cost outcomes (e.g. chronically ill)
 - Understand the scope and limits of your data source. For example:
 - Out of network utilization
 - Delay/difficulty of obtaining/analyzing claims
- 

Example Work

PRACTICE SETTINGS

By Shantanu Nundy, Jonathan J. Dick, Chia-Hung Chou, Robert S. Nocon, Marshall H. Chin, and Monica E. Peek

Mobile Phone Diabetes Project Led To Improved Glycemic Control And Net Savings For Chicago Plan Participants

ABSTRACT Even with the best health care available, patients with chronic illnesses typically spend no more than a few hours a year in a health care setting, while their outcomes are largely determined by their activities during the remaining 5,000 waking hours of the year. As a widely available, low-cost technology, mobile phones are a promising tool to use in engaging patients in behavior change and facilitating self-care between visits. We examined the impact of a six-month mobile health (mHealth) demonstration project among adults with diabetes who belonged to an academic medical center's employee health plan. In addition to pre-post improvements in glycemic control ($p = 0.01$) and patients' satisfaction with overall care ($p = 0.04$), we observed a net cost savings of 8.8 percent. Those early results suggest that mHealth programs can support health care organizations' pursuit of the triple aim of improving patients' experiences with care, improving population health, and reducing the per capita cost of health care.

Effective treatments are available for many chronic diseases. However, such diseases are often poorly controlled, and they remain a leading cause of preventable morbidity, mortality, and excess costs.^{1,2} A key challenge remains the health care delivery system, which is organized around doctors and hospitals instead of patients and communities.

Even with the best health care available, patients with chronic illnesses typically spend no more than a few hours a year in a health care setting, where most health care resources are directed. Outcomes for patients with chronic illnesses are largely determined by the activities

Current approaches to supporting patients beyond the clinical encounter, such as remote care management, are personnel-intensive³ and have produced only modest or mixed results in effectiveness trials.^{4,5} Classes that teach self-care can be effective for a range of chronic conditions.⁶ However, their effects are poorly sustained and limited by a lack of integration into clinical care.⁷ And home telemonitoring, in which patients transmit data on their health status using electronic devices, has failed to live up to expectations,⁸ in part because of poor patient engagement.⁹

Mobile phones are a promising platform for engaging patients in chronic care because most

- Analysis of text messaging primary care intervention using health plan data
- Intervention targeted toward health system employees
- University health plan data captured >90% of utilization
- Net cost savings (8.8%) after accounting for intervention costs

Nundy S, Dick JJ, Chou CH, Nocon RS, Chin MH, Peek ME. Mobile Phone Diabetes Project Led To Improved Glycemic Control And Net Savings For Chicago Plan Participants. Health Affairs. 2014; 33(2): 265-72.

Question 3: Organization Finances

- How has the organization's financial performance changed as a result of the intervention?
- Challenges
 - Clarifying the conceptual link between intervention and organization finances:
 - Healthcare organizations are paid in different ways and even different ways within the same organization
 - Intervention must be large enough to have an impact on overall organization finances
 - Difficult to find standardized data sources across multiple organizations

Example Work

ORIGINAL CONTRIBUTION

ONLINE FIRST

Association Between Patient-Centered Medical Home Rating and Operating Cost at Federally Funded Health Centers

Robert S. Nocon, MHS

Ravi Sharma, PhD

Jonathan M. Birnberg, MD, MS

Quyen Ngo-Metzger, MD, MPH

Sung Mee Lee, PhD

Marshall H. Chin, MD, MPH

THE PATIENT-CENTERED MEDICAL HOME (PCMH) is a model of care characterized by comprehensive primary care, quality improvement, care management, and enhanced access in a patient-centered environment. The PCMH is intuitively appealing and has improved clinical and organizational performance in several early studies, leading a broad range of stakeholders to call for its adoption.¹

It is critical to understand the cost of the PCMH from the perspective of individual clinics. Such cost data are essential for practices to make informed decisions to adopt the PCMH and for policy makers and administrators to design financially sustainable medical home models. Most PCMH cost studies have focused on potential savings from reducing hospitalizations and emergency department visits.^{2,3} Although those are important cost outcomes, the savings accrue to payers and rarely affect the finances of the primary care provider.⁴⁻¹¹ The majority of US primary care physicians do not benefit financially from prevented hospitalizations or emergency department visits.

For editorial comment see p 83.

60 JAMA, July 4, 2012—Vol 308, No. 1

Context Little is known about the cost associated with a health center's rating as a patient-centered medical home (PCMH).

Objective To determine whether PCMH rating is associated with operating cost among health centers funded by the US Health Resources and Services Administration.

Design, Setting, and Participants Cross-sectional study of PCMH rating and operating cost in 2009. PCMH rating was assessed through surveys of health center administrators conducted by Harris Interactive of all 1009 Health Resources and Services Administration–funded community health centers. The survey provided scores from 0 (worst) to 100 (best) for total PCMH score and 6 subscales: access/communication, care management, external coordination, patient tracking, test/referral tracking, and quality improvement. Costs were obtained from the Uniform Data System reports submitted to the Health Resources and Services Administration. We used generalized linear models to determine the relationship between PCMH rating and operating cost.

Main Outcome Measures Operating cost per physician full-time equivalent, operating cost per patient per month, and medical cost per visit.

Results Six hundred sixty-nine health centers (66%) were included in the study sample, with 340 excluded because of nonresponse or incomplete data. Mean total PCMH score was 60 (SD, 12; range, 21–90). For the average health center, a 10-point higher total PCMH score was associated with a \$2.26 (4.6%) higher operating cost per patient per month (95% CI, \$0.86–\$4.12). Among PCMH subscales, a 10-point higher score for patient tracking was associated with higher operating cost per physician full-time equivalent (\$27 300; 95% CI, \$3047–\$57 800) and higher operating cost per patient per month (\$1.06; 95% CI, \$0.29–\$1.98). A 10-point higher score for quality improvement was also associated with higher operating cost per physician full-time equivalent (\$32 731; 95% CI, \$1571–\$73 670) and higher operating cost per patient per month (\$1.86; 95% CI, \$0.54–\$3.61). A 10-point higher PCMH subscale score for access/communication was associated with lower operating cost per physician full-time equivalent (\$39 809; 95% CI, \$1893–\$63 169).

Conclusions According to a survey of health center administrators, higher scores on a scale that assessed 6 aspects of the PCMH were associated with higher health center operating costs. Two subscales of the medical home were associated with higher cost and 1 with lower cost.

JAMA. 2012;308(1):60-66.

Published online June 24, 2012. doi:10.1001/jama.2012.7048

www.jama.com

We are aware of only 1 previous study that has examined the cost effect of the PCMH from the primary care provider perspective, using actual practice cost data from more than 1 site. Zuckerman et al¹² studied 35 private primary care practices and found minimal evidence of an association be-

Author Affiliations: Departments of Medicine (Dr Chin and Mr Nocon) and Health Studies (Dr Lee), University of Chicago, Chicago, Ill; US Department of Health and Human Services, Health Resources and Services Administration, Rockville, Md; and National Center for Patient-Centered Health Solutions, Chicago, Ill (Dr Birnberg).
Corresponding Author: Robert S. Nocon, MHS, Department of Medicine, University of Chicago, 5841 S Maryland Ave, MC2007 8232, Chicago, Ill 60637 (rnocon@medicine.bsd.uchicago.edu).

© 2012 American Medical Association. All rights reserved.

- Do clinics that rate higher as medical homes experience higher operating costs?
- Data from HRSA UDS - a health center reporting database that includes financial measures (operating cost)
- 10-point higher PCMH score (0-100 scale) was associated with a 5% higher operating cost (more than the average health center margin)

Nocon RS, Sharma R, Birnberg JM, Lee SM, Chin, MH. Association Between Patient-Centered Medical Home Capability and Operating Cost at Federally Funded Health Centers. JAMA. 2012; 308(1), 60-66.

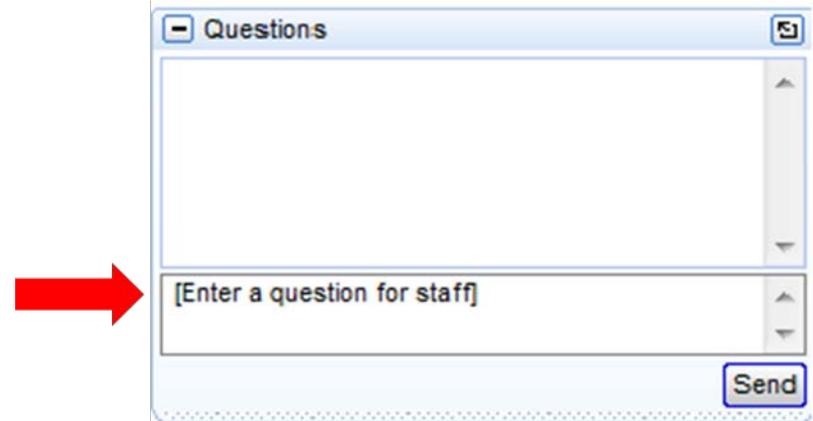
Thank You

- Elbert Huang –
ehuang@medicine.bsd.uchicago.edu
 - Robert Nocon –
rnocon@medicine.bsd.uchicago.edu
- 



How to Submit a Question

- At any time during the presentation, type your question into the “Questions” section of your GoToWebinar control panel.
- Select “Send” to submit your question to the moderator.
- Questions will be read aloud by the moderator.





Today's Presenters

Estimating the Costs of Supporting Primary Care Transformation: Shared Medical Appointments



Ming Tai-Seale, Ph.D., MPH
Senior Scientist
Palo Alto Medical Foundation
Research Institute



Cheryl D. Stults, PhD
Research Sociologist
Palo Alto Medical Foundation
Research Institute

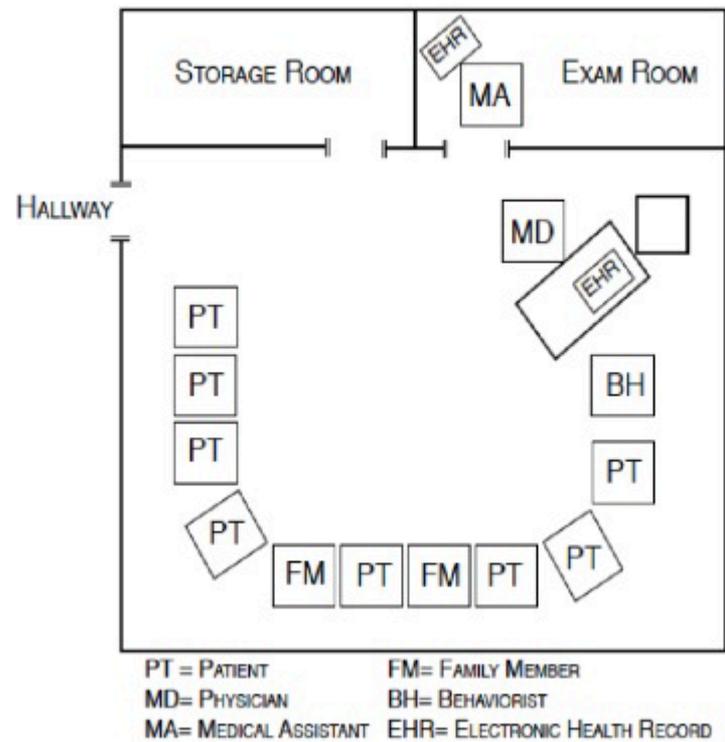
Estimating the Costs of Supporting Primary Care Transformation: Shared Medical Appointments

Cheryl Stults
Sean McClellan
Laura Panattoni
Ming Tai-Seale

Funding: AHRQ 1R03HS022631 (PI Tai-Seale) and the Richard and
Susan Levy Family Foundation

Shared medical appointments (SMAs) or group visits= medical visits where multiple patients are simultaneously seen by a physician in a group setting

Example of Shared Medical Appointment (SMA) Spatial Arrangement



SMA's Help

- Access to care in climate of primary care shortage ¹
- Practice productivity ²
- Provider satisfaction ¹
- Patient satisfaction ¹
- Clinical outcomes ³

¹ Stempniak, M., *Try shared medical appointments to help relieve MD shortage*. H&HN: Hospitals & Health Networks, 2013. **87**(5): p. 19-19.

² Carlson, B., *Shared appointments improve efficiency in the clinic*. Manag Care, 2003. **12**(5): p. 46-8.

³ Burke, R.E. and E.T. O'Grady, *Group Visits Hold Great Potential For Improving Diabetes Care And Outcomes, But Best Practices Must Be Developed*. Health Affairs, 2012. **31**(1): p. 103-9.

Barriers to SMA Implementation

- Financial/administrative hurdles ¹
- Adequate staffing for SMAs ¹
- Adequate facilities/resources ¹
- Provider motivation to use SMAs ¹
- Patient expectations for care ²

¹ McCuiston, M.H., et al., *Overcoming Challenges to Adoption of Shared Medical Appointments*. Population health management, 2013.

² Stults, C. D., et al. *Shared Medical Appointments: A Promising Innovation to Improve the Patient-Physician Relationship and Ease Primary Care Shortage*. Presentation at HMORN 2014 annual meeting

What is the human resource cost of developing and implementing a program to support SMAs?

Once established, what is the human resource cost of adding a new SMA, specifically on cancer survivorship?

“Because with SMAs, it looks very simple from the top view, at 40,000 feet; but when you drill down at ground level, there are a lot of variations; there’s a lot of things to consider; there’s a lot of moving parts.”

- SMA Program Coordinator

Activity Based Costing ^{1,2}

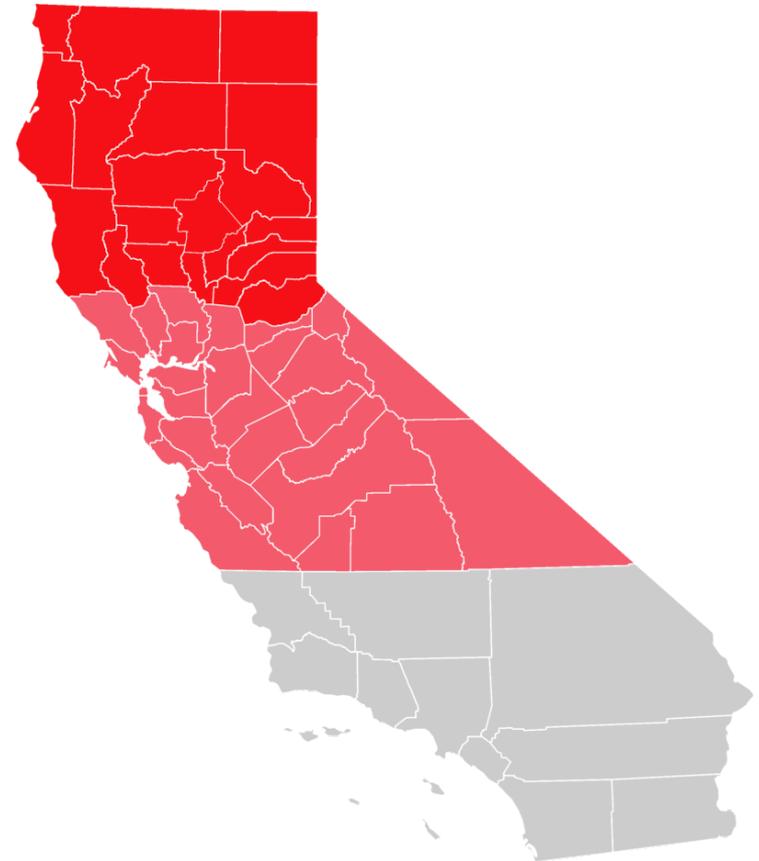
- Completed activities or tasks
- Personnel involved
- Time spent on each activity
- All development and implementation human resource costs were included. Other costs such as materials (eg. podiums, computers, copies) or room use were excluded
- To maximize generalizability, costs were calculated as time spent on each activity by each employee multiplied by the 2013 Bureau of Labor Statistics national median wage

¹ Fleming, N.S., et al. "The financial and nonfinancial costs of implementing electronic health records in primary care practices." *Health Affairs* 30.3 (2011): 481-489.

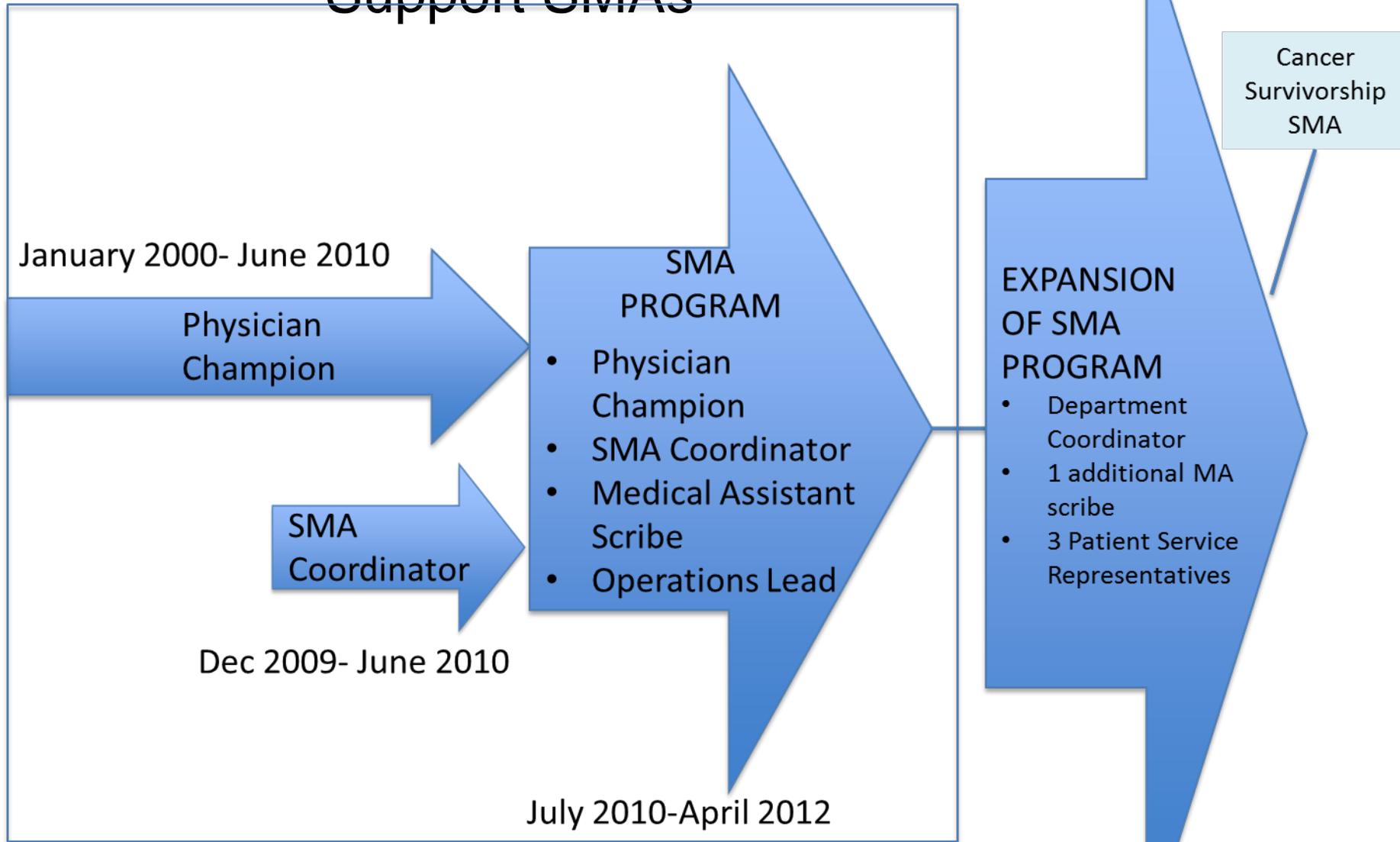
² Kaplan, R.S. and Anderson, S.R. "Time-Driven Activity Based Costing." *Harvard Business Review*. Vol. 82, No. 11, November 2004.

Setting

- A large multispecialty group practice in Northern California
 - 27 different SMAs across the organization between 2000 and 2013
- In-depth key informant interviews



Development Timeline for Program to Support SMAs



Activities and Time Spent by Each Employee in Developing and Implementing a SMA Program

Physician Champion

84 hr x \$90 (md. wage) = \$7,546

- Research on SMAs (16 hr.)
- Development of SMA related materials (40 hr.)
- Planning meeting with SMA coordinator and operations (5 hr.)
- Meeting with SMA consultant (5 hr.)
- Meetings with SMA coordinator (18 hr.)

Medical Assistant Scribe

16 hr x \$14 (md. wage) = \$228

- Develop referral and tracking tool in EHR (10 hr.)
- Training clinical staff (6 hr.)

SMA Coordinator

1255 hr x \$44 (md. wage) = \$54,869

- Development of and research for the SMA program (1,211 hr.)
- Planning meeting with Physician Champion and operations (5 hr.)
- Meeting with SMA consultant (5 hr.)
- Meetings with Physician Champion (18 hr.)
- Develop referral and tracking tool in electronic health record (10 hr.)
- Training clinical staff (6 hr.)

Operations Lead

5 hr x \$46 (md. wage) = \$232

- Planning meeting with SMA coordinator and Physician Champion (5 hr.)

Total Time and Costs by Employee Type in Developing and Implementing a SMA Program

SMA program development: time and costs, by role

Role	Time, hours	National median hourly wage, \$	Total Cost, \$
Physician	84.0	90	7,546
SMA Coordinator	1255.0	44	54,869
Operations Lead	5.0	46	232
MA scribe	16.0	14	228
Total	1360.0		62,874

Notes: Estimated wage based on national median hourly wages.

Total Time and Costs by Activity in Developing and Implementing a SMA Program

SMA program time and costs for activities before and during implementation		
Activities	Total time, hours	Cost, \$
Pre-implementation (up to June 2010)		
Development of and research for the SMA program	1,211.0	52,945
Research on SMAs	16.0	1,437
Development of SMA-related materials, including referral and tracking tool in EHR and recruitment flyers	40.0	3,593
Implementation (July 2010 to March 2012)		
Meeting with physician champion, SMA coordinator, and Operations lead	15.0	900
Meetings with physician champion and SMA coordinator	36.0	2,404
Meetings with SMA consultant	10.0	668
Develop referral and tracking tool in electronic health record	20.0	580
Training clinical staff	12.0	348
Total	1360.0	62,874

Activities and Time Spent by Each Employee in a Cancer Survivorship SMA

Physician

72.5 hr x \$90 (md. wage) = \$6,513

- Recruitment (1 hr.)
- Initial planning meeting (1.5 hr.)
- Creation of Business Plan (5 hr.)
- Rooming and personnel logistics (5 hr.)
- Training (20 hr.)
- Researching and developing material (40 hr.)

SMA Coordinator

10.5 hr x \$44 (md. wage)= \$459

- Recruits Physician (1 hr.)
- Initial Meeting (1.5 hr.)
- Trains Physician (2 hr.)
- Finalizes rooming and personnel logistics (2 hr.)
- Research and development of materials in SMA (4 hr.)

Operations Lead

4 hr x \$46 (md. wage) = \$185

- Help develop business plan (1 hr.)
- Present at directors meeting (1 hr.)
- Rooming and personnel logistics (2 hr.)

Medical Assistant Scribe

2 hr x \$14 (md. wage)= \$28

- Develop referral and tracking tool in EHR (2 hr.)

EHR Developer

2 hr x \$43 (md. wage)= \$86

- Develop referral and tracking tool in EHR (2 hr.)

Total Time and Costs by Employee Type in a Cancer Survivorship SMA

Cancer survivorship SMA: implementation time and costs, by role

Role	Time, hours	National median hourly wage, \$	Total Cost, \$
Physician	72.5	90	6,513
SMA Coordinator	10.5	44	459
Operations lead	4.0	46	185
Medical assistant	2.0	14	28
HER developer	2.0	43	86
Total	91.0		7,271

Notes: Estimated wage based on national median hourly wages.

Total Time and Costs by Activity in a Cancer Survivorship SMA

Cancer survivorship SMA: Time and costs for activities before and during implementation

Activities	Total time, hours	Cost, \$
Recruit physician	2.0	134
Initial planning meeting	3.0	200
Creation of business plan	7.0	542
Rooming and personnel logistics	9.0	629
Training clinical staff	22.0	1,884
Research and development of material for SMA	44.0	3,768
Develop referral and tracking tool in EHR	4.0	114
Total	91.0	7,271

Total Time and Costs by Activity in a Cancer Survivorship SMA

Cancer survivorship SMA: Time and costs for activities before and during implementation

Activities	Total time, hours	Cost, \$
Recruit physician	2.0	134
Initial planning meeting	3.0	200
Creation of business plan	7.0	542
Rooming and personnel logistics	9.0	629
Training clinical staff	22.0	1,884
Research and development of material for SMA	44.0	3,768
Develop referral and tracking tool in HER	4.0	114
Total	91.0	7,271

Discussion

- Physician champion spent several years conducting SMAs before beginning the program so had experiential knowledge
- We estimate that the human resource cost to develop and implement a program to support SMAs was **\$62,874**.
- The SMA coordinator spent the most time (1,255 hr.) and cost the most (\$54,869).
- The most time consuming activity was development of and research for the SMA program (1,211 hrs., \$52,945), which was completed by the SMA coordinator
- We estimate that the cancer survivorship SMA human resource cost was **\$7,271** to develop and implement.
- The physician spent the most time (72.5 hr.) and cost the most (\$6,513) followed by the SMA Coordinator (10.5 hrs., \$459 respectively).
- The most time consuming and costly activity was the development of the materials (44 hrs., \$3,768), which was completed by the physician.

Limitations

- Largely a fee-for-service organization
- One case of clinic implementation
- Estimates based on individual self-reports
- Underestimate of time and costs

Implications

- Developing and implementing a program to support SMAs required significant time of the SMA coordinator.
- Introducing new physicians or a new type of SMA may require a relatively modest commitment of organizational resources.
- It is possible that the total time and cost could be decreased by utilizing existing materials.

What is the human resource cost of developing and implementing a program to support SMAs?

Total Employee Time= 1,360 hours

Total Employee Costs= \$62,874

Once established, what is the human resource cost of adding a new SMA, specifically on cancer survivorship?

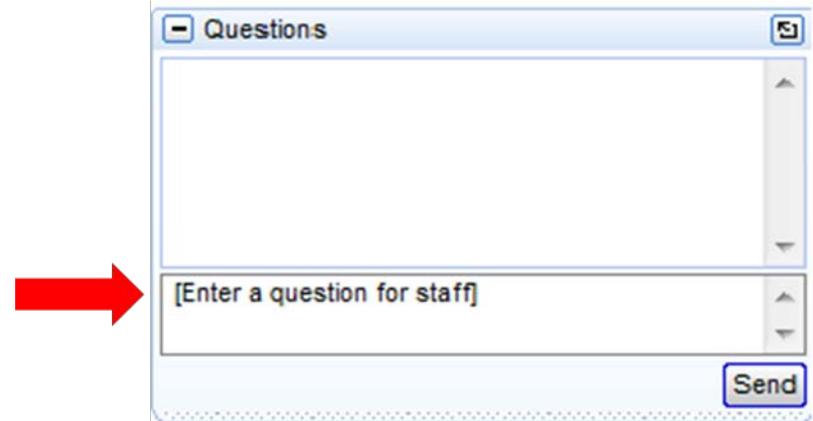
Total Employee Time= 91 hours

Total Employee Costs= \$7,271



How to Submit a Question

- At any time during the presentation, type your question into the “Questions” section of your GoToWebinar control panel.
- Select “Send” to submit your question to the moderator.
- Questions will be read aloud by the moderator.





Today's Presenters

Exploring the Costs Associated with the Implementation of the Patient-Centered Medical Home



Colleen Payton, MPH, CHES
Clinical Research Specialist
Thomas Jefferson University

Exploring the Costs Associated with the Implementation of the Patient-Centered Medical Home

Colleen Payton, MPH, CHES
Department of Family & Community Medicine
Thomas Jefferson University

Acknowledgements and Disclosures

- Patient-Centered Medical Home COST Study Team
 - George Valko, MD (PI)
 - Rob Lieberthal, PhD (Co-I)
 - Mona Sarfaty, MD, MPH (Co-I)
 - Tom Karagiannis, PharmD
 - Manisha Verma, MD, MPH
- This project was supported by grant number R03HS022630 from the Agency for Healthcare Research and Quality. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Agency for Healthcare Research and Quality.

Objectives

- Outline our project's approach to estimating the financial burden of PCMH for small primary care practices
- Describe the cost-collection tool we created for both transforming and sustaining the PCMH model

Patient-Centered Medical Home

- A leading model of primary care reform that helps shift primary care from reactive, episodic care to proactive, population health management
- Can be viewed as a solitary practice or a complement to accountable care organizations (ACOs)
- Has demonstrated improvements in quality
 - Remains a work in progress
- Cost remains an open question

Small Practices and Costs of Transformation

- Smaller practices represent a large proportion of primary care in the US
- The success of the PCMH model may rest on its uptake by small practices across the US
- Many of the costs of practice transformation are upfront fixed costs
- Smaller practices in particular may not have the economies of scale or resources to absorb these costs

Specific Aims and Study Design

- Administered survey adapted from NCQA 2011 Accreditation Guidelines to 11 PCMHs in southeastern Pennsylvania
- Conducted semi-structured interviews to identify the clinical activities associated with each element of transformation
- Created a taxonomy of costs reflecting clinical activities and insights from the PCMH implementation process
- Developed a tool to facilitate cost-collection from each practice

Examining Heterogeneity in our Sample

Practice Characteristics	Proportion of Practices
NCQA recognition (2011)	
Level I	3 out of 11
Level II	3 out of 11
Level III	5 out of 11
Financial affiliation	
Independent	6 out of 11
Academic medical center	2 out of 11
Another organization (FQHC grantee)	3 out of 11
Primary type of insurance	
Medicare / Managed Medicare	3 out of 11
Medicaid / Managed Medicaid	2 out of 11
Private (commercial) insurance	5 out of 11
Uninsured	1 out of 11

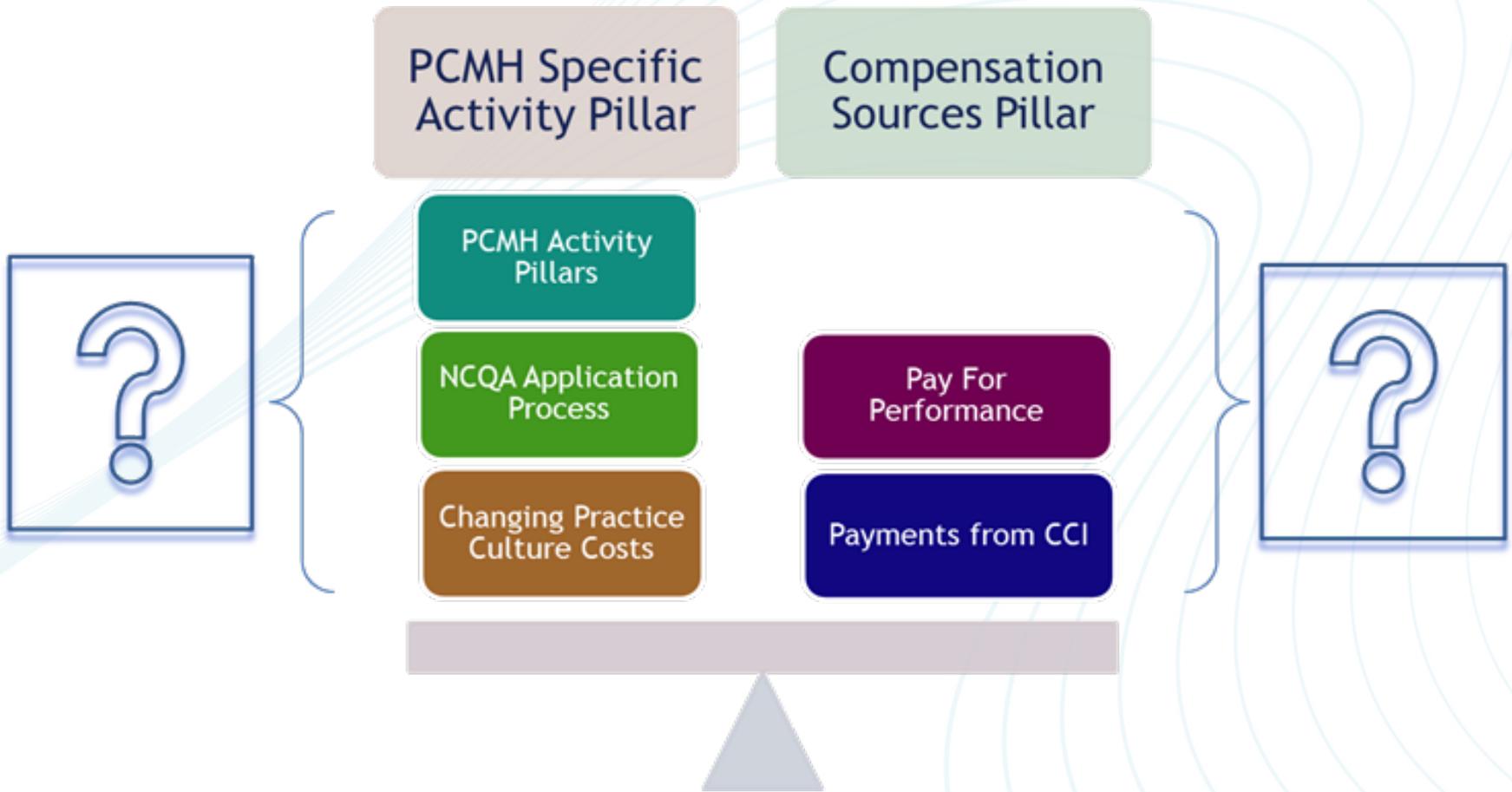
Preliminary Findings: Survey and Interviews

- Practices identified themselves as a PCMH using the framework laid out by the NCQA 2011 Standards
- Despite similarities in size, small practices in southeastern PA differ in terms of composition and financial characteristics
- Practices faced different financial burdens while transforming to a PCMH

Findings: Financial Burden

Practice Responses	Proportion of Practices
Do you think you could have transformed to a PCMH without the Chronic Care Initiative?	
Yes	1 out of 11
No	8 out of 9
Major Unforeseen Costs	
New Staff Hires	5 out of 11
EMR and/or Software	6 out of 11
New Technology	5 out of 11
Training Existing Staff	6 out of 11
Reimbursement or Financing Concerns	3 out of 11

Cost Taxonomy



Cost Taxonomy—Taking a Deeper Dive into Each Cost Domain

PCMH Activity Pillar

- One or more NCQA recognition criteria

NCQA Application Process

- Time spent completing application + cost of application + cost of maintaining recognition

Practice Culture Costs

- Cost of staff dissatisfaction + cost of disruption - cost offsets

Attribute the Cost of Inputs into PCMH within Each Domain

- Type of input—labor vs. capital
- Attribution—direct vs. indirect costs
- Timing—one time vs. ongoing
 - I.e. transformation and sustaining the model
- Net costs—cost offsets (e.g. productivity gains, incentives, and quality dollars)

Limitations

- Generalizability concerns
 - Most of our practices were part of a PCMH learning collaborative and can be viewed as early adopters
 - Primary care market in southeastern PA may be different than other markets across the US
- Cost-collection tool created retrospectively
 - Sample practices already received NCQA recognition
 - Hard to discern certain activities/roles retrospectively

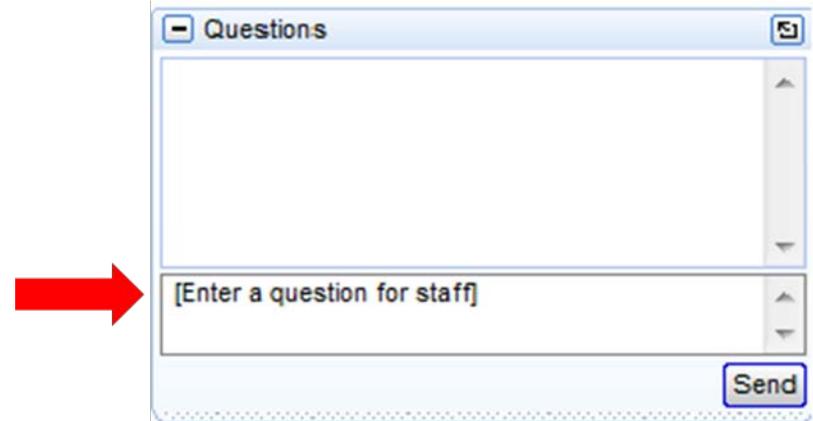
Health Policy Implications and Summary

- Can the PCMH model be applied to small practices?
 - If so, which type of small practice?
- Future tools and studies assessing PCMHs should be modeled after the NCQA Standards
- Small practices will be able to identify the costs of their transformation process to a PCMH using the cost-collection tool we developed
- Policymakers will be able to better determine appropriate reimbursements and financial incentives based on the cost data we collect



How to Submit a Question

- At any time during the presentation, type your question into the “Questions” section of your GoToWebinar control panel.
- Select “Send” to submit your question to the moderator.
- Questions will be read aloud by the moderator.





Obtaining CME Credit

This live activity, "Contemporary Issues in Economic Assessments of Interventions in Primary Care", with a beginning date of July 29, 2014, has been reviewed and is acceptable for up to **1.25 Elective credit(s)** by the American Academy of Family Physicians. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

To obtain CME Credit for your participation in this webinar, please:

- 1.) Complete the online evaluation. You will be prompted to complete this online evaluation when you exit the webinar.
- 2.) E-mail PBRN@abtassoc.com to request a copy of your CME Certificate of Participation.



Upcoming Events

Upcoming AHRQ PBRN Resource Center Webinars:

- **September 10, 12:30 – 2pm ET:** Various Types of IRB Cooperation In Support of Practice-Based Research
- **September 30, 2 – 3:30pm ET:** PBRN Research Good Practices

Visit <http://pbrn.ahrq.gov/events> for webinar registration information (to be posted soon) and details on other upcoming PBRN-relevant events

If you have a suggestion for a new topic or would like to be a presenter, send your feedback to: PBRN@abtassoc.com



PBRN Listserv: Join the Conversation among Practice-Based Research Networks (PBRNs)!

Are you interested in learning about:

- free, CME-earning National Webinars,
- research publications,
- practical guidance for administering or conducting research,
- funding opportunities, and
- employment opportunities that are relevant to PBRNs, especially around primary care?

If so, join the PBRN Listserv today! PBRN Listserv members receive a **bi-weekly digest** and **other announcements of interest**, and are able to reach out directly to the PBRN community by posting to the PBRN Listserv (PBRNLIST@list.ahrq.gov).

To join, simply send an e-mail to the AHRQ PBRN Resource Center (PBRN@abtassoc.com) with the subject “Please add me to the PBRN Listserv.”

Thank you for attending today’s PBRN webinar!