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Issue Brief

Facilitating Improvement in Primary Care: The Promise of Practice Coaching

KEVIN GRUMBACH, EMMA BAINBRIDGE, AND THOMAS BODENHEIMER
UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

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For more information about this study, please contact:

Kevin Grumbach, M.D.
Professor and Chair
Department of Family and
Community Medicine
University of California, San Francisco
School of Medicine
kgrumbach@fcm.ucsf.edu

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ABSTRACT: Practice coaching, also called practice facilitation, assists physician practices with the desire to improve in such areas as patient access, chronic and preventive care, electronic medical record use, patient-centeredness, cultural competence, and team-building. This issue brief clarifies the essential features of practice coaching and offers guidance for health system leaders, public and private insurers, and federal and state policymakers on how best to structure and design these programs in primary care settings. Good-quality evidence demonstrates that practice coaching is effective. The authors argue that primary care delivery in the United States would benefit from a more systematic approach to the training and deployment of primary care practice coaches.

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OVERVIEW

Primary care in the United States faces serious challenges. Many physician practices struggle to ensure that their patients have prompt access to care, consistently high-quality chronic and preventive services, and adequate coordination of care. The stresses primary care doctors face are noticed by medical students, who respond by shunning careers in primary care. In turn, this has led to a growing primary care physician shortage that only exacerbates existing access and quality problems.¹

The opportunity presented by this crisis has spawned a vibrant movement of practice innovation. Some primary care practices have leapt forward with systematic transformation, while others have chosen to make incremental improvements. Despite examples of progress, however, the majority of primary care practices simply lack the expertise, will, or resources to improve care for their patients. These practices need help.

Practice coaching, also called practice facilitation, can assist practices with the desire to improve. Usually outside experts, practice coaches, or practice facilitators, have been described as “individuals who work with primary care practices to make meaningful changes designed to improve patient outcomes.”²

They collaborate closely with the practice to make improvements in such areas as timely patient access, quality of chronic and preventive care, effective use of electronic medical records, patient-centeredness, cultural competence, team-building, and other elements of practice redesign. Coaches help clinicians and their staff develop the capacity for sustained change and improvement.

Good-quality evidence demonstrates that practice coaching is effective. In one systematic review, seven of eight randomized trials found that practice coaching improved care for patients in practices receiving it, compared with control groups.³ Another systematic review of 38 studies found a moderate but significant improvement in implementation of evidence-based guidelines in physician practices receiving practice coaching.⁴

This issue brief clarifies the essential features of practice coaching and offers guidance for health system leaders, public and private insurers, and federal and state policymakers on how best to structure and design these programs in primary care settings.

A BRIEF HISTORY OF PRACTICE COACHING

Practice coaching in health care is rooted in the agricultural extension agent model of the early 20th century. In 1903, the U.S. Department of Agriculture started a program by which agricultural experts would visit farmers, develop ongoing collaborative relationships, suggest improvements, and facilitate the sharing of best practices. The program was highly successful as farmers, seeing the increased yields and profitability of early adopters, improved their agricultural methods. In 1914, Congress created the Agricultural Extension Service (AES)—now the Cooperative Extension Service—and, by 1920, 7,000 extension agents were working in almost every county of the nation.⁵

Many primary care services in the United States are delivered by relatively small, independent private practices and community health centers lacking the robust quality improvement infrastructures found in hospitals and big medical groups. Just as small farmers were most in need of the kind of support provided by the AES, it is these smaller physician practices

that are most in need of help.⁶ Donald Berwick, M.D., then president and CEO of the Institute for Healthcare Improvement, recognized this reality when he wrote in 2003 that “American health care could benefit greatly from the establishment by the federal government of a Health Care Extension Service modeled on the AES.”⁷ In 2009, physicians Kevin Grumbach, M.D., and James Mold, M.D., detailed how a health care cooperative extension service for primary care might look, with practice coaches serving as extension agents to spread the best practices of early adopters to primary care practices across the nation.⁸

A year later, the Affordable Care Act of 2010 authorized creation of the Primary Care Extension Program along the lines proposed by Grumbach and Mold, and in 2011 the Agency for Healthcare Research and Quality—the agency charged with implementing the program—issued a call for proposals to award three states grants for primary care extension programs. Although Congress has not appropriated funds to implement the nationwide program, the many state and regional models of practice coaching being implemented—for example, by the Vermont Blueprint for Health, Colorado HealthTeamWorks, LA Net in Southern California, and federally funded regional extension centers promoting meaningful use of electronic health records—affirm the belief in many quarters that most practices cannot undertake needed transformation without such a mechanism in place.

ESSENTIAL FEATURES OF PRACTICE COACHING

Practice coaching can be viewed as analogous to self-management health coaching for patients. Coaching patients with chronic conditions means imparting patients with the knowledge, skills, and confidence to self-manage. Coaching does not do things for patients; it helps patients do things for themselves. The practice coach helps physicians and their staff gain knowledge and skills in the science of improvement so that they can continue to improve long after the coach is gone. Empowering practices to become their own agents of change is one of the features that distinguishes coaching from consulting: both help practices improve, but

consultants do not always build a practice’s internal capacity to change.

Who Are Practice Coaches?

Practice coaching is an occupation in the process of development and definition. The job description and appropriate training and qualifications for practice coaches have not been standardized; even the suitability of the title “practice coach” remains unsettled. Most organizations prefer that their coaches have had some real-world experience working as health professionals or practice managers in primary care settings. Exhibit 1 illustrates some of the variation in job titles and qualifications for coaches.

Process skills. There is general agreement that all coaches need skills in the fundamental processes of practice improvement and organizational change, such as promotion of teamwork and the basics of plan-do-study-act cycles for quality improvement. The IPIP (Improving Performance in Practice) National Quality Improvement Team listed the competencies in its draft practice coaching program manual (Exhibit 2).

Content expertise. In addition to process competencies, coaches also must have expertise in the core content areas of primary care improvement. One of the ongoing questions about practice coaching is the degree to which coaches should be generalists

or specialists in their content expertise. Should every coach have a comprehensive repertoire of content skills, including everything from Advanced Access to the Chronic Care Model and meaningful use of health information technology? Or should the frontline coaches mainly be knowledgeable about general practice improvement processes and be backed up by more specialized coaches with expertise in a specific content area? Coaching organizations have taken different approaches, with many having frontline generalist coaches and another tier of specialized coaches, who may be deployed depending on the particular needs and priorities of the practice. Below are some areas of content expertise that practice coaches may need:

- ensuring prompt access to care
- developing teams
- improving efficiency and patient-centeredness through practice redesign
- improving continuity of care
- improving preventive services
- improving the care of chronic conditions
- implementing electronic health records
- assisting practices to adopt health coaching
- assisting practices to utilize registries to perform panel management

Exhibit 1. Practice Coach Titles and Qualifications

Sponsoring Organization	Practice Coach Title	Qualifications
TransforMED	Practice enhancement facilitators	Health professional degree, such as R.N., Ph.D., M.B.A., with substantial experience in practice management
Oklahoma Physicians Resource/ Research Network (OKPRN)	Practice enhancement assistants (PEAs)	Master’s degree, usually in public health or counseling
British National Facilitator Development Project	Practice facilitators	Have worked in practice settings as nurses or practice assistants
Improving Performance in Practice (IPIP)	Quality improvement coaches	Many are R.N.’s; some are M.B.A.’s or former practice managers
New York Primary Care Development Corporation	Coaches	Have health care job experience plus bachelor’s or master’s degree, most commonly master of public administration

Exhibit 2. Process Skills for Coaches

Help practitioners define actionable goals and plan small-scale tests of change.

Educate leaders about models of best practice and customize model elements based on each practice's unique context. Examples of models include the Chronic Care Model and the Patient-Centered Medical Home.

Foster a culture of continuous improvement that includes the use of performance data to understand and increase the reliability and effectiveness of care.

Build organizational capacity for change: priority, will, knowledge, and ability.

Create capacity for managing the care of a population (such as patient panels).

Create capacity and expertise for process and outcome measurement.

Assist and monitor participating practices in the implementation of new ideas and processes.

Work directly with clinicians and staff to plan tests of change.

Provide the training required to plan and implement quality improvement processes and initiatives.

Link practices with tools that help them engage in improvement activities: change packages, measures, process mapping, protocols, and decision support examples.

Gather appropriate data from performance reports, audits, and/or outside sources and share with physicians and their practice staff.

Utilize project management tools to plan and monitor activities.

Serve as the liaison between the practices and the larger community quality improvement organization.

Remain aligned with the broader community improvement efforts and share data and experiences with leaders and other coaches.

Assist providers to present about practice activities and performance at state and/or regional meetings.

Work with prototype practices during testing of new initiatives to refine changes.

Critically evaluate self-performance as reflected in the performance of practices s/he is coaching.

Source: Improving Performance in Practice National Quality Improvement Team,
<http://www.qiteamspace.org/ipip/af4q/practice-coaching-program-manual/PCP%20Manual-1.6.11.pdf/view>.

Practice Coaching in Action

An example of the practice coaching model is the Oklahoma Physicians Resource/Research Network (OKPRN), founded in 1994 by James Mold, M.D. The OKPRN uses practice facilitators called practice enhancement assistants (PEAs) and has interacted with over 230 small primary care practices throughout Oklahoma. PEAs, most of whom have master's degrees in public health or counseling, are trained to understand medical office operations, promote teamwork and collaboration, improve inter- and intra-office communication, and share project ideas across different practices.

Mold trains PEAs to become integrated members of the practice staff rather than external consultants. In Mold's view, a PEA has become successfully integrated into a practice when he or she can walk in the back door of a practice, just like any member of the office staff. PEAs interact regularly with a "champion" staff member—generally the clinician who is most interested in spearheading quality improvement efforts.^{10,11}

Other practice coaching initiatives include Improving Performance in Practice (IPIP), established in 2005 by a group of physician-led organizations, and TransforMED, a subsidiary of the American Academy of Family Physicians that helps practices become patient-centered medical homes.^{12,13}

- helping practices to become certified patient-centered medical homes
- setting up referral relationships with specialists and other institutions in the practice's medical neighborhood, and
- assisting practices with planning for the development of accountable care organizations.

Practice coach training curricula. Several groups have prepared publicly accessible materials useful both for training practice coaches and for assisting practices directly. These include materials developed by [Improving Chronic Illness Care](#), [QualisHealth](#), [Dartmouth Clinical Microsystems](#), and the [Agency for Healthcare Research and Quality \(AHRQ\)](#).⁹

DOES PRACTICE COACHING IMPROVE PRACTICE PERFORMANCE?

Two comprehensive reviews have been conducted of evaluations of practice coaching. This section briefly summarizes the key findings from these systematic reviews; the [Appendix](#) contains an annotated bibliography of many important practice coaching studies.

In 2005, Nagykaldi et al. reviewed the literature on practice coaching, finding 25 articles measuring the effect of practice facilitator-mediated interventions on patient care outcomes.¹⁴ Eight of the studies were randomized, controlled trials and seven were multi-component interventions in which practice facilitators were only a part. Findings from the randomized trials in the Nagykaldi review included the following:

- Feedback reports and support by the facilitator increased diabetic eye and foot examination rates in primary care practice.
- Facilitator-assisted intervention resulted in an increase in mammography, clinical breast exams, fecal occult blood testing, and advice to quit smoking.
- Facilitators enhanced the understanding and utilization of smoking cessation toolkits.
- Facilitators helped enhance preventive service delivery rates in a one-year follow-up trial.

- Facilitators improved preventive services performance and modified physician practice patterns in a multifaceted intervention (two studies).
- With practice coaching, clinic staff were more willing to implement changes when persuaded that the changes benefited the health of a significant portion of patients.
- A practice facilitator helped improve asthma care.
- Practice coaches assisted in improving preventive services for children.
- Seven of the eight randomized trials found that practice coaching improved care compared with controls.
- Coaching failed to improve breast cancer screening rates.

More recently, Baskerville et al. conducted a systematic review of 38 practice coaching studies (19 of which were good-quality randomized trials) in several nations.¹⁵ Baskerville found a moderate but significant improvement in practice implementation of evidence-based guidelines in practices receiving practice coaching compared with control practices. This positive effect diminished with reduced intensity and duration of the facilitation efforts, particularly with the increase in the number of practices per facilitator. Studies in which practice coaches tailored their work to the needs of the practice and studies in which practice coaching was accompanied by other practice improvement initiatives were associated with larger improvements. Economic analyses of practice coaching, looking at whether practice coaching reduces total health care costs compared with the costs incurred by the coaching intervention, are inadequate to form valid conclusions.

In summary, rigorously conducted research has shown that practice coaching is an efficacious intervention to improve delivery of primary care services.

PRACTICE COACHING: KEY QUESTIONS

Practice coaching is an important strategy for spreading primary care innovation, improvement, and redesign. As practice coaching moves from the stage of proof-of-concept to broader adoption through such vehicles as the national Primary Care Extension Program, policymakers and health system leaders will need to consider several questions when taking practice coaching to scale.

Dose–Response Characteristics

Research suggests that practice coaching is more effective when more intensive and sustained. How intensive a dose of coaching must a practice receive to promote change? Can practices be weaned from their coaches over time and become self-sufficient in sustaining improvement, or does sustained improvement require at least some minimal level of ongoing relationship between the practice and the coach—just as cooperative extension agents maintain an ongoing presence in every county in the nation? Evaluation research on practice coaching should explicitly test different doses and duration to clarify these issues.

Readiness for Change

Not all practices may be receptive to coaching when offered. Some practices may be interested but face such formidable obstacles to change that they cannot meaningfully improve, even with practice coaching. At the other extreme, some practices may already be so adept at practice change that they do not require external coaching. Tools are needed to assess practice readiness, so coaching resources may be targeted to practices most likely to benefit from this support.

Generalist or Specialist Orientation?

What is the proper balance of generalist-versus-specialist orientation among coaches and coaching operations? This question is made particularly acute by the federal government's recent investment in regional extension centers focused on coaching in the use of electronic health record systems to improve delivery of care. The long-term viability of these centers,

which were authorized under the Health Information Technology for Economic and Clinical Health (HITECH) Act, will most likely depend on their ability to address the many workflow processes that must change to accommodate electronic health records.

Training and Qualification of Coaches

What work experience and training makes for the most effective—and cost-effective—practice coaching workforce? Must coaches have graduate or professional degrees and many years of experience working in primary care practice settings? Or would structured curricula and training programs allow individuals with less experience and fewer years of formal education to become successful coaches? Coaching programs should test models with less-costly personnel to determine if they can achieve the same desired impact on practice improvement.

Organizational and Business Models

Practice coaching prototypes in the U.S. have largely sprouted in response to local circumstances and opportunities and not as part of a systematic national strategy for practice improvement coaching in primary care. As such, they encompass diverse organizational and business models. The Oklahoma Physicians Resource/Research Network, for example, grew out of a practice-based research network developed by a medical school department and state physician society and has relied heavily on research and other grants for its financing. TransforMED, meanwhile, came into existence to advance a national practice improvement initiative of the American Academy of Family Physicians, with funding from the academy, and now relies primarily on consulting fees charged to practices or practice organizations.

For practice coaching to reach a majority of primary care practices and be sustainable, it will likely require a blend of funding streams. As envisioned by the Affordable Care Act's Primary Care Extension Program, some degree of public funding will be important to build and maintain regional practice coaching organizations. This funding should be supplemented by

other entities that stand to benefit from practice coaching. Practices themselves could be expected to pay a reasonable fee for the services of a practice coach, particularly if the coaching helps the practice increase revenues by qualifying for pay-for-performance incentives or incentives linked to becoming a recognized patient-centered medical home. Health plans could shift some of the resources they currently invest in quality improvement activities to help fund local practice coaching as a collective resource for practices serving plan enrollees. The Vermont Blueprint for Health program requires all private health plans in that state to support a shared practice facilitation program.

An overarching question is whether practice coaching is only applicable to small, independent practices and clinics and is less important to those practices that are part of larger and more organized delivery systems, such as group-model HMOs, physician–hospital organizations, and large medical groups. Is coaching simply a coping strategy for an unreasonably decentralized and autonomous approach to the delivery of primary care in the U.S., substituting for the more robust performance improvement infrastructure found in organized delivery systems? Do even large, organized health systems need their own version of practice coaching to facilitate change at the level of the individual primary care practice units within a large system, or does a “command and control” model for organization-wide performance improvement obviate the need for coaching at the level of each practice unit? The experience in the U.K. suggests that even within the structure of a large National Health Service, practice coaching has value at the practice interface to facilitate change within a national performance improvement framework. Much less is known about how large, organized delivery systems in the U.S. facilitate diffusion of innovation among their primary care practices.

CONCLUSIONS AND POLICY IMPLICATIONS

There are several key take-home messages for the many stakeholders with an interest in primary care practice transformation—primary care clinicians, health plans, public and private purchasers, and patients and consumers.

The spread of innovation and improved performance in primary care requires a different diffusion strategy than that used to roll out a straightforward and appealing consumer product. Changing primary care practice is a complex undertaking; doing so requires a facilitating vehicle.

All stakeholders committed to improving primary care will need to devote resources to support a practice coaching infrastructure. The appropriate organizational and business models for practice coaching will differ across communities and practice settings, with coaching models hosted by amalgams of local delivery organizations, academic institutions, professional societies, nonprofit community organizations, government agencies, and others. The funding streams will reflect this diversity, including varying combinations of public funds, charges to practices, and support from sponsoring institutions and organizations. But whatever the particular organizational and funding model, broad redesign of primary care practice is unlikely to occur without an investment in practice coaching.

The U.S. would benefit from a more systematic approach to the training and deployment of primary care practice coaches. Curricula and best practices for training coaches should be shared, as well as information about what does and does not work in the field. “Centers of excellence” in practice coaching need to be launched, using and perfecting curricula that are already in relatively advanced stages of development. One model to look to is the community college training program, similar to those programs initiated as part of the federal campaign to increase the adoption of electronic health records.

Although rigorous research has demonstrated the value of practice coaching, more research and evaluation is needed to test different models of practice coaching and determine how to deploy practice coaching most efficiently. Many of the pressing questions related to implementing, scaling up, and sustaining practice coaching are suitable for comparative effectiveness research and fall within the research priorities established by the newly established Patient-Centered Outcomes Research Institute.

APPENDIX. ANNOTATED BIBLIOGRAPHY OF SELECTED PRACTICE COACHING STUDIES

Studies from the United Kingdom

Petrova et al. looked at the association between characteristics of practice facilitation and the success of U.K. primary care practices to introduce palliative care improvements.¹⁶ No control practices were studied. Practice facilitators who were general practitioners (GPs) were associated with more improvements than facilitators who were nurses. There was no association between the degree of practice improvement and facilitators having more specialized knowledge, spending more time in practices, performing more visits to practices, or providing financial incentives to practices.

Watkins et al. presented a qualitative study in which practice facilitators went into U.K. practices to discuss prescribing appropriateness and costs with the physicians.¹⁷ The facilitators were pharmacists or GPs. A number of physicians did not attend the sessions, which was a problem. The most important skill of the practice facilitator was the ability to facilitate a group process among the physicians, who had a strong sense of autonomy.

McCowan et al. studied practice facilitators helping 12 U.K. practices to improve the care of children with asthma.¹⁸ While the facilitators were visiting the practices, quality improved and hospital admissions decreased, with the cost of practice facilitation equaling the reduction in hospital costs. However, two and three years after the facilitators left the practices, outcomes reverted to the pre-intervention level. The study concluded that the effect of practice facilitation may not remain after the facilitator leaves.

Bryce et al. conducted a randomized control trial that tested whether an audit facilitator could improve the diagnosis and treatment of childhood asthma.¹⁹ The intervention occurred in 12 Scottish practices between 1990 and 1993, and randomization occurred at the patient level, not the practice level (i.e., within one practice, there were intervention patients and control patients). Using the audit facilitator model, facilitators provided advice and materials to practices to improve clinical management of their patients and

helped physicians recognize risk factors for medical conditions. Facilitators visited one practice per month but did not have regular meetings with providers or nurses. Facilitators read children's case records and determined which children were at high risk for asthma. They then added patient education materials, a protocol for managing asthma attacks, and guidelines for treatment, among other materials, to the records of high-risk patients in the intervention group.

Facilitation was shown to improve the diagnosis and treatment of asthma. Patients in the intervention group were more likely to receive consultations regarding respiratory illness than control group patients, more likely to be prescribed inhaled bronchodilators and cromoglycate, and less likely to be admitted to the hospital. It was suggested that because facilitators improved asthma diagnosis and treatment and thereby reduced hospitalizations, facilitation has the potential to lower hospital costs and overall health care expenditures.

In three intervention practices in the U.K., facilitators help create a role for practice nurses, who assessed patients' cardiovascular risk factors during 20-minute preventive care consults, called health checks.²⁰ Patients exhibiting risk factors for preventable illnesses were referred to physicians, added to the recall system for future review, and/or provided health education materials. Facilitators, who previously worked as "health visitors" (not defined in the text) and health education officers, trained practice nurses to do health checks and supervised the audit of patient records. At baseline, there were no significant differences between the control and intervention practices with regard to the percentage of patient charts in which blood pressure, smoking habits, and weight were recorded.

Two-and-a-half years after the intervention, there were significant differences between the control and intervention practices for all three metrics: 49 percent of control charts mentioned blood pressure versus 59 percent of intervention charts, 21 percent of control

charts mentioned smoking versus 49 percent of intervention charts, and 19 percent of control charts mentioned weight versus 45 percent of intervention charts. The success of this facilitation model resulted in its implementation in 44 practices, serving 350,000 patients, in a program directed by the original facilitator.

Studies from the Netherlands

A nonrandomized trial tested two methods of implementing guidelines for cardiovascular disease preventive care.²¹ One method was facilitation by trained nurses, who provided standardized instructions and education and regularly visited practices to discuss progress and challenges for one year. The other method was a feedback intervention in which a report, with specific and general suggestions for providing better preventive care, was supplied to practices. Ninety-five general practices in the Netherlands participated (33 outreach/facilitation, 31 feedback report, 31 control).

Adherence to 10 guidelines for the detection and prevention of cardiovascular disease was measured at baseline and 18 months later, after the intervention. In practices that received outreach visits from facilitators, there was a significant increase in the adherence to six of 10 guidelines as compared with adherence at baseline. There was also a significant difference in adherence to seven guidelines between practices receiving the outreach intervention and control practices. In contrast, there was no significant change over time in adherence to any of the guidelines in feedback intervention practices. Compared with control practices, feedback report practices only showed a significant difference in adherence to two guidelines. Facilitators visited practices an average of 25 times over the 18-month intervention for an average of 73 minutes. The authors indicate that facilitation is time-consuming and thus costly.²¹

A systematic review by Hulscher et al. evaluated 58 studies to determine the effectiveness of strategies to improve the provision of preventive services in primary care.²² To compare studies that were structured and analyzed differently, the authors calculated performance scores for each. Types of interventions

were categorized as information transfer, learning through social influence, feedback, reminders, and organizational influence. Facilitation is only mentioned three times in the review. In one study, facilitation in practices was compared with sending physicians information by mail. Compared with the physicians who received information by mail, 5 percent to 15 percent more physicians who were visited by facilitators adhered to clinical guidelines. Authors also describe one effective facilitation intervention in which facilitators provided training and ongoing support, implemented a screening package and practice nurse health checks, and provided flowsheets and protocols.

Studies from Canada

Twenty-six primary care practices in Ontario, Canada, were studied for improvements in preventive services in a pre/post study.²³ There was a statistically significant 12 percent increase in appropriate preventive services. Facilitation was done by nurses trained in practice facilitation. Each facilitator worked with 11 practices, visiting them every three to four weeks for 12 months. In a follow-up study, the preventive care improvements were found to persist nine months after the preventive care facilitation process had ended.

Also in Ontario, Lemelin et al. compared eight preventive care processes in 23 practices using experienced nurse practice facilitators with 23 control practices; facilitated practices significantly improved preventive services compared with controls.²⁴ The nurses completed a 30-week intensive training program in practice facilitation. Each facilitator had responsibility for up to eight primary care practices; they discussed the improvement interventions with the physicians and practice staff and utilized several intervention strategies, including audit and feedback, consensus building, use of opinion leaders, academic detailing, reminder systems, and patient education materials. The facilitators discussed prevention performance rates prior to the interventions, assisted in the setting of practice goals, helped to develop tools and strategies to implement the prevention plan, facilitated meetings, and fed back post-intervention performance measures.

In a follow-up randomized controlled trial conducted by the same research group, 54 primary care practices in Ontario received facilitation to improve preventive services, as measured by a prevention index.²⁵ There was no significant difference between the facilitated and control practices in the index. The difference between this study and the previous Lemelin et al. study was the intensity of practice facilitation. The nurse facilitators in this study were responsible for 13 to 14 practices rather than eight, visited the practices less often, and attempted to improve more preventive care services—thereby providing considerably less practice assistance per desired improvement.

Studies from the United States

Kinsinger et al. studied practice facilitation to improve breast cancer screening in 62 primary care practices throughout North Carolina.²⁶ The study found no significant difference in breast cancer screening rates between practices receiving facilitation and control practices, and only a slight increase in screening rates in both the intervention and control groups. The physician research team made two visits to each practice, and the facilitators made an average of seven additional visits to the practice for 20 to 45 minutes each, plus follow-up phone calls to the practices. This contrasts with Dietrich's study in New England showing an increase in breast cancer screening.

Dietrich et al. evaluated two interventions, physician education and office system improvements, that were implemented in 98 U.S. practices with the assistance of facilitators.²⁷ The purpose of these interventions was to improve the provision of preventive services and the detection of cancer. Facilitators visited practices three times over the course of three months and used the Oxford model of facilitation. In the education intervention, facilitators worked to improve knowledge, attitude, and skills for diagnosis and prevention of cancer. In the office system intervention, the facilitator implemented efficient routines and reorganized work flow and staff responsibilities. In both interventions, facilitators helped perform an

initial audit to evaluate a practice's preventive care services.

Compared with controls, the office system intervention had a statistically significant positive effect on the provision of three of five recommended annual cancer detection services. In contrast, provider education significantly increased mammography provision only. Because data were collected from patient questionnaires, one cannot draw any conclusions about which aspects of the office intervention (flow sheets, sharing of responsibilities, etc.) were most effective. Prior to this study, the Oxford facilitator model had been used only for cardiovascular disease prevention. The increases in cancer detection and preventive care suggest that facilitation is feasible and effective for other medical services.

Another article by Dietrich was not an evaluation of an intervention but based on the findings of the Cancer Prevention in Community Practice Project.²⁸ This intervention, in which office procedures were modified to improve the provision of preventive care in 200 Vermont and New Hampshire practices, used the GAPS method of goal-setting, assessment, planning, and starting. The GAPS approach is based on three observations: 1) teamwork is essential but lacking in most practices; 2) offices rely on routines; and 3) each practice has different strengths and weaknesses. The four steps of the GAPS method were taught to practices by volunteers provided by the American Cancer Society. The paper did not evaluate facilitation or the implementation of the GAPS approach.

A randomized control trial by Manfredi et al. aimed to increase cancer screening procedures by promoting the use of an office chart reminder system and health maintenance cards.²⁹ Forty-four practices in urban, underserved areas of Chicago participated in the 1992 intervention. An initial training session by a research staff member, along with follow-up visits three and six weeks later, were conducted to familiarize the practice with the reminder system, which included flow sheets and health maintenance cards. In addition, physicians were offered a continuing medical

education seminar and research staff conducted quality assurance visits and gave feedback. At follow-up, there was a significant difference in the percentage of patients receiving a Pap smear (59.7% in the intervention group vs. 48.2% in the control group). Similarly, there was a significant difference in the percentage of patients receiving a fecal occult blood test. However, there were no significant differences in mammography or breast exams between the control and intervention groups. Intervention practices also utilized flow sheets at follow-up, as 50 percent of practices had flow sheets in 75 percent of more of audited patient charts.

Mold et al. found that primary care practices with practice facilitators implemented significantly more preventive services than control practices.³⁰ Twenty-four practices, which voluntarily agreed to participate, were randomized to 12 intervention and 12 control practices. Practice facilitation was only part of the intervention, which also included performance feedback, peer-to-peer education (academic detailing), and the introduction of clinician and patient reminders. The intervention lasted six months, with outcomes including rates of immunizations, mammography, and colorectal cancer screening. Facilitators worked with one to three practices, making weekly contacts with the practices mostly in person. Some facilitators were more effective than others, but the intensity of the facilitation (number of visits and amount of time spent) did not correlate with the number of preventive care processes implemented.

Margolis et al. evaluated a two-year randomized control trial to improve preventive care delivery.³¹ Implemented in pediatric practices, this study used continuing medical education and process improvement methods to develop “office systems,” organized routines, and work flow. Practice improvement teams facilitated the intervention using the plan-do-study-act (PDSA) framework and visited practices monthly for one year, and every two to three months after, for a median of 8.5 visits. At follow-up, there were significant differences in the percentages of children who were screened for tuberculosis (54% vs. 32%), lead (68% vs. 30%), and anemia (79% vs. 71%) in inter-

vention versus control groups, respectively. There was not a significant difference in the percentage of children receiving immunizations. Moreover 82 percent of intervention group practices added preventive services summaries to patient charts and 32 percent implemented health maintenance records. The authors theorized that successful strategies in the intervention included the coaching style of the practice improvement team, working alongside practice staff rather than just training them, and testing incremental changes using PDSA.

A national demonstration project, TransforMED, funded by the American Academy of Family Physicians, recruited 36 family practices around the U.S. and randomized them to 18 practices with practice facilitators and 18 “self-directed” control practices. The practices were asked to implement 39 components of an improved practice over 26 months. The TransforMED evaluation measured patient experience and chronic/preventive care quality outcomes before and after the intervention and calculated the differences between facilitated and self-directed practices.³² The patient experience measures included questions about prompt access, coordination of care, comprehensiveness of care, personal relationships with the physician, patient empowerment, and overall satisfaction. The quality measures included performance on breast, cervical, and colon cancer screening, pneumonia and influenza vaccination, and measures associated with diabetes, hypertension, hyperlipidemia, and coronary heart disease.

The TransforMED evaluation found that facilitated practices added significantly more components of an improved practice than self-directed practices (10.7 for facilitated practices and 7.7 for self-directed practices). Overall quality of care scores improved by 8.3 percent in facilitated practices and 9.1 percent in self-directed practices, a difference that was not statistically significant. The more focused chronic care scores increased by only 5 percent in both groups and prevention scores did not improve significantly, though there was a trend favoring the facilitated practices. Patient experience measures did not improve, and some of

these measures—for example, access to care—decreased. The evaluators concluded that the changes in the TransformMED practices were modest, that for some measures facilitated practices did better than self-directed practices, and that the amount of improvement may not justify the cost of practice facilitation. Moreover, the improvements took place in the more technologic components of practice design rather than the patient-rated components. Finally, the participating practices applied to the study because they were motivated to improve, which makes them atypical of the average primary care practice.

The TransformMED evaluation also looked at adaptive reserve, a series of measures looking at leadership, teamwork, work environment, and culture of learning.³³ Facilitated practices had significantly greater increases in adaptive reserve than self-directed practices.

NOTES

- 1 T. Bodenheimer and H. H. Pham, “Primary Care: Current Problems and Proposed Solutions,” *Health Affairs*, May 2010 29(5):799–805.
- 2 Aligning Forces for Quality, “Practice Coaching Program Manual” (Washington, D.C.: Sept. 10, 2010), available at <http://forces4quality.org/practice-coaching-program-manual>.
- 3 Z. Nagykaldi, J. W. Mold, and C. B. Aspy, “Practice Facilitators: a Review of the Literature,” *Family Medicine*, Sept. 2005 37(8):581–88.
- 4 N. B. Baskerville, C. Liddy, and W. Hogg, “Systematic Review and Meta-Analysis of Practice Facilitation Within Primary Care Practices,” *Annals of Family Medicine*, Jan.–Feb. 2012 10(1):63–74.
- 5 A. Gawande, “Testing, Testing,” *The New Yorker*, Dec. 14, 2009 34–41.
- 6 D. R. Rittenhouse, L. P. Casalino, S. M. Shortell et al., “Small and Medium-Size Physician Practices Use Few Patient-Centered Medical Home Processes,” *Health Affairs*, Aug. 2011 30(8):1575–84.
- 7 D. M. Berwick, “Disseminating Innovations in Health Care,” *Journal of the American Medical Association*, April 16, 2003 289(15):1969–75.
- 8 K. Grumbach and J. W. Mold, “A Health Care Cooperative Extension Service: Transforming Primary Care and Community Health,” *Journal of the American Medical Association*, June 24, 2009 301(24):2589–91.
- 9 See www.improvingchroniccare.org, <http://www.safetynetmedicalhome.org/practice-transformation/coaching-guides>, www.clinicalmicrosystem.org, and www.pcmh.ahrq.gov/portal/server.pt/community/pcmh__home/1483/pcmh_implementing_the_pcmh__practice_facilitation_v2. See also L. Knox, E. F. Taylor, K. Geonnotti et al., *Developing and Running a Primary Care Practice Facilitation Program: A How-to Guide*, AHRQ Publication No. 12-0011 (Rockville, Md.: Agency for Healthcare Research and Quality, Dec. 2011).
- 10 Nagykaldi, Mold, and Aspy, “Practice Facilitators: A Review,” 2005.
- 11 Z. Nagykaldi, J. W. Mold, A. Robinson et al., “Practice Facilitators and Practice-Based Research Networks,” *Journal of the American Board of Family Medicine*, Sept./Oct. 2006 19(5):506–10.
- 12 P. A. Nutting, W. L. Miller, B. F. Crabtree et al., “Initial Lessons from the First National Demonstration Project on Practice Transformation to a Patient-Centered Medical Home,” *Annals of Family Medicine*, May/June 2009 7(3):254–60.
- 13 B. F. Crabtree, P. A. Nutting, W. L. Miller et al., “Summary of the National Demonstration Project and Recommendations for the Patient-Centered Medical Home,” *Annals of Family Medicine*, July/Aug. 2010 8(Suppl. 1):S80–S92.
- 14 Nagykaldi, Mold, and Aspy, “Practice Facilitators: A Review,” 2005.
- 15 Baskerville, Liddy, and Hogg, “Systematic Review and Meta-Analysis,” 2012.

- 16 M. Petrova, J. Dale, D. Munday et al., "The Role and Impact of Facilitators in Primary Care," *Family Practice*, 2010 27:38–47.
- 17 C. Watkins, A. Timm, R. Gooberman-Hill et al., "Factors Affecting Feasibility and Acceptability of a Practice-Based Educational Intervention to Support Evidence-Based Prescribing: A Qualitative Study," *Family Practice*, Dec. 2004 21(6):661–69.
- 18 C. McCowan, R. G. Neville, I. K. Crombie et al., "The Facilitator Effect: Results from a Four-Year Follow-up of Children with Asthma," *British Journal of General Practice*, March 1997 47(416):156–60.
- 19 F. P. Bryce, R. G. Neville, I. K. Crombie et al., "Controlled Trial of an Audit Facilitator in Diagnosis and Treatment of Childhood Asthma in General Practice," *BMJ*, April 1, 1995 310(6983):838–42.
- 20 E. Fullard, G. Fowler, J. Gray, "Facilitating Prevention in Primary Care: A Controlled Trial of a Low Technology, Low Cost Approach," *British Medical Journal*, April 25, 1987 294(6579):1080–82.
- 21 M. E. Hulscher, B. van Drenth, J. van der Wouden et al., "Changing Preventive Practice: A Controlled Trial on the Effects of Outreach Visits to Organize Prevention of Cardiovascular Disease," *Quality in Health Care*, March 1997 6(1):19–24.
- 22 M. E. Hulscher, M. Wensing, R. P. Grol et al., "Interventions to Improve the Delivery of Preventive Services in Primary Care," *American Journal of Public Health*, May 1999 89(5):737–46.
- 23 W. Hogg, J. Lemelin, I. Moroz et al., "Improving Prevention in Primary Care: Evaluating the Sustainability of Outreach Facilitation," *Canadian Family Physician*, May 2008 54(5):712–20.
- 24 J. Lemelin, W. Hogg, and N. Baskerville, "Evidence to Action: A Tailored Multifaceted Approach to Changing Family Physician Practice Patterns and Improving Preventive Care," *Canadian Medical Association Journal*, March 2001 164(6):757–63.
- 25 W. Hogg, J. Lemelin, I. D. Graham et al., "Improving Prevention in Primary Care: Evaluating the Effectiveness of Outreach Facilitation," *Family Practice*, Feb. 2008 25(1):40–48.
- 26 L. S. Kinsinger, R. Harris, B. Qaqish et al., "Using an Office System Intervention to Increase Breast Cancer Screening," *Journal of General Internal Medicine*, Aug. 1998 13(8):507–14.
- 27 A. J. Dietrich, G. T. O'Connor, A. Keller et al., "Cancer: Improving Early Detection and Prevention—A Community Practice Randomized Trial," *BMJ*, March 14, 1992 304(6828):687–91.
- 28 A. J. Dietrich, C. B. Woodruff, and P. A. Carney, "Changing Office Routines to Enhance Preventive Care: The Preventive GAPS Approach," *Archives of Family Medicine*, Feb. 1994 3(2):176–83.
- 29 C. Manfredi, R. Czaja, S. Freels et al., "Prescribe for Health: Improving Cancer Screening in Physician Practices Serving Low-Income and Minority Populations," *Archives of Family Medicine*, July–Aug. 1998 7(4):329–37.
- 30 J. W. Mold, C. A. Aspy, and Z. Nagykaladi, "Implementation of Evidence-Based Preventive Service Delivery Processes in Primary Care: An Oklahoma Physicians Resource/Research Network (OKPRN) Study," *Journal of the American Board of Family Medicine*, July–Aug. 2008 21(4):334–44.
- 31 P. A. Margolis, C. M. Lannon, J. M. Stuart et al., "Practice-Based Education to Improve Delivery Systems for Prevention in Primary Care: Randomized Trial," *BMJ*, Feb. 14, 2004 328(7436):388–93.
- 32 C. R. Jaen, R. L. Ferrer, W. L. Miller et al., "Patient Outcomes at 26 Months in the Patient-Centered Medical Home National Demonstration Project," *Annals of Family Medicine*, 2010 8(Suppl. 1):S57–S67, S92.
- 33 P. A. Nutting, B. F. Crabtree, E. E. Stewart et al., "Effect of Facilitation on Practice Outcomes in the National Demonstration Project Model of the Patient-Centered Medical Home," *Annals of Family Medicine*, 2010:8(Suppl. 1):S33–S44, S92.

ABOUT THE AUTHORS

Kevin Grumbach, M.D., is professor and chair of the Department of Family and Community Medicine at the University of California, San Francisco School of Medicine. He is codirector of the UCSF Center for Excellence in Primary Care and codirector of the Community Engagement and Health Policy Program for the UCSF Clinical and Translational Science Institute. He and Thomas Bodenheimer are coauthors of the books *Understanding Health Policy—A Clinical Approach* and *Improving Primary Care: Strategies and Tools for a Better Practice*. Dr. Grumbach is a member of the Institute of Medicine of the National Academy of Sciences. He has served as an advisor to congressional committees and government agencies on primary care and health reform. He practices family medicine at the Family Health Center at San Francisco General Hospital. Dr. Grumbach received his medical degree from the University of California, San Francisco School of Medicine.

Emma Bainbridge is currently an M.D./M.P.H. student at Tulane University School of Medicine and Tulane University School of Public Health and Tropical Medicine. At the time of this writing, she was a research assistant at the Center for Excellence in Primary Care at the University of California, San Francisco School of Medicine. Ms. Bainbridge received her undergraduate degree in community health from Brown University.

Thomas Bodenheimer, M.D., is a general internist who spent 32 years in primary care practice in San Francisco's Mission District—10 years in community health centers and 22 years in private practice. He is currently adjunct professor of Family and Community Medicine at the University of California, San Francisco School of Medicine. He and Kevin Grumbach are coauthors of the books *Understanding Health Policy—A Clinical Approach* and *Improving Primary Care: Strategies and Tools for a Better Practice*. Dr. Bodenheimer received his medical degree from Harvard Medical School.

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