

Using a Multi-Level Approach To Implement a Primary Care Mental Health (PCMH) Program

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Successfully spreading innovation across large health care systems is a complex process requiring participation of stakeholders from a broad spectrum of professional backgrounds, skill sets, and organizational lev-

els. We describe a process for engaging and activating stakeholders across individual, team, organization, and system levels to implement primary care-mental health integrated care programs in one regional Veterans Affairs health care network. Key stakeholders and researchers collaborated to propose and implement the program. Preliminary findings indicate that the program may reduce referrals to specialty mental health care.

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Spread of innovation across organizations is a complex process, with successful quality improvement programs typically requiring collaboration among stakeholders from a broad spectrum of professional backgrounds, skill sets and organizational levels (Jones & Wells, 2007; Rogers, 2003; Shortell, Bennett, & Byck, 1998; Sullivan et al., 2005). Integrating health care systems is particularly complex because it involves a merging of specialties, such as primary care and mental health care, and a change in the organization of the health care delivery process. Further, integrated systems require ongoing quality

improvement efforts to foster the adoption of the evidence-based practices that will improve health care delivery.

Ferlie and Shortell recommend a multilevel approach to implementing successful quality improvements in large health care systems. Specifically, they propose that implementation efforts integrate change across the individual, team, organization, and health care system levels (Ferlie & Shortell, 2001). They also identify four core properties of change that are essential for improving health care quality across the levels: (a) top, midlevel, and local leadership support; (b) a pervasive culture that supports learning throughout the care process; (c) an emphasis on the development of effective teams; and (d) greater use of information technologies for both continuous improvement work and external accountability. Although Ferlie and Shortell describe the framework within which health care organizations can achieve change, they do not describe the actual steps that these organizations should take to accomplish that change. This article describes a process for engaging and activating key stakeholders at each of these four levels to implement a network-wide quality improvement initiative within one of the U.S. Department of Veterans Affairs' 21 regional health care networks.

DESCRIPTION OF PRIMARY CARE MENTAL HEALTH (PCMH) PROGRAM

In response to concern over Veterans' unmet mental health needs and growing evidence regarding the effectiveness of integrating physical and mental health care (Department of Veterans Affairs Work Group on the President's New Freedom Commission on Mental Health Report, 2003), Veterans Affairs (VA) issued a request for clinical proposals (RFP) to provide such integrated treatment within primary care using the processes of care management and colocated collaborative care (Gilbody, Whitty,

Grimshaw, & Thomas, 2003). Care management features a primary care provider treating common mental health problems with support from a care manager, usually under the supervision of a psychiatrist. Colocated collaborative care features a mental health specialist who is located in the primary care clinic, provides open access to mental health and substance abuse services, and shares treatment responsibility with primary care providers. The VA's goal was to combine mental health treatment and primary care to create a clinical environment that would reduce the barriers to help-seeking and free specialty mental health providers to care for those with the most severe mental illness. Such integrated programs have proven effective in avoiding care fragmentation and facilitating care coordination between mental health and physical health providers (Gallo et al., 2004; Oslin et al., 2006; Williams et al., 2007). In addition, patients may be more likely to seek and remain adherent to mental health care offered in a primary care setting rather than a specialty care setting for a number of reasons; these include reduced transportation difficulties and costs, familiarity with clinic personnel and procedures, shortened waiting time for new appointments, reduced stigma, and enhanced communication among providers (Bartels et al., 2004; Oslin et al., 2006; Pomerantz, Cole, Watts, & Weeks, 2008).

Each of the VA's 21 regional networks contains multiple medical centers. Most of the medical centers also have satellite community-based outpatient clinics (CBOCs). This article describes the efforts of one of these networks, the South Central Veterans Affairs Health Care Network (SCVAHCN), which was one of the first networks to receive funding for integrating primary care and mental health care. Key network stakeholders (mental health and primary care leaders at the local and network levels), in consultation with network health services researchers, collaborated to propose and implement a Primary Care-

Mental Health (PCMH) program in response to the national VA request for proposals. A critical component in ensuring multilevel involvement during the PCMH program was the application of a unique implementation model that involved a team of facilitators, both internal and external to the clinical organization. This article describes the planning and implementation of the PCMH program as well as the implementation model developed to ensure multilevel stakeholder involvement throughout the implementation process.

Setting

The South Central VA Health care Network encompasses all or parts of Louisiana, Arkansas, Oklahoma, Alabama, Mississippi, Florida, Texas, and Missouri. Over 600,000 of the network's 1.8 million Veterans are enrolled at network facilities. In fiscal year 2005, nearly 450,000 Veterans received treatment in one or more of the network's 10 medical centers, 36 CBOCs, and 6 nursing homes, making it the second largest network in the VA. Veterans in the South Central VA Health care Network are among the poorest and sickest (Kazis, Skinner, & Rogers, 1998) nationwide, with the lowest per capita income and the lowest percentage of college graduates. Over half (53%) live in rural areas and approximately one in four is from an ethnic minority, primarily African American. The South Central VA Health care Network has the largest number of Operation Enduring Freedom-Operation Iraqi Freedom (OEF-OIF) Veterans in the U.S. (VHA Office of Public Health & Environmental Hazards, 2007).

PCMH Program Goals

The first goal was to design and secure funding for the PCMH integration program in at least one clinic at each of the 10 network medical centers. Funding would

support both the clinical staff and the personnel to facilitate the implementation activities. The second goal was to implement the integrated care program using state-of-the-art techniques. If successful, integrating mental health care into primary care would increase both the number of primary care patients diagnosed with mental health and substance use disorders and the number of individuals receiving services for these disorders in primary care clinics. Successful integration would also change the network's organizational culture so that it would support the primary care setting as the source for basic mental health and substance use disorder services while the mental health care setting would serve as a specialty referral source for the most intensive mental health and substance use treatment needs.

Developing the PCMH Program

A team of individuals from several organizational levels and from primary care and mental health care collaborated to develop the PCMH program. The team included network-level and local facility-level mental health and primary care leaders and front-line providers, in consultation with investigators from several network research centers. Participating research centers were the South Central Mental Illness Research, Education, and Clinical Center, the Center for Mental Health Care & Outcomes Research, and the Mental Health Quality Enhancement Research Initiative. Each of these centers' missions emphasizes the implementation of evidence-based practices into routine clinical settings. Primary care and mental health care leaders at the network level and each clinical facility participated in program development with researchers serving as consultants during the development stage and as coauthors of the application for funding. The work of the team proceeded through a series of five steps:

Ensuring Leadership Buy-In

Because network-level leaders set priorities and have a key role in resource allocation, the proposal required network leadership buy-in. A series of discussions between the network's Mental Health Product Line Manager, a psychiatrist, and its Chief Medical Officer, a primary care physician, ensured that network leadership in both disciplines would support a network-wide proposal for integration of mental health care into primary care. These network leaders conducted a network-wide conference call with mandatory attendance for mental health and primary care leaders at the medical center level. During this call, the Chief Medical Officer described the concept of a network-wide application. Implementation researchers presented the evidence for and described the colocated care and care management PCMH components. Primary care and mental health medical center leaders endorsed submitting a funding proposal and agreed to complete a needs assessment documenting each medical center's existing mental health resources within primary care, its current model of care, and the clinical setting targeted for implementation (specific primary care clinic or community based outpatient clinic). Given the size of the network, implementing a comprehensive PCMH program that included all clinics in the 10 medical centers was beyond the scope of the initiative. Rather, the team decided that at least one clinic in each medical center would serve as an initial adopter of the program, allowing each medical center to have experience in implementing and applying the PCMH program.

Local Site Buy-In

Medical center primary and mental health care leadership communicated the opportunity to participate in a network-wide proposal to local site leadership as well as primary care and mental health providers. All 10 medical centers opted to

participate in the network-wide funding proposal.

Identifying Teams

Leaders from each site identified a contact person from both mental health and primary care leadership whom the PCMH program team included in all correspondence. Leaders also identified managers or providers or both who were interested in participating in writing the funding proposal. Two mental health care and two primary care leaders from three sites volunteered to join the writing team and reviewed drafts of the funding proposal.

Documenting Existing Processes of Care to Inform Model Selection

The network mental health care data analyst used administrative data to document the existing process of care for mental health within the primary care settings at each of the medical centers and their associated CBOCs. Implementation researchers were available through conference calls to discuss site-specific needs and models that would address those needs. All conference calls included medical center primary care and mental health leadership. Many sites also elected to include those primary care and mental health care clinicians who would be involved in implementing the PCMH program. Based on each site's identified needs and administrative data, a team of network clinical leaders and implementation researchers in collaboration with site leaders identified the specific PCMH programs to include in the funding proposal.

Writing the Funding Proposal

Researchers with expertise in primary care/mental health care programs, implementation, education, and program evaluation created initial drafts of the proposal. Network-level leadership and staff revised these drafts. The medical center-level mental health and primary care leaders and site contact personnel provided their sug-

gestions to the writing group who incorporated those comments into the proposal. Included in the proposal was a unique model that incorporated multilevel facilitation during the implementation process.

Implementing the PCMH Program

The Facilitation Model

Prior research has identified formal facilitation as a key component of successful quality improvement initiatives (Adams & Benjamin, 1988; Jones, Badger, Ficken, Leeper, & Anderson, 1987; Kirchner, Henderson, Owen, & Fortney, 2007). During formal facilitation, investigators work with teams of key stakeholders to select evidence-based practices, adapt them to the local context, and choose or develop procedures to support implementation. For example, in our PCMH implementation, these procedures included the following: clinical reminders in the patient's electronic record to prompt providers to conduct regular assessments or pursue a particular treatment; regular performance audits and feedback to the clinician; pocket cards with clinical decision-making information; and the NetDSS Web-based decision support software (Psychiatric Research Institute University of Arkansas for Medical Sciences, 2009). Planning for the PCMH program included funding to support a network-level formal facilitation model within the clinical proposal.

Typically, implementation projects utilize members of a research project's investigative team as external facilitators. Unfortunately, these efforts usually do not sustain clinical changes once research funding ceases. The model described in this manuscript differs from the typical researcher-driven model in ways that foster its potential to produce sustainable change. First, although the external facilitators are researchers, they are not investigators associated with a particular research project. Rather, they serve as *external* facilitators based on their content

expertise. Specifically, the external facilitator is expert in general implementation techniques and relevant clinical programs and their evidence base. Additionally, this facilitation model utilizes a network-based *internal* facilitator who also can serve on multiple projects. The internal facilitator is familiar with facility-level organizational structures, procedures, and culture as well as the clinical processes within the network. Both types of facilitators possess high levels of communication and interpersonal skills and flexibility (Cheater, Hearnshaw, Baker, & Keane, 2005; Harvey et al., 2002), which traditional scientists may or may not possess. Additionally, the two types of facilitators, forming a facilitation team, each possess unique knowledge that jointly contributes to successful implementation.

The external facilitators serve as mentors and expert consultants in implementation strategies, problem solving, and PCMH program content. In addition, the external facilitators serve as a link to experts in relevant clinical models. With input from the external facilitators, the network leadership selects and hires the internal facilitator, the first point of contact for the program personnel and individuals (called local change agents or champions) at the local facility-level who champion the PCMH program. Because this position resides within the network's clinical structure, the internal facilitator is able to ensure that programs incorporate new clinical initiatives, thereby maximizing service uniformity and fidelity to the evidence base. An administrative assistant who reports to the internal facilitator supports this work.

The internal and external facilitators use a variety of strategies (described in greater detail below) to promote implementation including local change agent participation, academic detailing (Soumerai, 1998; Soumerai & Avorn, 1990) and provider education, stakeholder engagement at all levels of the organization, monitoring

fidelity to the evidence base, performance monitoring and feedback, formative evaluation, establishment of a learning-collaborative (The National Child Traumatic Stress Network, 2007), and marketing. There is substantial prior research supporting the value of these strategies in producing sustainable change and evidence identifying the need for utilizing multiple strategies when implementing multicomponent evidence-based practices (Badamgarav et al., 2003; Gilbody et al., 2003; Grol, Wensing, & Eccles, 2005; Neumeyer-Gromen, Lampert, Stark, & Kallischnigg, 2004). Further, effective facilitators must take into account dynamic factors related to front line providers, administrative structures, local organizational climate and needs, supervisors and managers, and the clinic's past response to innovation implementation (Curran, Mukherjee, Allee, & Owen, 2008; Curran et al., 2005; Sales, Smith, Curran, & Kochevar, 2006). Several implementation experts have proposed that one strategy, the formation of personal collaborative partnerships between facilitators and local change agents (those individuals at the clinical site who are committed to promoting the innovation and working for its success), is particularly crucial in most, if not all, instances (Kirchner et al., 2007; Stetler, McQueen, Demakis, & Mittman, 2008). Within the PCMH program, personal relationships were important for accurately assessing the organizational needs and circumstances and ensuring cooperation among all the individuals involved in the change.

Not all strategies are equally appropriate to all clinical sites. First, individual clinical sites' needs and employees' readiness to adopt a particular innovation vary. Additionally, individual change agents occupy different positions in their respective organizations and have distinct relationships with their colleagues, supervisors, and facilities. To adapt to each clinical site's particular circumstances, PCMH program facilitators selected from a broad

range of strategies based upon an assessment of each site's needs, barriers, and facilitators. These strategies are described below.

Local change agent (champion) participation. Facilitators helped sites identify local individuals to work as change agents and hire PCMH program staff using program position descriptions that the team disseminated to each participating site. Local change agents serve as an information contact point for the internal facilitator, providing ongoing PCMH program marketing and championing and disseminating information about implementation activities to both primary care and mental health care providers and staff. Program marketing can include giving formal presentations about the program and the implementation process, providing brochures that describe the program to patients and providers, and providing brief updates on the program outcomes during scheduled staff meetings and informal interactions with providers.

Provider education and academic detailing. It is important to include a plan for educating existing providers and new program staff. The PCMH proposal included a plan for academic detailing, that is, educating primary care providers and mental health care providers about evidence-based treatment guidelines for three common mental health disorders (i.e., depression, anxiety, and alcohol abuse), teaching them how to participate in true collaborative care in the primary care setting, and supporting the implementation process. The team supplemented existing network-based clinical and research faculty through consultation with national experts.

During implementation of the PCMH initiative (i.e., when change agents introduce and establish the program), the internal and external facilitators conducted site visits to each clinic. At that time, the facilitators provided academic detailing (Soumerai, 1998; Soumerai & Avorn, 1990) to network and medical center management to ensure they were aware and supportive of the

PCMH program and educated site personnel on program components. Throughout the implementation activities, the facilitators offered educational tools tailoring site-level educational efforts. In addition, the facilitators coordinated ongoing annual regional meetings for PCMH program staff and local change agents. These meetings included sessions on evidence-based practices for the common mental health disorders seen in primary care as well as techniques to facilitate the implementation and sustainability of the PCMH program.

Stakeholder engagement. Because the internal facilitator resided at the network level, this facilitator was able to engage regional and medical center managers directly. In addition, facilitators incorporated feedback on the implementation process into existing leadership meetings and information dissemination mechanisms, thus making the most of a limited resource, time. As described above, the local change agent, working with the internal facilitator, provided ongoing marketing of the program to local stakeholders to maintain their engagement and support throughout implementation. Some of the most important facilitator activities were the team site visits to each of the participating clinics. These visits provided an opportunity for engaging local management and providers and identifying site-specific needs and program adaptations jointly. This multilevel approach allowed for the development of an implementation process that had both top-down (i.e., network managers and experts) and bottom-up (i.e., local clinic staff members) support (Parker, de Pillis, Altschuler, Rubenstein, & Meredith, 2007).

Program adaptation to fit site-specific needs. Key to sustainable implementation is adaptation of a clinical program to fit the local context and needs while ensuring fidelity to the program's core components (Griest, 1991). To accomplish this for the PCMH program, the internal and external facilitators met with primary care,

mental health care, and nursing leadership, the PCMH providers, and other key program staff (e.g., suicide prevention coordinators) during the site visit and worked through an adaptation checklist based on work in two prior related studies (Fortney et al., 2009).

Monitoring fidelity. Once evidence-based programs are adopted, it is important to monitor fidelity over time. Fidelity monitoring ensures that future program changes occur because of conscious decisions (e.g., those to enhance local fit) as opposed to unintended drifts from the original evidence-based design. Such drifts may result in variations that prevent achieving the intervention's goals and highest level of potential effectiveness (Fixsen, Naoom, Blase, Friendman, & Wallace, 2005). Based on prior work by this team, there was an existing quality improvement tool to monitor fidelity to evidence-based PCMH care management component (Rubenstein et al., 2002). The team adapted this tool to include colocated collaborative care during this project. The fidelity tool was developed for a local site to review the status of its program and make changes based on the review. The results of each site's review were discussed on monthly regional conference calls between the implementation team and the local PCMH staff.

Performance monitoring and feedback. The internal facilitator also worked with the local Office of Information Technology to develop monthly performance feedback reports. These reports documented the ongoing PCMH program implementation and process of care outcomes and supported the sites' adherence to performance measures (e.g., mental health follow up and screening).

Formative evaluation. Formative evaluation is a rigorous assessment process designed to identify potential and actual influences on the progress and effectiveness of implementation efforts (Stetler et al., 2006). The internal and external facilitators

tors use formative evaluation techniques to support and adapt both the clinical program and implementation intervention as needed. As mentioned above, facilitators used a checklist (Rubenstein et al., 2002) to help site-level stakeholders tailor the PCMH program to site-specific needs and resources while maintaining fidelity to the evidence. Additionally, the internal facilitator conducted monthly implementation teleconferences with PCMH personnel to review implementation process outcomes and identify implementation barriers and potential resolutions early in the process. During these calls, the external facilitator served as an expert consultant on the two PCMH components, care management and colocated care.

Establishment of a Learning-Collaborative

Learning collaboratives are teams from multiple settings who share their collective experiences and challenges in adapting the practice to fit their site-specific needs. Learning collaboratives can incorporate formal in-person training as well as follow up consultation and feedback loops to support sustained learning (The National Child Traumatic Stress Network, 2007). The PCMH facilitators created a network level learning collaborative among participating clinical sites. The learning collaborative met during breakout groups in regional education meetings and through the teleconferences. Using the collaborative in conjunction with their own experiences and internal facilitators' support, the sites were able to address implementation barriers and identify successful innovations.

Ongoing program marketing. Kirchner and colleagues report that frontline staff members and managers believe that ongoing program marketing to front-line providers through brief reminders of the program function and status is critical to implementation (Kirchner, Parker, Bonner, et al., 2009). To support marketing activities, the PCMH program internal and

external facilitators adapted an existing marketing toolkit and provided it to the clinical sites (Kirchner, Parker, Yano, et al., 2009). The toolkit included fliers and presentation slides describing the program and provider and patient educational tools for common PCMH disorders. The PCMH staff presented these materials in brief face-to-face meetings with local change agents and clinical staff members.

Outcomes

The PCMH program was implemented at 10 VA Medical Centers including eight clinics located at the main medical centers and five at Community Based Outpatient Clinics (CBOCs). Three sites selected the care management component as their integrated model. Two of these sites had CBOCs that had participated in research programs associated with care management for depression and the PCMH program represented a continuation or expansion of this work. The third site had experienced space constraints following Hurricane Katrina and selected the care management component because it could be telephone-based and personnel associated with the program could be located remotely. A fourth site implemented both care management and colocated care in different areas of their VAMC so that they could obtain experience in both components. The remaining sites selected the colocated collaborative component. In general, site leadership endorsed an understanding of the colocated collaborative care model above care management.

Funding supported a total of 22.25 full time positions; these were program-supported PCMH clinical personnel, the network based internal facilitator and administrative support position, 25% time of an external facilitator with expertise in PCMH programs and implementation strategies, and 10% time of an external facilitator with expertise in the care management program. One year after initial funding, all clinics had hired 100% of pro-

gram-supported staff members and were seeing mental health patients in primary care. In addition, sites allocated resources to expand the number of PCMH clinical personnel beyond the original funded positions.

Program staff members have participated in two regional educational programs; over 40 participants attended each program. Program staff members also participated in monthly program-specific conference calls that addressed barriers to implementation and collective problem solving. These calls have established a network-wide learning collaborative. The facilitation team has conducted site visits at each participating clinic, allowing a briefing of the program to site-level leadership and review of the PCMH program components to foster adaptation to site-specific needs.

The first goal of the PCMH program was to increase the number of primary care patients identified as having mental health and substance use disorders. Twelve months after program implementation, the percentage of primary care patients identified as having a mental health disorder increased from 22 to 24%. Thus, it is unclear whether the PCMH program was able to increase the number of identified patients substantially. The second goal was to increase the number of patients receiving mental health services in primary care clinics. One year after initial funding, 10,602 individual patients had received care through the PCMH program. Before the implementation of this program no patients were seen for mental health services in PCMH. On average, each unique patient seen in the program received 2.2 visits with a marked variation between sites that provided care management (3.9 average number of visits, range 2.7–4.6 visits) and collocated collaborative care (1.7 average number of visits, range 1.5–3.3 visits). The one site that provided both care management and collocated collaborative care averaged 2.3 visits per patient.

The final goal was to change the network's culture to support primary care delivery of mental health services while allowing the mental health care setting to serve those patients referred for intensive mental health and substance abuse treatment. On average, referrals to specialty mental health at the participating sites declined from 1,404 in the year before beginning the program to 808 in the year following implementation. We believe this indicates that culture may have changed.

Preliminary evidence indicates that this implementation model is effective and efficient. Although the network received only 5.4% of the PCMH positions funded nationally, including positions to support the internal and external facilitation team, at eight months following PCMH program implementation the network had seen 9.44% of all the individual patients seen through PCMH nationally. Finally, this network level facilitation model, described above, is being replicated in two additional VA Networks.

DISCUSSION

This network PCMH program was able to establish and sustain a clinical-research partnership that supported both top-down (i.e., network managers and experts) and bottom-up (i.e., local clinic staff members) quality improvement activities in an efficient and effective manner. The development, funding, and implementation of the PCMH program minimized the dedicated time that local PCMH change agents and staff needed to spend while ensuring the incorporation of their input into quality improvement implementation locally and regionally (Henderson, Kirchner, Daily, & Kalupa, 2008). At the same time, the process fostered adherence to research evidence and network priorities. Recently, there has been a growing consensus among implementation researchers that such a blend of top-down and bottom-up implementation strategies may be the most effective means of achieving quality improvement (Ginsburg, Lewis,

Zackheim, & Casebeer, 2007; Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004; Grol et al., 2005; Parker et al., 2007; Parker et al., 2009). Below, we describe how this partnership achieved the multi-level approach and four core properties of change that Ferlie and Shortell identified as essential to improving the quality of health care (Ferlie & Shortell, 2001).

Multilevel Approach

A key aspect of this PCMH program was participation at each of the many stakeholder levels that exist within the VA organizational structure including front line providers and clinic-level managers. Critical to the ability of this program to engage stakeholders from multiple levels was ongoing participation of a dedicated internal facilitator located within the clinical service line as well as an external facilitator with expertise in the actual primary care mental health models as well as implementation science. This facilitation team, a clinical-research partnership in and of itself, functioned as the stimulus to engage and sustain stakeholder involvement. Some may argue that multistakeholder participation is an idealized view of quality improvement, desirable but impractical in terms of resource allocation. We believe, however, that without such engagement substantial change is extremely difficult to obtain.

Leadership at All Levels

Initial and ongoing leadership participation at all organizational levels was a focus of the PCMH program. Regional leaders' involvement naturally occurred through the network leaderships' initiation of the clinician research partnership. Leveraging this support, the clinical-research partners engaged the medical center leaders in the program's development phases, which is associated with continued involvement in implementation. The facilitation team nurtured ongoing medical center leadership and front line provider involve-

ment through site visits. During these visits, medical center and clinic leaders participated in site-level program adaptation and received feedback of implementation activities and clinical outcomes. Finally, ongoing marketing of the program to front line providers through brief reminders of the program function and implementation status during staff meetings and informal encounters allowed key stakeholders to maintain knowledge of the implementation and the program's status at each clinic. Feedback regarding the implementation process, through leadership reports and regularly scheduled network meetings, also fostered stakeholders' ability to maintain such knowledge.

Pervasive Culture Support of Learning Throughout the Care Process

Because this network housed a Mental Illness Research Education and Clinical Center, an educational infrastructure could support the conferences that provided clinical education to PCMH staff and program champions. Yet, education alone rarely leads to true health care change (Davis, 1998; Soumerai, 1998). Therefore, the establishment of the PCMH staff learning collaboratives was a critical component of providing ongoing education. In addition, linking continuing education throughout a quality improvement program's implementation can improve the target outcomes of clinical change (Margolis et al., 2004). Although the facilitators initially led the learning collaborative, ultimately the members of the learning collaborative became "experts" themselves in identifying and overcoming barriers to implementing the PCMH program. Interestingly, while learning collaboratives are typically time and site limited (The National Child Traumatic Stress Network, 2007) the PCMH collaborative has continued beyond the original interventions sites. As this network has moved to disseminate the PCMH program to include all primary care clinics within all 10 of the network's medical cen-

ters and CBOCs, the original PCMH staff members are now assuming roles as mentors and program champions.

Emphasis on the Development of Effective Teams

Ferlie and Shortell note that the development of effective teams has had mixed results and is particularly challenging when there is a lack of a detailed systematic approach to team development (Ferlie & Shortell, 2001). In the PCMH program, the facilitator team provided the structure within which the teams were developed and maintained over the course of the quality improvement effort. Specifically, the facilitator team helped define the roles of the team, overcome barriers related to status differences (e.g., management and providers, members from different clinical backgrounds), ensured communication between network level leadership and the PCMH implementation efforts at the sites, provided feedback on the team performance and monitored other initiatives within the health care system (e.g., suicide prevention programs, postdeployment clinics) to ensure that the PCMH program staff were aware of these initiatives and adapted their program to best work within the changing health care environment.

Perhaps the most interesting development has been the transition of team responsibilities from the original regional and medical center primary care and mental health champions who were initially responsible for program implementation to the frontline PCMH providers. This transition supported the change in program needs from active implementation to ongoing program sustainability. Thus, in this regional implementation program, effective team development was a fluid process that adapted to fit the stage and needs of the implementation effort. Other effective teams that participated in the program were the clinical-research partnerships that initially worked to design and secure funding for the implementation of the

PCMH program. As with the program champions, these teams evolved into facilitation teams in which clinicians and researchers worked together to implement the PCMH initiative.

Use of Information Technologies for Continuous Improvement and Accountability

Because the VA has an electronic medical record and administrative database that includes process of care data, the team was able to develop a performance feedback plan for the PCMH program. This, in turn, supported a formative evaluation so that clinics could adapt the PCMH program and its implementation processes as needed. During the developmental stage of implementation, the regional-level clinicians and researchers worked with clinical sites and network leaders to identify current primary care practice patterns for managing depression, alcohol abuse, and posttraumatic stress disorder (PTSD). This assessment facilitated the selection of the specific evidenced-based PCMH program tool that could best meet site-specific and regional needs. This also helped sites identify and address possible barriers and facilitators to implementation.

Although the PCMH program achieved many of its goals, it represents an experience that occurred in only one VA network. Thus, this is a "case study" that may or may not succeed in more general application. In addition, given that the case study was a part of a clinical initiative, the evaluation of the program is limited to outcomes that facilitated implementation. However, it is notable that two additional VA networks are in the process of evaluating the efficacy of the facilitation model applied in the PCMH program. Finally, although the incorporation of implementation research personnel into a clinical quality improvement initiative is unique, it is not beyond the scope of health care settings outside of VA. The collaboration during the development of the PCMH program was

similar to the degree of partnering that occurs within participatory action research. Further, the team incorporated the support of the external facilitators, both of whom were primarily researchers, into the cost of the PCMH implementation program. A number of health service scholars have proposed that researchers, managers, and providers work collaboratively when implementing QI programs (Parker et al., 2007; Parker et al., 2009; Rubenstein, Mittman, Yano, & Mulrow, 2000; Sullivan et al., 2005). Such collaboration eases the resource burdens associated with quality improvement for frontline providers by pairing them with implementation experts and facilitates the movement of clinically relevant research findings to the frontline of care. In such collaborative efforts, the role of the researcher is markedly different than it is in traditional clinical trials. Rather than serving as independent evaluators of a rigidly controlled intervention, researchers function as quality improvement facilitators and can engage in formative evaluation and feedback conducted during rather than after implementation. In many ways, this has been a “missing link” in efforts to implement evidence-based practices into routine clinical care.

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