The Physician Mentored Implementation Model: A Promising Quality Improvement Framework for Health Care Change
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Abstract
Quality improvement (QI) efforts hold great promise for improving care delivery. However, hospitals often struggle with QI implementation and fail to sustain improvement in either process changes or patient outcomes. Physician mentored implementation (PMI) is a novel approach that promotes the success and sustainability of QI initiatives at hospitals. It leverages the expertise of external physician mentors who coach QI teams to implement interventions at their local hospitals. The PMI model includes five core components: (1) a hospital self-assessment tool, (2) a face-to-face training session including direct interaction with a physician mentor, (3) a guided continuous quality improvement and systems approach, (4) yearlong individual physician mentoring, and (5) a learning community supported by a resource center, listserv, and webinars. Mentors provide content and process expertise, rather than offering “one-size-fits-all” technical assistance that might not be sustained after the mentoring year ends. Mentors support and motivate QI teams throughout the planning and implementation phases of their interventions, help to engage hospital leadership, garner local physician buy-in, and address institutional barriers. Mentors also guide hospitals to identify opportunities for the adaptation and customization of original evidence-based models of care while ensuring the fidelity of those models. More than 350 hospitals have used the PMI model to implement successful national and statewide QI initiatives. Academic medical centers are charged with improving the health of patients and reengineering care delivery; thus, they serve as the ideal source for physician mentors and can act as leaders in implementing QI projects using the PMI model.

Efforts in health care to ensure quality and safety while optimizing efficiency lag behind those in other industries. In recent decades, U.S. health care institutions have begun to follow the approach of companies such as General Electric and Motorola, embracing quality improvement (QI) principles and using QI processes to change the delivery of health care. Although such QI programs hold promise for improving care delivery, hospitals often struggle with implementation and fail to sustain improvement in either process effectiveness or patient outcomes. Multi-institution QI efforts face additional challenges in demonstrating successful and sustained changes. Of note, relatively little is known about exactly how large-scale QI initiatives can be effective and replicated. Despite the promising nature of some well-publicized campaigns and numerous collaborative “breakthrough” series, little published evidence indicates that such efforts actually enhance care sufficiently to withstand formal scientific review. This gap is particularly important given the vast efforts to reduce harm by the Hospital Engagement Networks (HENs), which are funded by the Centers for Medicare & Medicaid Services. The HENs work at the hospital system, regional, state, or national level to help identify solutions that are in place already and to disseminate them to other hospitals and providers. Since the seminal 2001 Institute of Medicine report that brought quality to the forefront of our national discussion, disseminating innovations to bridge the quality chasm has remained a priority. Researchers have attributed the pervasive overuse of ineffective interventions, the underuse of effective care, and errors in execution to the slow rejection of disproven or even harmful approaches and the even slower adoption of innovations based on existing evidence-based practices and new knowledge. The challenges or barriers commonly cited as obstacles to implementing QI efforts and innovative change include lack of sustained leadership support, inadequate resources allocated for implementation, insufficient staff time to participate, failure to develop robust measurement and data feedback systems, misalignment of incentive structures, and cultural resistance to change. Mentored implementation is a novel approach to collaborative QI recognized by the Joint Commission and the National Quality Forum with the 2011 John M. Eisenberg Award for Innovation in Patient Safety and Quality at the National Level. This approach is based on experience from other fields such as agriculture (e.g., field agents) and is beginning to show results, specifically with physicians serving in the mentor role. Since 2008, through several Society of Hospital Medicine (SHM) national (e.g., Project BOOST–Better Outcomes by Optimizing Safe Transitions), venous thromboembolism, and glycemic control) and statewide QI initiatives (Illinois PREP–Preventing Readmissions through Effective Partnerships), 357 hospitals have participated in physician mentored implementation (PMI) efforts. Preliminary data on PMI programs show significant improvement in patient outcomes, as well as improvements in
the communication, QI knowledge, and project management skills of hospital teams. For example, Project BOOST hospitals identify two clinically and organizationally similar units, then implement BOOST with one while comparing its outcomes with those of the control unit. For the first two national cohorts (2008 and 2009), we collected data through June 2010. Comparison of prepost 30-day readmission rates between the BOOST and control units showed a 13.6% relative reduction in the BOOST units but no change in the control units. Project BOOST is one of the components in the PREP collaborative. Preliminary data from six hospitals enrolled in the first cohort showed a 24.7% reduction in readmissions in BOOST units from January 2011 to January 2012 but no change in the control units. In this article, we use the Project BOOST example to describe the theoretical principles underpinning the PMI model and to advocate its use to leverage the expertise of physicians at academic medical centers (AMCs).

Characteristics of the PMI Model

The widespread adoption of effective health care interventions and models will be essential to improving the value of health care delivery in America. In his book Diffusion of Innovations, Rogers outlines the critical factors that influence the speed with which useful ideas spread. Within health care, Berwick noted that the five influential characteristics of innovations are (1) perceived benefit of the change; (2) compatibility of the change with the current culture, values, beliefs, and needs of the organization and individuals; (3) level of simplicity of the change; (4) trialability; and (5) observability. In addition, O'Brien and colleagues emphasized the four interrelated dimensions of an effective organization-wide QI effort—the technical, cultural, strategic, and structural dimensions. Finally, Ferlie and Shortell described how barriers to QI implementation may arise at multiple levels of health care delivery—the individual, group or team, organizational, and environmental levels.

To address all these factors, the PMI model was developed to address intervention characteristics, individual factors, teamwork, and organizational factors to achieve the effective adoption of health care innovations and the sustained implementation of evidence-based practices. A key step in any PMI initiative is to address and overcome the barriers to the implementation and sustainability of QI projects at the hospital (see Figure 1) while recognizing the realities of the external environment. A central organization (e.g., a medical society or AMC) is responsible for coordinating the PMI process, including mentor selection and training and PMI model fidelity. Physician mentors are nominated and selected on the basis of their expertise in a clinical content or process area and on their QI skills and experience. As an external change agent, the physician mentor empowers the local QI team as the “owner” of the project; coaches the team; offers validation for appropriate interventions and efforts; facilitates the team’s ability to overcome motivational and educational hurdles; and works to increase organizational acceptance and implementation of the change by influencing the institution’s senior leadership and medical staff. Research confirms that this approach benefits patients.

Figure 1

Physician mentored implementation (PMI) model. The PMI coordinating organization is responsible for mentor selection and training and for model fidelity. As an external change agent, the physician mentor empowers the local quality improvement (QI) team to address four domains—intervention characteristics, individual factors, teamwork, and organizational factors—to achieve the effective adoption of health care innovations and the sustained implementation of evidence-based practices.

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**Characteristics of the factors affecting QI implementation**

**PMI central coordinating organization(s)**

- Mentor selection
- Mentor training
- Mentor community

**Physician mentor/external change agent as content expert and provider of QI expertise**

**Intervention**

- Evidence strength and quality
- Benefit/relative advantage
- Compatibility/adaptability
- Simplicity
- Trialability

**Individual**

- Knowledge and skills
- Accountability
- Attitude toward change/innovation
- Self-identification
- Self-efficacy

**Teamwork/process**

- Plan, design, execution
- Interdisciplinary team/team composition
- Communication
- Access to knowledge and information
- Available resources

**Organization**

- Climate for QI and culture
- Capability for QI and change
- Leadership engagement
- Physician engagement
- Relative priority

**External environment**

- Patient needs and resources
- Community engagement
- Policy (incentives, penalties, etc.)
- Peer pressure
Implementing the PMI Model

The PMI model includes five core components (see Table 1): (1) a hospital self-assessment tool, (2) a face-to-face training session including direct interaction with the mentor, (3) a guided continuous quality improvement (CQI) and systems approach, (4) yearlong individual physician mentoring, and (5) a learning community supported by a resource center, listserv, and webinars.

Hospital self-assessment tool

Hospitals first complete a focused self-assessment to analyze their organizational context, baseline system processes, relevant clinical practices, existing resources, barriers to change, and improvement efforts to date. Expansion of this self-assessment may include process flow mapping (e.g., hospital discharge, see Supplemental Digital Figure 1 at http://links.lww.com/ACADMED/A241). The results of this self-assessment are discussed at a kickoff training session attended by the QI team and the mentor, who was selected because his or her skills and experience align with the needs of the hospital, based on the findings of the self-assessment.

Face-to-face training session

This off-site, one- to two-day session for the hospital's QI team provides education in the area of focus (e.g., care transitions, palliative care, in-hospital glycemic control, in-hospital infection) and in evidence-based interventions, and interactive exercises to share expertise in QI methods directly applicable to the relevant issue. The hospital's self-assessment, completed prior to the kickoff training, allows the mentor to gain an understanding of the existing systems and organizational culture. The mentor guides the hospital's QI team in developing initial action plans, which include a problem statement, root cause analysis (RCA), comparative analysis to alternative interventions to address the stated problem, the planned interventions, an implementation plan with timeline, and the identification of several performance indicators to evaluate the impact of the interventions.

Systematic CQI

The PMI model leverages this approach while acknowledging local contextual issues (e.g., centralized pharmacy service or a medical staff policy). CQI provides a framework for initiating and sustaining improvements in health systems and incorporates elements of statistical measurement, process improvement, employee participation, and education/training. It also engages frontline staff in iterative problem solving, using Plan-Do-Study-Act (PDSA) cycles of learning and decision making based on real-time process measurements. A systematic QI approach provides structure as the QI team implements change, including the formation of an interdisciplinary team and a focus on key process changes, as well as setting SMART (Specific, Measurable, Achievable, Relevant, Time-bound) goals after baseline measurements. The PMI model provides training to the QI team in how to conduct RCA and identify system gaps, and encourages each hospital to adapt improvement methods and tools to its own unique culture and circumstances. Coached by the physician mentor, the QI team uses system change strategies and PDSA cycles to test process changes. For a hospital with an experienced and well-trained QI team, the mentor serves as a resource for evidence-based information and an outside expert providing support for change.

Physician mentoring

The “secret sauce” of the PMI model is the mentoring provided by an external physician who is an expert in the area of focus (e.g., care transitions, palliative care) and experienced in QI methods (see Table 2). To mentor the QI team, the physician develops an understanding of the hospital’s culture, provides guidance in developing and implementing operational work plans, shares his or her own experiences and strategies for overcoming barriers, encourages the teams to adhere to the timelines and to overcome barriers, and teaches techniques for facilitating effective practice change.

The PMI model promotes positive, self-supporting management teams with a problem-solving focus that is rooted in the local culture and health care system, and it embraces the belief that every project needs to be adjusted to the culture of the organization. Physician mentors provide expertise and transfer management skills, rather than offering “one-size-fits-all” technical assistance that might not be sustained after the

| **Table 1** Components of the Physician Mentored Implementation Model |
|---------------------------------|---------------------------------------------------------------|
| Component                      | Description                                                                 |
| Hospital self-assessment tool   | Assists the quality improvement (QI) team in assessing baseline processes and performance; provides information for the mentor to prioritize efforts; subsequent use of standardized metrics allows comparison across sites |
| Face-to-face training session   | Provides the QI team with didactic training on evidence-based interventions and interactive exercises in QI methods in the area of focus |
| Continuous quality improvement and systems approach | Provides a framework for initiating and sustaining improvements in health systems and engages frontline staff in iterative problem solving using Plan-Do-Study-Act cycles integrated into a Lean or Six Sigma methodology |
| Individual physician mentoring | Provides continuous support and guidance from the planning through implementation phases of the intervention; helps to engage hospital leadership, garner local physician buy-in, motivate the QI team, and address institutional barriers; provides written feedback and regularly assigns time-sensitive tasks to complete; includes: |
|                                 | • Scheduled monthly teleconferences |
|                                 | • Site visits |
|                                 | • Performance monitoring and data collection |
|                                 | • Emails and individual phone conversations |
| Learning community              | Acts as a communication vehicle for the exchange of experience and information among sites with shared learning; provides opportunities to learn through innovative case studies; includes: |
|                                 | • Resource center |
|                                 | • Listserv |
|                                 | • Learning session and collaborative webinars |
mentoring year is completed. Mentors also are trained to offer support while challenging the QI team to meet the clearly expressed goals (i.e., they hold their feet to the fire). By using an active listening approach,30 mentors try to guide the QI team to think through issues impartially and knowledgeably to find solutions to problems. The steps of the QI initiative are defined collectively by the team that will implement it, rather than imposed by external consultants, thus increasing the likelihood that the team will achieve the desired results.

After the kickoff training, the mentorship continues with a monthly mentor teleconference and program-specific follow-up activities. On each mentor call, the QI team is required to prepare an agenda and present oral progress reports to the mentor and follow up by producing their own minutes for the mentor’s review. Between mentor calls, the QI team is tasked with meeting at least biweekly to set clear targets for what they hope to achieve, conducting RCA to understand system barriers, using process mapping to understand patient flow and clinical pathways, undertaking PDSA cycle implementation, and using data review and Pareto-chart analysis to identify the opportunities for improvement that would yield the greatest impact with the fewest resources.

Another integral component of the PMI model is an on-site visit conducted by the physician mentor. During a typical site visit (see Table 3), the mentor meets with senior leadership (i.e., the C-suite) to highlight the success of the QI team and to garner support; interacts with local physician champions to discuss strategies to increase physician engagement; collaborates with the QI team to discuss barriers and brainstorm solutions; and tours the hospital to observe its structure and workflow in person. The mentor may also give presentations at a medical staff meeting or grand rounds to convey the importance of the QI team’s efforts. In addition to the mentor calls and site visits, mentors are available by e-mail and phone to respond to ad hoc questions and discussion topics raised by the QI team.

We cannot overstate the importance of support from senior leadership to a QI project. Aligned support from operational and clinical leaders is critical, particularly when workflows that cross disciplines and departments are redesigned.31,32 Without such support, even the most engaged, enthusiastic, and skilled champions may be unable to effect change. Thus, the PMI model requires that each hospital identify an executive sponsor and submit an executive letter of support that delineates explicit backing for the project. The executive sponsor is invited to join the calls with the physician mentor, and the mentor in turn communicates with the executive sponsor directly when needed. During the site visit, the physician mentor meets with the C-suite to demonstrate how the QI project is aligned with the organization’s quality and safety objectives. The mentor may highlight any observed institutional barriers to success and offer possible solutions. Our experience and qualitative research from Project BOOST indicate that a knowledgeable outside expert (i.e., the physician mentor in this consultative role) more readily influences change across department structures and hierarchies.33

Given the increasing pressure on hospitals to improve the quality and efficiency of patient care, engaging physicians in QI initiatives is essential—the active participation of physicians in a clinical improvement effort dramatically improves its chance of success.34,35 While experts acknowledge the importance of physician participation in QI efforts, the actual level of such participation required for success continues to present challenges for quality and safety advocates.36,37 Our experience indicates that having a physician as a mentor facilitates local physician engagement and obviates typical resistance to change by raising local physicians’ awareness of the hospital’s quality activities, engaging the medical staff, and supporting local physician champions to build capacity for an enhanced culture of safety and QI among physicians. The physician mentor succeeds in such academic detailing38,39 by promoting attitude and culture changes.

### Table 2

<table>
<thead>
<tr>
<th>Phase</th>
<th>Timeframe</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training and planning</td>
<td>1–4 months</td>
<td>• Before kickoff&lt;br&gt;o Analyze current processes&lt;br&gt;o Conduct process mapping&lt;br&gt;o Assemble team&lt;br&gt;o Collect/evaluate baseline data&lt;br&gt;o Engage hospital leadership&lt;br&gt;• During face-to-face kickoff training&lt;br&gt;o Select interventions with mentor’s guidance&lt;br&gt;o Develop project implementation and operational plan&lt;br&gt;• After kickoff&lt;br&gt;o Redesign care processes&lt;br&gt;o Tailor interventions/tools&lt;br&gt;o Engage organization (communication/education/outreach)&lt;br&gt;o Develop policies/tools/forms/order sets&lt;br&gt;o Identify metrics and evaluation strategy</td>
</tr>
<tr>
<td>Implementation</td>
<td>4–9 months</td>
<td>• Implement interventions&lt;br&gt;• Monitor performance&lt;br&gt;• Apply Plan-Do-Study-Act cycles&lt;br&gt;• Adjust implementation plan&lt;br&gt;• Keep stakeholders informed</td>
</tr>
<tr>
<td>Implementation and maintenance</td>
<td>9–12 months</td>
<td>• Analyze data and assess project performance&lt;br&gt;• Adjust intervention components&lt;br&gt;• Report outcomes/progress to stakeholders&lt;br&gt;• Roll out effective interventions&lt;br&gt;• Develop sustainability plan</td>
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Table 3
Physician Mentored Implementation Model Site Visit Activities

<table>
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<tr>
<th>Activity</th>
<th>Goal</th>
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<tbody>
<tr>
<td>Meeting with C-suite</td>
<td>• Provide background education on project</td>
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<tr>
<td></td>
<td>• Garner support for internal quality improvement (QI) team to</td>
</tr>
<tr>
<td></td>
<td>achieve program objectives</td>
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<tr>
<td></td>
<td>• Explain any institutional barriers to success, open discussions for</td>
</tr>
<tr>
<td></td>
<td>identifying solutions</td>
</tr>
<tr>
<td>Grand rounds</td>
<td>• Elevate importance of team’s efforts</td>
</tr>
<tr>
<td></td>
<td>• Highlight how the broader community can support target processes</td>
</tr>
<tr>
<td></td>
<td>• Garner support for team’s efforts</td>
</tr>
<tr>
<td>Meeting with QI team</td>
<td>• Observe team dynamics and processes</td>
</tr>
<tr>
<td></td>
<td>• Review status, provide feedback on progress, and collaborate on</td>
</tr>
<tr>
<td></td>
<td>action planning</td>
</tr>
<tr>
<td></td>
<td>• Identify and troubleshoot implementation barriers</td>
</tr>
<tr>
<td></td>
<td>• Provide moral support and encouragement</td>
</tr>
<tr>
<td>Meeting with ancillary</td>
<td>• Identify issues not recognized by primary QI team that may be</td>
</tr>
<tr>
<td>teams</td>
<td>serving as barriers</td>
</tr>
<tr>
<td></td>
<td>• Help negotiate win/win solutions for competing priorities</td>
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</table>

Among staff and physicians, providing valued feedback on what likely will or will not work, and demonstrating expertise in the topic area to both frontline staff and physicians.

Learning community

Although the individual work done by the physician mentor and the QI team is key to the PMI model, collaboration and sharing among participating hospitals on regularly scheduled webinars (i.e., learning sessions) also contribute to the initiative’s effectiveness. As others have shown,49 these learning collaboratives give QI teams the opportunity to share plans for improvement and the results of their PDSA cycles, including barriers encountered and lessons learned. A Web-based resource center also provides a space for QI teams to connect and accelerate the spread of awareness of best practices. In addition, the listserv and online forum allow facilities to discuss role descriptions and common challenges and share tools, resources, and implementation strategies that have contributed to local successes. Listserv participants also act as a readily available resource for asking questions and quickly receiving answers. Often, this communication yields novel approaches that might otherwise not have been considered.

Administering the PMI Model

To ensure the fidelity of the PMI model, a coordinating organization is needed. The role of this organization includes identifying experts with the appropriate skills to be effective physician mentors, conducting mentor training, maintaining business agreements with mentors, holding mentors accountable, and developing and expanding the mentor community. The organization also can serve as a resource for evidence-based practices.

AMCs have a long-standing tradition of innovation and scholarship within a multifaceted mission to provide patient care, educate the next generation, and conduct research. Thus, they are well positioned to lead the development, application, and evaluation of QI efforts nationally.41 For example, the Northwestern University Feinberg School of Medicine served in this role in the PREP collaborative. Medical professional societies also may serve as coordinating organizations (e.g., the American Heart Association and the American Stroke Association’s Get with the Guidelines effort42 and the SHM’s Project BOOST).43 In response to national pressure to both reduce costs and improve health care outcomes, most AMCs and many professional societies have defined and promulgated QI strategies, developed scholarly QI programs, and implemented changes to improve interdisciplinary collaboration and information sharing, aiming to elevate academic success in QI. With the goal of improving the health of patients and reengineering care delivery, AMCs also could be an ideal source for physician mentors and could administratively facilitate the dissemination of high-quality practices across the health care sector.

Preparing Physician Mentors

For the PMI model to succeed, selecting appropriate mentors is critical. Previous research identifies those characteristics that define effective mentors (see List 1).44,45 For example, physician mentors should be subject matter experts and have demonstrated expertise in applying change management principles in their own practice settings. However, good intentions, knowledge, and experience in a subject area are not sufficient for successful mentoring. Physician mentors also must possess excellent communication skills, empathy or emotional intelligence, and the ability to adapt quickly to changing circumstances, as well as be able to offer timely advice that aligns with organizational readiness.

Physician mentors undergo formal training, which ensures that all

List 1

Characteristics of Effective Physician Mentors, Adapted from Previous Research44,45

- Exemplary role models
- Good teachers for adult learners (i.e., able to advise and instruct but encourage autonomy, ask reflective questions)
- Possess enhanced listening and feedback skills (i.e., high emotional IQ)
- Prepared to set aside their own agenda to ensure time and attention for mentees
- Encourage mentees to share their ideas and offer honest and constructive feedback
- Ask mentees what they are looking for in the mentoring relationship and help them to accomplish what they want to accomplish
- Reflect on mentees’ issues even when not working directly with them
- Comfortable referring/sending mentees to someone else for additional advice
- Act as motivators to support the objectives of the training program
mentors have the same knowledge of an evidence-based intervention, understand key responsibilities, and learn skills and strategies required for effective mentorship. To support new (“junior”) mentors, they are paired with more experienced (“senior”) mentors, who shadow them during the initial mentoring activities. In addition, Project BOOST mentors document their interactions with the QI team using a Web-based platform that the management team at the coordinating organization can review. Hospitals (i.e., the PMI model customers) also are surveyed to evaluate the effectiveness of the mentors. Other support and standardization in training mentors comes from a “mentor support program” designed to provide ongoing support for mentors and standardized coaching through a library of mentor resources. These online resources include mini-lessons on common topics, slide sets, and interactive forums where mentors can discuss their uncertainties and seek help for challenging situations. On regular conference calls, mentors report their successes and challenges; seek shared insights, ideas, guidance, and feedback from their peers; and recommend changes and improvements in the program. These meetings have proven invaluable in identifying mentors’ needs, developing strategies for recruiting new mentors for future QI projects, and maintaining momentum for the PMI model.

Characteristics of Successful PMI Initiatives

Effective PMI initiatives require several features: effort driven by frontline staff with leadership support, project ownership, an acceptance of change and an ability to enact change, effective teamwork, and a willingness to allow data-driven change.

According to Rogers,22 the population of potential adopters of innovations falls under a Gaussian curve that can be conceptually classified into five parts: innovators, early adopters, early majority, late majority, and laggards. The smallest group is the innovators, who are the vanguards of early implementation because of their high tolerance for risk and fascination with novelty. Next are the early adopters, who learn quickly from the innovators. The largest groups are the early majority and late majority, who encounter innovative changes passively or fashionably late. The final group includes the laggards, who often conservatively resist change.

In our experience, innovator hospitals proactively seek out the necessary expertise and tools for change. They are high-functioning organizations that can quickly evaluate innovations. One such community teaching hospital participating in Project BOOST actively identified best practices and sought funding opportunities through federal initiatives and demonstrations. Through their care transition effort, the QI team identified the risk of adverse drug events as an important concern. After learning from their physician mentor about another hospital’s success in addressing this issue, the QI team developed a medication intervention to address problem medications and risks of polypharmacy, and enhanced the medication reconciliation process specific to their resources. They subsequently shared their intervention, and several other hospitals have adopted it. The physician mentor functioned as a conduit for communication among a network of innovator hospitals that share the new technology they have developed locally.

Early adopter and early majority hospitals probably benefit the most from the PMI model. Another Project BOOST hospital, which has strong leadership support for adopting evidence-based practice, identified teach-back as an effective way to close the gap in communication between the clinician and patient. After a three-month ongoing effort by the QI team and physician mentor, nursing teams on all shifts started to use the teach-back technique, a simple mechanism by which anyone on the care team can assess a patient’s understanding of a concept or topic.46 The process was used to help reinforce critical information throughout every patient’s stay. Patient satisfaction scores improved dramatically. After the QI team presented this improvement in patient satisfaction to senior leadership and all nurses in the hospital, all units started to use the teach-back technique, and it was integrated into the new nurse orientation as a nursing competency.

Alternatively, late majority and laggard hospitals require physician mentors to be more strategically active to implement change using the PMI model. For example, two such Project BOOST hospitals shared several common features. First, some members of the leadership thought that they already had adequate systems and processes in place and sensed no urgent need to change. Second, a lack of communication between management, the QI team, and frontline staff was pervasive. Third, the QI team did not take ownership of the project, failing to schedule physician mentor calls or site visits, and did not generate meeting agendas and minutes. These hospitals reported high readmission rates, thus they clearly needed to change. For such institutions, physician mentors can expose problems and show leadership the specific areas that need to change.

Limitations to the PMI Model

The PMI model has several limitations. First, it has little impact on external and environmental factors, such as local and national legislative policy, patient socioeconomic needs, and community resources. Still, the physician mentor can promptly inform a hospital of any policy changes and can serve as a resource for new knowledge and research outcomes. Second, sufficient mentor time, separate from existing work responsibilities, is necessary for successful mentorship.47 Physician mentors often are busy with their core clinical, research, and administrative or educational responsibilities and need dedicated time to perform their PMI roles. To overcome this barrier, the PMI coordinating organization should ensure protected time for mentorship through business agreements. PMI programs have been funded in a number of different ways. The primary mechanism has been grant funding via foundations (e.g., the John A. Hartford Foundation), insurance companies (e.g., BlueCross BlueShield of Michigan and Illinois), and direct payment by hospitals to participate. Still, financial resources may represent a barrier to implementation. For example, a hospital pays the PMI coordinating organization the tuition of $24,000 to participate in the 12-month Project BOOST. However, as insurers increasingly are paying for value instead of volume, and as hospitals are subject to financial penalties if they do not achieve specific quality measures (e.g., readmission rates), incentives to fund QI efforts are...
growing. Finally, the PMI model cannot work if the hospital’s leadership is not receptive to it and the staff do not take action. Mentors overcome this limitation by demonstrating their expertise, which garners buy-in from leadership. Leadership’s commitment is also facilitated by financial incentives from insurers. Mentors drive change by setting clear expectations and encouraging the QI team to establish goals and submit interim reports on their project’s progress, holding them accountable. Likewise, mentors are in turn monitored by the coordinating organization.

**Conclusion**

The PMI model is a successful approach to augment needed changes in the implementation of QI projects. By facilitating a systematic QI approach, we believe that sustained improvements can be achieved through increased frontline staff involvement in solving problems and testing solutions. The PMI model aims to increase the use of local data to set targets and monitor progress, improve local teamwork, engage hospital leadership and physicians, and enhance staff accountability. It rewards participating hospitals with excellent value through the provision of in-depth and comprehensive support securing a much higher chance of success than more superficial models, by building leadership and QI skills applicable to a variety of projects in the local health care team, and through the spread of tools or techniques to other sites in the health system. By balancing support and calls to action from their physician mentor, QI teams can master the skills and techniques needed to sustain momentum and problem solving while establishing lasting improvement. As AMCs are the ideal source for physician mentors, they can serve as leaders in implementing QI projects using the PMI model.

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