“A learning organization
has the capability to
improve, and it develops
structures and processes
that facilitate the
acquisition and sharing
of knowledge.”
—Schilling et al. (p. 542)
In 2006, recognizing variations in performance in quality, safety, service, and efficiency, Kaiser Permanente leaders initiated the development of a performance improvement (PI) system. The goal was to achieve sustained best-in-class (top decile on externally benchmarked indicators), high-quality performance across all medical centers. The three previous articles in this series have described the development, key elements, and implementation of the PI system; the PI system’s value framework, including return on investment; and its impact on the identification and treatment of patients with sepsis.

In the first article in this series, we described a process by which we benchmarked other health care organizations. We identified six capabilities of high-performing organizations, which we subsequently sought to build at Kaiser Permanente: leadership priority setting, a systems approach to improvement, measurement capability, improvement capacity, culture of improvement, and organizational learning. Although all six are interrelated and believed to be pivotal to improvement, achieving and sustaining best-in-class quality performance over the long haul in a rapidly changing external environment requires organizations to learn quickly while maintaining high-quality standards.

Learning as a central characteristic of high-performing health care organizations can be conceptualized and measured at individual, team, department, and organization levels of analysis. Learning across organizational levels can be achieved and maintained through collective prioritization of opportunities and the creation of structures that facilitate sharing, supported through strategic planning and training, and grow stronger as organizational members become more proficient learners as a result of their own and their coworkers’ insights, trials, observations, and reactions.

In this article, we describe and reflect on the effectiveness of Kaiser Permanente’s strategy for creating the systemic capacity for continuous improvement that characterizes a learning organization.

Article-at-a-Glance

Background: In 2006, recognizing variations in performance in quality, safety, service, and efficiency, Kaiser Permanente leaders initiated the development of a performance improvement (PI) system. Kaiser Permanente has implemented a strategy for creating the systemic capacity for continuous improvement that characterizes a learning organization. Six “building blocks” were identified to enable Kaiser Permanente to make the transition to becoming a learning organization: real-time sharing of meaningful performance data; formal training in problem-solving methodology; workforce engagement and informal knowledge sharing; leadership structures, beliefs, and behaviors; internal and external benchmarking; and technical knowledge sharing. Putting each building block into place required multiple complex strategies combining top-down and bottom-up approaches.

Successes and Challenges: Although the strategies have largely been successful, challenges remain. The demand for real-time meaningful performance data can conflict with prioritized changes to health information systems. It is an ongoing challenge to teach PI, change management, innovation, and project management to all managers and staff without consuming too much training time. Challenges with workforce engagement include low initial use of tools intended to disseminate information through virtual social networking. Uptake of knowledge-sharing technologies is still primarily by innovators and early adopters. Leaders adopt new behaviors at varying speeds and have a range of abilities to foster an environment that is psychologically safe and stimulates inquiry.

Conclusions: A learning organization has the capability to improve, and it develops structures and processes that facilitate the acquisition and sharing of knowledge.
Learning Organization Defined
In a seminal work describing learning organizations in health care, Senge suggested that learning organizations are those “where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together.”

Senge suggested that learning at the level of a complex organization requires systems thinking, personal mastery, mental models, building shared vision, and team learning. Building on Senge’s perspective, we created the following synthesis to help identify further attributes of an organization with systemic capacity for continual learning:

A learning organization is skilled at creating, acquiring, and transferring knowledge and at creating and sustaining collective, coherent action that reflects new knowledge and insights. Learning involves dynamic cognitive, social, and technical processes occurring at the level of individuals, groups, and the enterprise that, over time, explore new possibilities and exploit existing organizational knowledge.

These cognitive, social, and technical processes include interpretation, internalization, integration, institutionalization, and transfer of knowledge arising from individual intuition, past organizational experience, systematic problem solving, experimentation, and the experiences of other organizations. In the health care sector more broadly, capture of these lessons into manageable and replicable processes represents the ideal of a “learning health care system” that can maximize quality, safety, service, and affordability.

Although innovation and organizational learning should both occur, it is important to note when each adds value. An organizational climate of innovation does not necessarily lead to improved overall performance; it means that an organization is open to trying many new things. Some of those new practices may be effective, others less so. In fact, prioritizing innovation has been known to give organizational members the sense that local innovation is invariably better than applying solutions that have worked elsewhere. A unit may become more efficient or demonstrate better numbers, but for the larger organization a small win remains a small win unless results are communicated to others within the organization who are open to learning what was done and, perhaps most importantly, how it was done, and then trying it for themselves. Learning across teams and departments is stimulated through the sharing of tacit knowledge, such as work-flow processes. Sharing knowledge internally and thus diffusing effective practices is the cumulative process by which organizations “learn.”

We identified six “building blocks” for achieving a learning organization: (1) real-time sharing of meaningful performance data; (2) formal training in problem-solving methodology; (3) workforce engagement and informal knowledge sharing; (4) leadership structures, beliefs, and behaviors; (5) internal and external benchmarking; and (6) technical knowledge sharing. Table 1 (page 534) illustrates the relationships between these building blocks, the remaining five capabilities of high-performing health care organizations, and characteristics of learning organizations which have been identified by others. The table makes clear the conceptual links between this article and the previous ones in this series, as well as how our operational definition relates to other conceptualizations of learning organizations.

Creating a Learning Organization at Kaiser Permanente
Kaiser Permanente, as reported at the outset of the series, is the largest not-for-profit health plan in the United States and consists of three cooperating organizations. Kaiser Foundation Health Plan, Inc., has 8.8 million members in eight geographic regions—from Hawaii to the Mid-Atlantic states. Kaiser Foundation Hospitals oversees 36 medical centers, which provide a full array of inpatient services and multispecialty ambulatory care clinics. Permanente Medical Groups include more than 15,000 physicians representing all medical and surgical specialties. Kaiser Permanente employs more than 165,000 additional care providers and technical, administrative, and clerical employees.

Kaiser Permanente’s large size, loosely coupled structure, and geographically dispersed locations present formidable barriers to creating a learning organization.

Putting each building block into place requires multiple complex strategies—all of which combine top-down and bottom-up approaches (Figure 1, page 535). Leaders understand improvement priorities in relation to organizational goals, target appropriate aspects of systems, and ensure that personnel are capable of making improvements at the necessary organizational levels. Middle and frontline managers work with staff to focus on the value to patients of making improvements, help teams create meaningful goals, and support high-performing teams and a cohesive culture. The dynamic interplay between leadership’s alignment and prioritization and middle management’s and frontline staff’s focus on improvement facilitates learning at Kaiser Permanente.

REAL-TIME SHARING OF MEANINGFUL PERFORMANCE DATA
From the level of the board of directors to frontline teams,
numerous strategies are aimed at enabling real-time sharing of relevant performance data. We previously reported on the Web-based data dashboard (“Big Q”), in which hundreds of performance measures are distilled into a vital few high-level metrics allowing national and regional leaders to answer the question, “As a system, are we improving?” and to identify high-priority areas for improvement systemwide.1 In addition, at the facility and clinic level, Kaiser Permanente’s integrated electronic health record, KP HealthConnect™, generates real-time reports on process and outcome measures to monitor quality and reliability of care. Facility leaders produce numerous reports, such as daily and historic trend reports for inpatient utilization and staffing patterns, to assist managers and teams in decision making on a day-to-day basis.

Frontline teams and departments display storyboards that incorporate data relevant to improvement projects under way. Teams also engage in huddles to address metrics supporting local improvement projects and use patient stories to maintain a patient-centered perspective. At the level of individual health care providers, KP HealthConnect incorporates inpatient and outpatient evidence-based, point-of-care decision supports, integrated with patient data in the form of technology such as the

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Table 1. Relationships Between Learning Organization Building Blocks, Five Capabilities of High-Performing Health Care Organizations, and Characteristics of Learning Organizations Identified by Others*

<table>
<thead>
<tr>
<th>Building Block</th>
<th>Related Capacities of High-Performing Health Care Organizations</th>
<th>Learning Organization Dimensions Identified by Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real-time sharing of meaningful</td>
<td>Measurement</td>
<td>Baldridge: Research and development; learning is driven by opportunities to effect meaningful, significant change and to innovate. Senge: Systems thinking, mental models, building shared vision Garvin et al.: Concrete learning process (information collection, analysis) Crossan et al.: Institutionalizing</td>
</tr>
<tr>
<td>performance data</td>
<td></td>
<td>Baldbrige: Learning results in solving problems at root cause. Senge: Personal mastery, mental models Garvin et al.: Concrete learning process (experimentation, education, training) Crossan et al.: Institutionalizing</td>
</tr>
<tr>
<td>Formal training in problem-solving</td>
<td>Improvement capacity</td>
<td>Baldbrige: Learning is driven by opportunities to effect meaningful, significant change and to innovate. Senge: Building shared vision Garvin et al.: Leadership that reinforces learning Crossan et al.: Institutionalizing</td>
</tr>
<tr>
<td>methodology</td>
<td>Systems approach to improvement, culture of improvement</td>
<td>Baldbrige: Workforce, patient, and stakeholder ideas and input; learning is practiced at personal, work unit, and organizational levels and is a regular part of daily work; learning is focused on building and sharing knowledge throughout the organization. Senge: Systems thinking, team learning Garvin et al.: Supportive learning environment (appreciation of differences, openness to new ideas, time for reflection, openness to new ideas) Crossan et al.: Institutionalizing</td>
</tr>
<tr>
<td>Workforce engagement and informal</td>
<td>Leadership priority setting, culture of improvement</td>
<td>Baldbrige: Learning is driven by opportunities to effect meaningful, significant change and to innovate. Senge: Building shared vision Garvin et al.: Leadership that reinforces learning Crossan et al.: Institutionalizing</td>
</tr>
<tr>
<td>knowledge sharing</td>
<td>Systems approach to improvement</td>
<td>Baldbrige: Research and development, best-practice sharing, benchmarking Senge: Building shared vision, mental models Garvin et al.: Concrete learning process (information transfer) Crossan et al.: Institutionalizing</td>
</tr>
<tr>
<td>Leadership structures, beliefs,</td>
<td>Measurement, leadership priority setting</td>
<td>Baldbrige: Research and development, best-practice sharing, benchmarking Senge: Building shared vision, mental models Garvin et al.: Concrete learning process (information transfer) Crossan et al.: Institutionalizing</td>
</tr>
<tr>
<td>and behaviors</td>
<td>Systems approach to improvement</td>
<td>Baldbrige: Learning is focused on building and sharing knowledge throughout the organization. Senge: Systems thinking, team learning Garvin et al.: Concrete learning process (information transfer) Crossan et al.: Institutionalizing</td>
</tr>
</tbody>
</table>

Panel Support Tool, to provide immediate information on the consistency of patient care with evidence-based effective practices.14-16

**FORMAL TRAINING IN PROBLEM-SOLVING METHODOLOGY**

National and regional leaders focus on ensuring that staff and physicians learn the Kaiser Permanente approach to improvement, thus creating a common vocabulary about and approach to problem solving. This helps the entire system learn and share more rapidly as an organization. To ensure that improvement methods are applied reliably across medical centers, master black belts and Lean masters are hired as internal consultants—“mentors”—in our PI system. These “deep experts” in improvement and systems thinking provide support to (1) medical center leaders in designing and managing operational PI systems and to (2) medical center improvement advisors (IAs), who help facilitate and sustain improvement efforts at the local level.1

Selection of appropriate candidates as mentors is of pivotal importance. Key characteristics of successful mentors include at least 15 years of experience as an improvement expert, having led large complex strategic portfolios of projects, demonstrated deep expertise in sophisticated applications of change management principles in complex organizations, experience in coaching others in operations, and an understanding of an overall PI operating system and the ability to work independently within this system. Kaiser Permanente mentors have experience in manufacturing, automotive, health care technology, and information technology industries. Previous health care experience is unrelated to mentor success, nor does industry experience differentiate between successful and unsuccessful mentors. Mentors who succeed in this setting are characterized by the ability to understand others, relate well to people, adapt to immediate circumstances, and communicate well, including translating and delivering knowledge at appropriate points and in appropriate amounts according to organizational readiness.

We previously described the role of the Kaiser Permanente Improvement Institute in training more than 1,000 IAs to work with frontline teams in designing and testing improvements.1 Additional approaches include innovation and design thinking, which the Kaiser Permanente Innovation Consultancy (http://xnet.kp.org/innovationconsultancy/) uses to create patient-centered strategies to improve care.17

Frontline teams use huddles to test improvements, as well as using Kaiser Permanente’s Rapid Improvement Model (RIM) and plan-do-study-act (PDSA) cycles.

**WORKFORCE ENGAGEMENT AND INFORMAL KNOWLEDGE SHARING**

At Kaiser Permanente, a unique working agreement between unions and management—the Labor Management Partnership agreement—integrates continual learning among frontline teams into daily activities. Established in 1997, the Labor Management Partnership covers more than 96,000 employees represented by 31 local unions, 20,000 managers, and 15,000 physicians. The 86-page 2010 national agreement creates shared accountability for improvement, another key building block for a learning organization.
for performance improvement, learning, engagement, and decision making. Under this agreement, employees work in unit-based teams (UBTs), which are collaborative work groups that include all the participants in a work unit or department: supervisors, union stewards, staff members, physicians, dentists, and managers. Performance-sharing-plan incentive payments are tied to overall performance.

Led by labor and management co-leads and supported by designated organizational sponsors, UBTs work toward meeting strategic PI goals for clinical quality, member service, cost-efficiency, and workplace quality. UBT members collaboratively plan and design work processes, set goals and establish metrics to measure progress toward achieving them, and proactively identify and resolve problems. Individualized training for UBT members, co-leads, and sponsors covers orientation to the PI system and RIM, coleading, facilitation skills, interest-based problem solving and consensus decision making, leading performance excellence, and effective participation.

A Value Compass connects strategic performance improvement goals to teams’ daily work. A simple reminder of four key goals—to provide the best-quality care and service, be the best place to work, and remain affordable—keeps patients and members front and center and helps UBTs to focus efforts, resolve disagreements, and prioritize goals in the face of competing demands. An action plan based on the Value Compass (Appendix 1, available in online article) helps UBTs identify opportunities for improvement. Figure 2 (right) depicts the line of sight between national strategic goals and UBT daily activities, and Appendix 2 (available in online article) presents a more extended example.

We have recently learned a great deal about the application of standard work or routine checklists to aid in memory and application of effective practices. The use of such tools is single-loop in that they are designed to support an evidence-based solution that produces a better outcome. In single-loop learning, participants modify their actions according to the difference between expected and obtained outcomes. Such learning requires that organizational members work as a team, have access to experts for advice, and be supported by leadership. The sustained ability of frontline staff to critically assess organizational conditions, develop a spirit of inquiry and continual improvement, and use small-scale tests of change to improve organizational conditions is facilitated and maintained longer when organizational members also engage in double-loop learning; that is, questioning assumptions and understanding the reasons why small-scale tests of change lead to observed outcomes. Team members implement the components of an intervention, observe outcomes, and repeat the process with adjustments to the intervention that further improve outcomes. Huddles on a daily or shift-change basis allow team members to gauge their progress and make mid-course adjustments. When brainstorming an idea for change, using inquiry such as “That’s an interesting idea; what’s your theory behind it?” can lead to more robust and significant changes. Learning is also shared with other teams. Collaborations between departments and sites test wider-scale system-level changes and are led by trained IAs or leaders of regional collaboratives.

Other strategies promote informal knowledge sharing through existing relationships among organizational members. Our approach is to use social network analysis to identify who is particularly influential (as opposed to authoritative) in Kaiser Permanente. Substantial opportunities exist for staff and managers to participate in improvement. Informal opinion leaders are identified and engaged to model and discuss with their colleagues and “near peers” the importance of PI as a proactive “designing for diffusion” approach to organizational learning and improvement. Some frontline staff are also sponsored to attend national conferences on improvement, with the expectation that they will apply what they learn and share it with peers at their facilities. Medical center leaders also provide support and oversight for peer-to-peer sharing by, for example, holding department administrators accountable for learning from one another about effective practices; supporting the development and use of balanced scorecards with cascading metrics and the identification of accountable leaders; funding cross-team learning events; and, in oversight meetings, asking questions about...
the progress of implementation and spread. For example, service line leaders are in a natural position to encourage units to learn from each other and to remove barriers that make peer-to-peer connection challenging, often assigning a staff member to float to another department or unit to teach others a new approach. Medical center–level effective practice fairs and presentations provide opportunities for health care professionals from different departments to come together to share knowledge in relatively informal settings.

Similarly, national Kaiser Permanente venues such as the Kaiser Permanente Improvement Institute,1 Patient Safety University (a live two-day conference geared toward department managers and chiefs and a series of modules on the fundamentals of patient safety for frontline staff), and a virtual National Quality Conference (two days of plenary and breakout sessions on quality topics available on the Web at no charge to all Kaiser Permanente employees) bring together providers and managers to learn and share knowledge. “Communities of Practice” offered across medical centers and regions comprise staff and employees who join discussion groups on specific topics with content experts in defined areas, such as patient safety or the care experience. Finally, a diverse leadership group, including finance, information technology, quality, operations, and clinical leadership, provides oversight over improvement, breaking down information silos. For example, finance leaders participate in the design of local improvement portfolios.2

LEADERSHIP STRUCTURES, BELIEFS, AND BEHAVIORS

Kaiser Permanente has a long history of local innovation and ownership of performance. Autonomy and local knowledge are highly valued. To enable the whole system to learn across sites, we needed to realign structures and accountabilities at national, regional, and facility levels. Creating a learning organization required some redesign of leadership structures and necessitated that leaders at all levels develop new beliefs and behaviors. In top-down, bottom-up PI at Kaiser Permanente, leadership responsibilities include identifying organizational needs, goals, and related metrics; clarifying drivers and priorities; and supporting testing and learning at the front line of care. Business and bargaining agreements, such as the previously mentioned Labor Management Partnership agreement,18 facilitate organizational learning by clarifying roles and expectations among individuals and groups. It is essential that these leadership responsibilities be expected of all managers and leaders in their daily management of work. In addition, in participating in their oversight meetings, leaders monitor organizational learning and review portfolios of work with IAs and teams.

Specific leadership behaviors, as shown in Table 2 (above), are central to a learning organization. These behaviors are designed to facilitate leaders’ understanding of the care delivery experience and their consistent communication regarding the vision and goals of improvement efforts, with frontline staff’s ability to pose questions, discuss learning from testing, and make adjustments. In addition, creating a learning organization at Kaiser Permanente requires an expectation from leaders at all levels that employees share effective practices they have discovered and adopt those discovered by others. A new criterion is being added to performance evaluation for leaders at Kaiser Permanente: the ability to lead innovation, learning, and change.

Table 2. Vital Leadership Behaviors in a Learning Organization

<table>
<thead>
<tr>
<th>Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articulate clear and consistent messages about vision and expectations.</td>
</tr>
<tr>
<td>Establish measurable performance indicators, monitor progress, and define clear accountabilities to achieve goals.</td>
</tr>
<tr>
<td>Round with staff and patients to applaud great performance, learn about issues and barriers to work, and verify that previously identified problems have been addressed.</td>
</tr>
<tr>
<td>Meet with patients and families who have been disappointed by care to apologize where appropriate, help communicate what went wrong, and explain what you personally are doing to minimize the risk of recurrence; also remember the impact on involved providers.</td>
</tr>
</tbody>
</table>

INTERNAL AND EXTERNAL BENCHMARKING

As we noted in the first article in this series,1 we used benchmarking to identify capabilities of high-performing health care organizations.20 In addition, we visit top (best-in-class) performers to learn how to improve performance and apply externally identified key process improvements. In terms of internal benchmarking, we guide people to identify higher performers, as indicated by metrics, and then learn about the problems they solved and the practices they implemented, and determine if the approach is useful for local adoption. If so, we create a testing and adoption plan, including measures for performance monitoring. Internal benchmarking strategies are found at all levels of the organization, including a comprehensive medical center–level scorecard (Figure 3, page 538). The scorecard includes information on measures related to strategic priorities, ranking relative to comparable Kaiser Permanente medical centers, performance data from top performers, performance over time, and regional targets. It also identifies both leadership sponsors and champions. As a result, Kaiser Permanente can sponsor internal visits to top-performing sites to learn how to adopt practices.21 Also at
The Joint Commission Journal on Quality and Patient Safety

Sample Medical Center Comprehensive Scorecard

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Ranking</th>
<th>Performance</th>
<th>Accountability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan 2011</td>
<td>Last 4 Data Points Oldest to Newest</td>
<td>Accountable Partner Pair</td>
</tr>
<tr>
<td></td>
<td>Feb 2011</td>
<td>YE 08</td>
<td>YE 08</td>
</tr>
<tr>
<td></td>
<td>Mar 2011</td>
<td>P 01 09</td>
<td>P 01 09</td>
</tr>
<tr>
<td></td>
<td>Apr 2011</td>
<td>P 02 09</td>
<td>P 02 09</td>
</tr>
<tr>
<td>CSG Composite (Big O)</td>
<td>排名 #1</td>
<td>76.9%</td>
<td>YE 08</td>
</tr>
<tr>
<td>Breast Cancer Screening</td>
<td>9</td>
<td>9.0%</td>
<td>YE 08</td>
</tr>
<tr>
<td>Cervical Cancer Screening</td>
<td>13</td>
<td>89.4%</td>
<td>YE 08</td>
</tr>
<tr>
<td>Colorectal Cancer Screening</td>
<td>8</td>
<td>71.7%</td>
<td>YE 08</td>
</tr>
<tr>
<td>Glycohemoglobin Control in Diabetes: A1C &lt; 9.0</td>
<td>11</td>
<td>79.8%</td>
<td>YE 08</td>
</tr>
</tbody>
</table>

Figure 3. This sample medical center comprehensive scorecard includes information on measures related to strategic priorities, with ranking relative to comparable Kaiser Permanente medical centers. YTD, year to date; Ops, operations; CSG, cancer screening guidelines; OC, SB,RIV, and BP, are facility designations; YE, year end; P, period; A1C, glycohemoglobin.

the level of medical centers, project-sharing fairs provide opportunities for departments to benchmark against high performers at the same site. UBTs can use the stages of UBT development path-to-performance criteria developed by the national organization (Table 3, pages 540–541) to self-assess their level of functioning. UBT leads can query a database containing higher-performing teams’ scores. In addition, employee surveys are used to measure workforce engagement at Kaiser Permanente.

**TECHNICAL KNOWLEDGE SHARING**

A study that Kaiser Permanente commissioned on technical knowledge management strategies determined that personal connections were pivotal to sharing knowledge throughout an organization; personal connections strongly influenced the degree to which people with whom knowledge was being shared felt satisfied by the process and the knowledge gained. To that end, in addition to creating a repository for effective practices, we have implemented numerous strategies for facilitating knowledge sharing through personal connections across the dispersed Kaiser Permanente organization. Both knowledge (technical information about what to do) and know-how (process content about how to do it) are shared. Through its intranet, Kaiser Permanente enables cross-site knowledge sharing. For example, more than 23,000 participants in 2,000 user groups have used Ideabook, a collaboration tool, to access technical and process information from multiple databases. However, technological tools do not work for knowledge sharing without a significant investment of time and energy. To facilitate broad use, a content expert lead creates a “Community of Practice” composed of staff, physicians, and managers across sites focused on addressing the same issue. The content expert establishes expectations around sharing and uses the repository and idea-sharing sites to generate dialogue and connection. Ideally, individuals post storyboards about how they solved a particular problem or discuss articles or practices that others may want to explore.

**Discussion**

Putting into place the building blocks, as described, of a learning organization has been both rewarding and challenging, as we now discuss.

**REAL-TIME SHARING OF MEANINGFUL PERFORMANCE DATA**

The Big Q data dashboard provided internal transparency about key metrics and motivated rapid improvement across sites when a solution was readily available, such as one that might address improvement on Joint Commission core measures. Detailed performance data, when available, were extremely helpful in improving reliability, as seen, for example, in the application of a prevention bundle to address risk factors for acquiring hospital-acquired pressure ulcers. Staff huddles and storytelling mo-
activate change, particularly when performance data are considered. For instance, the perception existed among staff on one UBT that patient transfers took approximately 30 minutes from the time the order was written. Yet data shared in the huddle showed that, on average, two hours elapsed from order to completed transfer.

Challenges with real-time sharing of meaningful information arise when metrics for PDSA cycles require changes to the KP HealthConnect infrastructure; delays can be significant, and requests for modifications must be prioritized. Some individuals may feel that the possibility of testing depends on the availability of data reports. In rapid-cycle testing, paper-and-pencil methods often must suffice.

**FORMAL TRAINING IN PROBLEM-SOLVING METHODOLOGY**

The methods for providing training in problem-solving methods have been a resounding success. We earlier reported that the financial impact of the 11 PI projects (at seven medical centers and one outpatient region) was $23 million. In the three years since the inception of the Kaiser Permanente PI system, thousands of staff and leaders have received training. Hundreds of UBTs have now documented the ability to work through the methodology and generate small-scale improvements in care, service, and cost, and their cumulative financial impact continues to grow—to a cumulative estimate of more than $100 million in cost savings for students’ first projects. Most departments and teams remain eager to continue to work through iterative tests and to identify new challenges to tackle. PI through rapid-testing cycles provides welcome relief to staff and physicians who are all too familiar with committees that fail to engage in work with tangible outcomes and evidence of progress. The inherent feedback loops, data tracking, and high observability of the results of tests of change show participants the short-term results of their efforts in improving care. Managers continue to develop execution skills, prioritizing the investment of improvement resources and managing progress as part of daily work.

The perceived need to develop team problem-solving skills varies across sites, so that the pace of adoption has been variable. Seeking quick wins in difficult times, some sites still seek the assistance of external consultants in particular improvement methodologies. A need remains for clearer communications between UBTs and facility and regional sponsors and leaders and for more training for sponsors and leaders, particularly midlevel leaders such as directors and chiefs in service lines such as perioperative or maternal-child health services. Frontline staff need opportunities to apply and extend their use of problem-solving skills, such as writing goals, testing changes, and collecting data. Teaching PI, change management, innovation, and project management to staff and managers without consuming too much training time remains a continuing challenge. In addition, the need remains to train IAs and teams—at both facility and regional levels—in complementary skills in formative assessment, basic evaluation reporting, presentation, and managerial skills. Training for physicians in problem-solving methodologies to address variation in clinical reliability is still in the early testing phase; skills in clinical pathway improvement, championing, and change management are all required.

**WORKFORCE ENGAGEMENT AND INFORMAL KNOWLEDGE SHARING**

The Labor Management Partnership enables Kaiser Permanente to benefit from labor’s engagement in the sharing of knowledge. Communities of practice are experiencing growth in number, engagement, and interest. Conferences, storyboard displays, and “sharing fairs” occur through Kaiser Permanente, facilitating dissemination of technical and process knowledge about best practices. Most sites value oversight, as provided in meetings, in which representation from diverse leadership groups, such as operations, information technology, medical group, finances, and nursing, participate.

Challenges with workforce engagement include the fundamental difficulty of finding time to engage in informal knowledge sharing and the need to “match” those persons seeking answers to vexing practice problems with those who have solutions to share. Knowledge-sharing systems for frontline staff and middle managers must be supported by operations sponsors as time well spent. At the level of middle managers and directors, reliable implementation remains a challenge; more standardization in terms of monitoring and then communicating what is working and what is not is needed. Improvement to date has relied on IAs to support and guide department- and team-based improvement. Although IAs collectively form the backbone of knowledge sharing within Kaiser Permanente, mastery of the appropriate level of knowledge at the team and manager levels and appreciation of the dual role of delivering care while continuously improving it need to be reinforced. Finally, engaging patients and families in designing and redesigning care is in the early stages, and there is much to be learned through the redesign of complete care experiences.

**LEADERSHIP STRUCTURES, BELIEFS, AND BEHAVIORS**

The executive leadership is committed to Kaiser Permanente’s development as a learning organization. Priority setting in align-
### Table 3. Stages of Unit-Based Team (UBT) Development for Path-to-Performance Criteria*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Level 1: Pre-Team Climate</th>
<th>Level 2: Foundational UBT</th>
<th>Level 3: Transitional UBT</th>
<th>Level 4: Operational UBT</th>
<th>Level 5: High-Performing UBT/Team Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sponsorship</strong></td>
<td>Sponsors are identified and introduced to team.</td>
<td>Sponsors trained. Charter completed.</td>
<td>Sponsors regularly communicating with co-leads.</td>
<td>Sponsors visibly supporting teams. Minimal outside support needed.</td>
<td>Sponsors holding teams accountable for performance and reporting results to senior leadership.</td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td>Team co-leads are identified or process of identification is under way.</td>
<td>Co-leads have developed a solid working relationship and are jointly planning the development of the team.</td>
<td>Co-leads are seen by team members as jointly leading the team.</td>
<td>Co-leads are held jointly accountable for performance by sponsors and executive leadership.</td>
<td>Team beginning to operate as a “self-managed team,” with most day-to-day decisions made by team members.</td>
</tr>
<tr>
<td><strong>Training</strong></td>
<td>Co-lead training scheduled or completed.</td>
<td>Team member training (e.g., UBT orientation, RIM) scheduled or completed.</td>
<td>Advanced training (e.g., business literacy, coaching skills, metrics) scheduled or completed.</td>
<td>Advanced training (e.g., Breakthrough Conversations, Facilitative Leadership, etc.). Focus area-specific training (e.g., patient safety or improvement tools to address human-error related issues).</td>
<td>Focus area-specific training. Advanced performance improvement training (e.g., deeper data analysis, control charts, improvement methods via operational manager training).</td>
</tr>
<tr>
<td><strong>Team Process</strong></td>
<td>Traditional; not much change evident. Team meetings scheduled and/or first meeting completed.</td>
<td>Staff meetings operating as UBT meetings (no parallel structure). Co-leads jointly planning and leading meetings.</td>
<td>Team meetings are outcome-based; team members are participating actively in meetings and contributing to team progress and decision making. Co-leads moving from direction to facilitation.</td>
<td>Co-leads jointly facilitate team meetings using outcome-focused agendas, effective meeting skills, and strategies to engage all team members in discussion and decision making. Team makes use of daily huddles to reflect on tests and changes made. Team collects own data and reviews to see whether changes are helping to improve performance.</td>
<td>Team beginning to move from joint-management to self-management, with most day-to-day decisions made by team members. Unit culture allows team to respond to changes quickly. Team can move from first local project to next improvement project and can apply more robust changes. Team measures progress using annotated run charts.</td>
</tr>
<tr>
<td><strong>Team Member Engagement</strong></td>
<td>Minimal</td>
<td>Team members understand partnership processes.</td>
<td>Team members understand key performance metrics. At least half of team members can articulate what the team is improving and what their contribution is.</td>
<td>Unit performance data are discussed regularly. Large majority of team members are able to articulate what the team is improving and their contribution.</td>
<td>Team members able to connect unit performance to broader strategic goals of company. Full transparency of information. Team is working on questions of staffing, scheduling, and financial improvement.</td>
</tr>
</tbody>
</table>

*(continued on page 541)*
ment with regional and national strategic PI goals is increasingly prevalent. Regions and medical centers have standardized leadership education at the local level to focus on particular behaviors and skills. At the departmental level, leadership and staff rounding, in which sharing information about what is going well and what needs improvement, is well under way. “Scoping” of improvement projects (that is, the constraining of projects to what could be accomplished within 90 to 120 days) is increasingly effective, as projects of such duration become more common. Departments need to deepen their capability to assess current performance, determine what improvement initiatives are necessary, and prioritize among the possible initiatives under way at any point in time.

Leadership challenges remain. Leadership behavior changes follow a typical adoption curve, as described by Rogers. Not all leaders, for example, are creating psychologically safe environments or able to effectively use inquiry. Some leaders struggle with being in a predominantly coaching and mentoring role versus problem solving on a daily basis. Turnover in middle managers and union labor leadership creates training challenges.

**INTERNAL AND EXTERNAL BENCHMARKING**

At the regional and national levels, as well as at selected medical centers, leaders and staff are developing benchmarking skills and learning how to rapidly adapt best practices to local circumstances. More and more sites are using data to find top performers within Kaiser Permanente and are learning from them via webinars and site visits. KP HealthConnect enables sharing of effective practices, facilitating partnering across settings and locations. At the same time, we continue to be challenged in identifying and creating implementation tools, such as those that were organized into a “playbook” (including treatment algorithms, standardized order sets, report templates, and checklists) for the sepsis initiative, for the reliable implementation of effective practices in new sites. Yet a practice that shows results at one site may not produce the same results when applied elsewhere because of differences in work flows or culture, or inability to apply reliably.

**TECHNICAL KNOWLEDGE SHARING**

Multiple technical mechanisms for virtual sharing of knowledge are in place throughout Kaiser Permanente, but uptake by frontline staff and physicians has been primarily by innovators (the very first to adopt) and early adopters (those who immediately follow). A lack of willingness to invest in knowledge management systems reflects experience with the relative ineffectiveness of technology, as compared with, for example, communities of practice and social networks. The internal Kaiser

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* RIM, Rapid Improvement Model.

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**Table 3. Stages of Unit-Based Team (UBT) Development for Path-to-Performance Criteria* (continued)**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Level 1: Pre-Team Climate</th>
<th>Level 2: Foundational UBT</th>
<th>Level 3: Transitional UBT</th>
<th>Level 4: Operational UBT</th>
<th>Level 5: High-Performing UBT/Team Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of Tools</td>
<td>Not in use.</td>
<td>Team members receive training in RIM, etc.</td>
<td>Team is able to use RIM and has completed two testing cycles.</td>
<td>Team has completed three or more testing cycles, making more robust changes (e.g., work-flow improvement rather than training).</td>
<td>Team using advanced performance improvement training (e.g., operations manager training). Team can move from initial project to next improvement effort, applying deeper data and improvement methods.</td>
</tr>
<tr>
<td>Goals and Performance</td>
<td>Team does not have goals yet.</td>
<td>Co-leads discuss and present data and unit goals to teams.</td>
<td>Team has set performance targets, and targets are aligned with unit, department, and regional priorities.</td>
<td>Team has achieved at least one target on a key performance metric.</td>
<td>Team is achieving targets and sustaining performance on multiple measures.</td>
</tr>
</tbody>
</table>
On the Horizon
In looking to the future development of Kaiser Permanente as a learning organization, we are focusing on four main areas, as we now discuss: (1) from learning to application and sharing, (2) organizational assessment, (3) knowledge management, and (4) operational sustainability and sharing.

FROM LEARNING TO APPLICATION AND SHARING
A sufficient proportion—nearly one out of three staff, leaders, and physicians—have completed PI training to enable us to be at an internal “tipping point.” Although inevitable staff turnover requires ongoing training, we are increasingly turning our focus to leadership expectations around application and sharing. From the inception of the Kaiser Permanente Improvement Institute, demonstrated mastery of the material through successful application to create local improvement has been a criterion for graduation. However, we must also ensure that trained staff members continue to apply these skills in service of organizational learning and to move beyond application to sharing.

It is critical that we continue to involve frontline staff and department directors in meaningful ways so that they value contributing to organizational learning, furthering the sustainability of the PI system. Simultaneously, we must hold them accountable for behaviors that are critical to successful learning and improvement.

ORGANIZATIONAL ASSESSMENT
While we have primarily identified high performers by measuring the functioning of teams and of medical centers, we are now moving to assess the relationship between bottom-up and top-down learning. That is, to what extent are high-performing teams present in high-performing facilities? Our goal for 2011 has been that one in five facilities meets our criteria for high performance, as previously defined. We use an internal assessment tool that measures medical center–level practices on a Likert scale from 0 (nonexistent) to 5 (fully implemented and sustained). As of 2011, 25% of the medical centers have achieved a 3.5 or above on this assessment. Similarly, we have also been working toward doubling the number of high-performing teams, as measured by the Path-to-Performance self-assessment tool (Table 3), as teams are provided with more information (for example, regarding department budgets, patient safety issues, service complaints, and quality concerns) and enhanced rewards for adopting effective practices. Maintaining a psychologically safe environment at all levels of the organization to ensure engagement in learning is an ongoing priority.

KNOWLEDGE MANAGEMENT
We intend to generate new knowledge by leveraging comprehensive patient data available in KP HealthConnect to determine the impact of interventions on the health of particular patient populations. Rather than investing heavily in technologically advanced knowledge management and exchange systems, we will concentrate on enhancing the use of existing online repositories, social networks, and search tools, such as Ideabook, particularly in terms of user buy-in, frontline enthusiasm, and experts who are willing to take the time to help others. We are not interested in achieving more communication just for its own sake; rather, we want to encourage sharing of what works and why among participants who are eager to share, try, and adapt for the sake of learning and achieving improvements in practice. Our goal is to leverage information technology to make it easier to find evidence-based information and practices and key leaders of initiatives to be used by various practice communities.

OPERATIONAL SUSTAINABILITY AND SHARING
Finally, in our further development as a learning organization, we are focusing on enhancing the ability of managers and directors to identify and adopt, as appropriate, and sustain effective practices from other sites. Toward that end, the graduation criteria for an advanced Improvement Institute course under development include demonstrating mastery of spread and scaling up improvements. In addition, our goal for 2012 is that 20% of improvement projects represent adoption of effective practices across sites, rather than innovation only at individual units.

Summary
A learning organization has the capability to improve, and it develops structures and processes that facilitate the acquisition and sharing of knowledge. Six building blocks have enabled Kaiser Permanente to make the transition to becoming a learning organization: real-time sharing of meaningful performance data; formal training in problem-solving methodology; workforce engagement and informal knowledge sharing; leadership structures, beliefs, and behaviors; internal and external benchmarking; and technical knowledge sharing. We are now are focusing on (1) moving from learning to application and sharing, (2) organizational assessment, (3) knowledge management, and (4) operational sustainability and sharing.
References
Appendix 1. The Value Compass Action Plan

Please use this diagram to plan how your group will support the KP Value Compass.

**BEST SERVICE**
What are we already doing to support Best Service?
How can we improve what we already do?
Is there anything we should stop doing?
What is one improvement we can make immediately that will help us better support Best Service?
Who is going to get this done and by when?
How will we know if it’s working?

**BEST QUALITY**
What are we already doing to support Best Quality?
How can we improve what we already do?
Is there anything we should stop doing?
What is one improvement we can make immediately that will help us better support Best Quality?
Who is going to get this done and by when?
How will we know if it’s working?

**BEST PLACE TO WORK**
What are we already doing to support Best Place to Work?
How can we improve what we already do?
Is there anything we should stop doing?
What is one improvement we can make immediately that will help us better support Best Place to Work?
Who is going to get this done and by when?
How will we know if it’s working?

**MOST AFFORDABLE**
What are we already doing to support Most Affordable?
How can we improve what we already do?
Is there anything we should stop doing?
What is one improvement we can make immediately that will help us better support Most Affordable?
Who is going to get this done and by when?
How will we know if it’s working?

An action plan based on the Value Compass helps unit-based teams identify opportunities for improvement.
Online-Only Content

Appendix 2. Kaiser Permanente Southern California Region: Creating an Exceptional Care Experience by Partnering for Success

Background
In 2006 the Kaiser Permanente Southern California Region embarked on a journey to improve the care experience. Trending and benchmarking care experience performance data revealed that patients were rating the region at the 10th percentile. Public reporting and transparency made it clear we had work to do and many opportunities for improvement. To that end, a regional strategic plan was developed to provide a road map for improvement, in which we (1) identified roles and responsibilities and (2) targeted aligned goals from senior leadership to frontline staff. In addition, unit-based teams were launched throughout the region, highlighting the importance of frontline teams in leading and driving improvement. The Kaiser Permanente performance improvement system was also initiated at the same time, with the goal of educating senior leaders, managers, experts, and frontline staff throughout the entire program in Rapid Improvement Model knowledge and skills. Unit-based teams were a prime target for this education. Simultaneously, we selected a new care experience survey vendor to provide real-time, unit-specific data for our teams. In combination, these factors were major drivers of our performance improvement journey and provided the infrastructure we needed to become a learning organization.

Regional Strategic Plan
The Kaiser Permanente Southern California Regional Inpatient Service Council developed a comprehensive Inpatient Service Strategic Plan to drive service improvement throughout its 13 medical centers. It served as a road map to provide the focus needed to improve performance. Although all the components included in the strategy are critical to our current and future success, we highlight three key areas of focus here: (1) line-of-sight goals, (2) rewards and recognition, and (3) strategies to identify and spread successful practices.

Line-of-Sight Goals. Until several years ago, service was not among senior leadership’s performance goals, let alone those of managers and frontline staff. An infrastructure was developed to align goals and incentives for senior leadership, with metrics cascading to managers and frontline staff, who are also held accountable, through incentives and performance evaluations. After a goal is selected and cascaded to become a measure for a department or team, the team reviews it. On agreement with the goal, the team can make it part of the labor union’s performance-sharing-plan incentive payment for staff. For example, if eliminating pressure ulcers is an organizational goal, then the physician chief and medical surgical services director may be the accountable partnership pair. Staff may select 100% skin assessment or any part of the “SKIN” (Surfaces, Keep the patients turning, Incontinence management, Nutrition) prevention bundle, including risk assessment, as a performance-sharing-plan goal. As shown in Figure AP-1 (page AP2), senior leadership, chief nurse executives, middle management, and frontline staff were all held accountable for the Care Experience goal of a 90th percentile for Improved All Inpatient Combined Overall Rating of Hospital at 9–10.

The maximum target for most goals was established at the 90th percentile, with benchmarking with databases from the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) and a commercial survey firm. We believed that setting bold goals and aggressive targets was essential to creating the performance improvement focus and momentum needed to achieve our ultimate goal of Kaiser Permanente recognition as “Best Hospital System.”

We partnered with our national service quality research department to provide performance reports for line-of-sight goals for managers and frontline staff that can be easily accessed on a live, interactive Intranet site. The report, which can be pulled on demand, can track regional, medical center, and, frequently, unit-level performance for each service-related, line-of-sight goal linked to dimensions and questions for the HCAHPS and private surveys. Transparency across sites also encourages representatives from lower-performing sites to contact their peers at higher-performing locations to learn what practices can be transferred to improve performance.

Reward and Recognition. In partnership with labor, we developed a unit-based team reward and recognition program. Each quarter for the last several years, we have identified the highest performing and most improved medical/surgical and childbirth services units in the Southern California Region. This program was developed by Dr. Benjamin Chu, Southern California Regional President, and Dr. Jeffrey Weisz, Executive Medical Director—the two most senior Kaiser Permanente Southern California physician leaders. A recognition event is held at the medical center for the award-winning team. It is attended by one of our regional physician leaders, as well as by medical center administrative and labor leaders, frontline managers, and staff. Unit-based teams present their improvement work. These recognition programs provide an excellent forum for identifying successful practices for spread and, more importantly, a meaningful forum for recognition. A key learning is that we can never underestimate the value and power of reward and recognition; the competitive spirit is alive at our 13 medical centers.

Sharing and Spreading Effective Practices. To further share and spread learnings from our award-winning teams, monthly collaborative webinars provide unit-based teams the opportunity to hear from colleagues about successful practices they can bring back to their units to test. In addition, we have offered regional conferences targeting service line–specific, unit-based teams to highlight, share, and spread effective practices (Table AP-1, page AP4). The Labor Management Partnership produces a staff publication explaining the incentive programs and highlighting unit-based team innovations and effective practices. Another key learning has been the importance of ongoing communication, inspiration, motivation, and forums for frontline staff and managers to personally connect and share successful practices to maintain the momentum needed to drive improvement.

(continued on page AP3)
All service lines have improved substantially across the region, with close to linear improvement since the first quarter of 2007 (Q1; Figure AP5). Our current targets are set to the 90th percentile as a maximum target, with 70th–75th percentiles as minimum targets for most goals. Regionally, our overall rate hospital scores now approach the 75th–80th percentiles. Whatever the successes to date of the journey to becoming a learning organization, even higher levels of performance improvement are on the horizon, led by our passion to enhance the patient’s care experience.

Reference

(continued on page AP4)
Table AP-1. Care Experience Effective Practices: Sharing and Spreading in a Learning Organization

**Voice of the Patient**
- Know your patients as individuals; identify preferences and keep their personal needs at the center of care.
- Share patient survey verbatim comments with unit-based teams as a strategy for identifying targeted areas of improvement that need to be addressed.

**Rounding**
- Hardwire rounding: Senior leadership rounding on direct reports; managers rounding on staff and patients, purposeful hourly rounding, nurse knowledge exchange (change-of-shift rounding with patients), team rounding with operations support and nursing leads
- Dedicate time for managers to round on staff and patients; institute meeting-free time zones.
- Ensure that “rounders” make personal connections with patients and families and not just round as “auditors.”
- Implement multidisciplinary team rounding to include the patient and families, as appropriate.

**Nurse Communication**
- Reinforce commitment to safety; identify and address patient’s anxieties, fears, and concerns.
- Make personal connections; sit at bedside when talking to patients.
- Educate patient, as well as family and significant others, throughout hospital stay.
- Round with physician to ensure consistent messaging and communication.

**Physician Communication**
- Critical to express empathy with attention, concern, and sensitivity
- Proactively educate and inform patients and families, soliciting input into decisions.
- Listen to and answer patient and family questions.

**Nurse–Physician Collaboration**
- Round together on patients and families.
- Develop an infrastructure for nurse and physicians to meet on a regular basis.
- Physician/nurse case study discussion

**Responsiveness of Staff**
- Hardwire purposeful hourly rounding.
- Anticipate patient needs; patients’ use of call lights indicate failures.
- Partner with all staff—admissions, housekeeping, food services, laboratory, case manager, physicians, and nurses.

**Pain Management**
- Clearly explain the purpose of the pain scale and goal to proactively provide comfort measures and/or medication to adequately control pain; proactively offer pain medications as part of hourly rounding. When rounding to assess pain, bring (prn) as-needed medication to the room.
- Advocate for the patient and reach out to patient’s physician when pain medications ordered are not effective.

**Quiet Environment**
- Conduct “Quiet” campaigns; dim the lights in the evenings; designate quiet times on the units.
- Ask patients for feedback regarding noise in the environment when rounding; for example, “Were there noises that kept you from resting and sleeping? If so, what?”
- Ask colleagues from other units to visit your unit to provide feedback.

**Clean Environment**
- Ask patients what we need to pay attention to; find out what they are doing on high-performing units; conduct walk-arounds with environmental services team.
- Invite nonclinical colleague to your patient care area to look at it with fresh eyes.
- Designate times to thoroughly clean and refresh each room.

**Communication About Medications**
- Develop standardized educational tools to use when educating patients. Keep tools in the room in a standardized location for nurses to use when educating patients about medications.
- Attach reminder to discuss purpose and side effects of medications on bar-code scanner.

**Discharge Instructions**
- Develop educational materials for patients highlighting signs and symptoms and where to seek emergent and nonemergent follow-up care; issue discharge calls within 72 hours, with focus on quality and safety

**Team engagement**
- Engage staff; ensure that each staff member’s voice is heard; celebrate accomplishments large and small.
- Develop staff presentation skills to enable staff to share their learnings by presenting successful practices and stories.

*(continued on page AP5)*
Appendix 2. Kaiser Permanente Southern California Region: Creating an Exceptional Care Experience by Partnering for Success (continued)

**Figure AP-2.** Scores, which show percentiles of hospitals rated as 9 or 10, are compared with the U.S. Centers for Medicare & Medicaid Services national benchmark values, Q1 2004–Q4 2010. On HCAHPS, patients rate their hospital on a score of 0 to 10 (10, highest). HCAHPS, Hospital Consumer Assessment of Healthcare Providers and Systems.