

Engaging Staff as Problem Solvers Leads to Continuous Improvement at Allina Health

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In a Kaizen endeavor at Allina Health—a nonprofit health system in the Midwestern United States with more than 26,000 employees—nurses, doctors, dietitians, engineers, housekeepers, and all other staff in four units were encouraged to contribute ideas to solve the problems they encountered on the job. Managers at all levels used effective communication, constructive feedback, and supportive delegation to coach their efforts rather than dictate solutions from above. The results led to a wide range of process improvements that cut costs and enhanced safety, efficiency, patient satisfaction, quality, and morale. Over time, the initiative will be rolled out system-wide toward the formation of an organizational culture that empowers every staff member to improve the flow and outcome of their daily responsibilities. ©2014 Wiley Periodicals, Inc.

As recently as 2013, if a nurse at an Allina Health inpatient medical unit needed to start an intravenous infusion for a patient, she would have to walk to the dressing cart for tape and small bandages, then into another room to obtain the catheters and tubing, and, finally, to the medication cart to get a bag of saline. This multistep endeavor could take five to ten minutes—assuming she was not interrupted along the way, which often was likely. The nurses had become accustomed to this time-consuming process, until one of them suggested a better way. Thanks to a new Kaizen program implemented by Allina Health, that nurse and her peers now have a systematic way to identify and address workplace problems, for the benefit of patients and staff members alike.

A Japanese word that means “good change,” *Kaizen* is usually used in the context of continuous improvement in a manufacturing facility. The Kaizen experiences of Toyota, where all employees are empowered to improve their work environment, have been well documented, and the suggestions and improvements made by that company’s team members have been described as the “cornerstone of Toyota’s success” (Graban & Swartz, 2012). Over the years, many other organizations outside the manufacturing sector, including health care facilities, have realized the value of engaging staff members in quality improvement.

Successful implementation of Kaizen, which encourages staff members at all levels to contribute ideas to solve the problems they encounter, transforms passive acceptance of faulty workflows into a culture of continuous process improvement. In a health care setting, nurses, doctors, dietitians, engineers, housekeepers, and all other staff become active participants in this work, with the active support of leaders at all levels. This results in a wide range of benefits, including cost reduction and improvements in safety, efficiency, patient satisfaction, and quality. These benefits are good for the patients and staff, and lower costs by improving operational efficiency throughout the organization.

Writing in *Academic Emergency Medicine*, the official journal for the Society of Academic Emergency Medicine, Jacobson, McCoin, Lescallete, Russ, and Slovis (2009) described how the Kaizen approach

could be successfully applied in a health care setting to promote leadership that engages staff to create a culture of positive change. In such an environment, all ideas are addressed shortly after being introduced by staff, and a dialogue is initiated that clarifies the issues and formulates an initial response. Jacobson and his coauthors also emphasized these key points:

- The greatest benefits from Kaizen occur when efforts are focused on common-sense, low-cost, and low-risk improvements, rather than major innovations.
- Kaizen starts a process of multiple small changes in the patient care environment that add up to a major change in the work and positive culture change.
- A major aim of Kaizen is making the daily work of the staff easier.

Kaizen incorporates the principles of staff empowerment, shared decision making, self-direction, and shared governance. Though simple, the approach is not consistent with traditional management styles, however. If the nurse's manager in the opening scenario had told her that it would not be possible to move the cart supplies, then she and her fellow nurses would be less likely to bring any other problems forward or offer suggestions. But when staff members are invited to provide suggestions for changing how the work is done, and changes based on their suggestions actually occur, staff members begin to feel greater ownership of their work. This leads to a positive cycle of good ideas engendering other good ideas toward continuous improvement.

Typically hired because of their clinical skills and willingness to work long hours, many health care managers have limited leadership education (having learned management skills on the job) and rarely have any experience in the basic skills necessary for continuous improvement. Kaizen is predicated on managers' use of effective communication, constructive feedback, and supportive delegation. As the following example shows, for Kaizen to be success-

ful, managers must see themselves as coaches, and not as top-down activity directors who have all the answers.

Angela is a new manager of a busy adult medical surgical unit. One day, Fred, a staff member, notes that he has been having difficulty in contacting other staff in different departments in a timely manner. Angela creates a form on which she types in the various departmental names and phone numbers in neat rows. She laminates several copies and tapes them to the unit's computers for ready access. Angela remarks that this took several hours and she hopes it solves the problem. But did it?

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Rather than discussing the problem with the staff member, Angela took action and jumped to a solution. Fred, however, felt that his problem was not solved. The real problem was not that Fred did not have access to the numbers he needed but, rather, that most of his phone calls were not answered, which meant all he could do was to leave messages and hope for a call back. Had Angela clarified the full scope of the problem with Fred, she might have been able to lead her staff in devising a way to more effectively support them.

To ensure that proposed solutions to workday problems are both effective and long lasting, it is important for managers to consider their broader implications. For instance, when staff members in another surgical unit realized that patients in the next room could hear an IV pump alarm, they initially thought to solve the problem by simply turning down the volume of the alarm. But then they realized that medical personnel might not respond promptly to a quieter alarm. Once the manager recognized that the actual problem was "alarm fatigue" (which occurs when

equipment beeps or rings frequently because of extraneous, noncritical causes, like a bent arm causing a temporary interruption in IV flow), she was able to coach the staff member to help identify the real cause of the problem and subsequently develop meaningful solutions.

Implementing Kaizen Daily Improvement at Allina Health's Hospitals

Consisting of 13 hospitals, 57 community and 23 hospital-based clinics, 15 retail pharmacy sites, and 3 ambulatory care centers, Allina Health is a not-for-profit health system located in central Minnesota and western Wisconsin. The organization employs more than 26,000 staff members, and 5,000 physicians are associated with its health system.

Striving for continuous quality improvement, Allina Health's Performance Improvement Department selected the Kaizen method to enhance organizational effectiveness, and it was endorsed by the Nurse Executive Committee. This methodology is consistent with the Performance Improvement Department goals of engaging front-line staff in quality improvement efforts that address problems that are within the realm of their hospital or clinical care unit.

Problems addressed by continuous quality improvement may include workflow barriers, such as not having the right supplies at the right time and location. The scope of problems addressed with continuous quality improvement methodology can be considered as the bottom rung of a continuum of increasingly complex problems addressed by multiple performance improvement tools. The middle rungs of complexity are problems that occur across multiple units, such as implementing a hospital-wide procedure for isolating patients with a suspected communicable disease. A performance improvement methodology for addressing problems at this middle level of complexity is the Rapid Process Improvement Workshop (RPIW). It brings together staff

from various clinical units and professions to analyze and improve a complex, common problem.

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Problems associated with implementing major change throughout the organization constitute the highest rung of complexity. Examples of complex changes include implementing a new electronic health record or initiating a new patient care service. Such problems require a robust performance improvement methodology. At Allina Health this methodology is the 10-Step model. It incorporates methodologies from Six Sigma and Lean into a linear, structured process that begins with problem identification; moves on to stakeholder engagement, data analysis, and implementation; and ends with evaluation. This 10-Step process has been used to address such complex problems as standardizing discharge planning, reducing preventable readmission to the hospital, and improving the efficiency of care for high-risk populations.

The nurse executives selected several hospital units in which to pilot the Kaizen methodology, and funds were provided for consulting services to initiate this. The Allina Health Performance Improvement Department staff also participated in learning about this methodology during a morning conference session and subsequent hospital site visits.

In October 2013, Allina's executives decided to initiate Kaizen projects at four pilot sites: a large adult/pediatrics unit in a rural community north of Minneapolis, a cardiovascular unit in suburban Minneapolis, the emergency department at a large hospital in Minneapolis, and a cardiovascular unit at

a hospital in downtown St. Paul. The formal kick-off began with a daylong conference during which managers and selected staff were given an overview of the process. The conference leaders also discussed the role of managers in engaging and empowering staff, and how to move new ideas through the process to completion.

In addition, the program involved role-playing that demonstrated various tactics for engaging staff and leaders in continuous quality improvement. Leaders asked managers to describe Kaizen to staff, discussed empowering strategies, and asked staff to participate directly. Leaders also discussed ways to encourage staff members to use Kaizen, including rewarding and recognizing staff members' participation, sharing their ideas, and promoting the benefits.

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Leaders answered questions and had the managers (or their designees) describe their plans for implementation within their specific unit. After the conference, two advisors visited each site two times to review the unit's descriptions of its goals and progress, tour the facility, and address any questions from managers and staff about the Kaizen process. They coached managers to demonstrate their techniques for inviting staff suggestions for workplace improvement. Since many of the hospitals' staff members were not familiar with the term *Kaizen*, it was combined with the words *daily improvement* to make the goal of continuous improvement more readily understood as the approach spread.

Visual Display of Goals Guides Actions

The first practical step was mounting a Kaizen Visual Idea Board in each pilot unit, where it would be highly visible to staff members. These bulletin boards were placed in break rooms or staff lounges at three of the pilot sites. One facility, however, placed its Idea Board at the end of a public hallway leading to the staff lockers, where patients and their families could see it. The hospital received feedback that patients appreciated seeing that staff members were making efforts to improve their work and the patient care environment.

Each Idea Board is divided into four sections under the headings "New Ideas," "To Do," "Doing," and "Done." This board is a key communications tool, as managers and staff are asked to huddle around the board for ten minutes each day to review newly submitted ideas and discuss the progress of ideas that are being worked on.

To submit a project for consideration, staff members use preprinted cards containing spaces to write down the problem, an idea (if they have one), the expected benefits, their name, and the date. Blank cards are kept near the board for ready access, so when an idea occurs to a staff member, he or she can quickly write it down during the course of their work. Some managers keep cards in their jacket pockets or desk drawers, so ideas that pop up can be immediately captured before they are forgotten in the midst of a busy day.

Staff members attach each new card to the board under the "New Ideas" column. Managers or specifically delegated staff review the recently submitted cards during the daily huddle and contact each staff member who submitted an idea. After the problem is clarified, the idea is discussed and implementation planned. Then the card is moved to the "To Do" column. The ideas may be prioritized if there are many ideas at once.

During the daily huddle, staff and managers determine which ideas are ready to be addressed, and assign or delegate the work to staff members. When someone begins working on an idea, its respective idea card is moved to the “Doing” column.

Idea cards in the “Doing” column are also reviewed during the daily huddle. Progress is recorded in the “Implementation” section on the back of the card. For example, when the staff at one hospital suggested the use of numbing spray prior to IV needle insertion to reduce patient pain, they learned that obtaining the anesthetic spray for the emergency unit required pharmacy approval. The status of the request was recorded on the idea card and updated over time to keep all staff members informed of progress.

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Once an idea has been implemented, its card is moved to the “Done” column. Staff members are able to review the recently completed work and make comments, either on the card itself, or as one hospital did, on a clipboard mounted to the board. Since many staff members work night or weekend shifts, they may not have a chance to discuss ideas or ask questions during the daily huddle. The manager and staff found that written notes on the clipboard facilitated two-way communication and identified educational gaps, in addition to providing details about the completed ideas.

The final column on the board is for “Completed” ideas, which are highlighted during the daily huddle and celebrated. Staff members who submitted the idea or helped in some way to implement it are recognized. A brief summary report, created by the

manager, may include a before and after picture or a description of how the idea solved a problem and its benefits. Highlighting completed projects and recognizing those involved in them encourages staff members to submit more ideas.

One completed project addressed the lack of suitable supplies for finger sticks used to check blood sugar levels. Originally, the supply box contained only small needles used to puncture the skin for a drop of blood. Since nonsterile dry pads were not available, the staff needed to find something to absorb extra leakage. Some used convenient items like tissues, which were not appropriate. Others used more expensive sterile pads, which added unnecessary cost. The idea card submitted by a staff member suggested placing nonsterile pads, the most appropriate supply to use, in the box. After discussing this issue with the manager, the staff member who submitted the idea was asked to contact the hospital supply department to coordinate a regular daily delivery of the new stock item. She also modified and labeled space in the supply box for the pads. This completed project was celebrated during the daily huddle because it improved quality and safety and reduced cost.

How Problems and Ideas Are Tracked

As the Kaizen method came to be used daily, managers monitored the number of new ideas submitted and their progress through completion. An Excel spreadsheet tracking the various initiatives was placed in a computer folder shared system-wide. Completed ideas were categorized by patient safety, patient satisfaction, operations efficiency, or staff satisfaction. Reviewing the projects by date of submission prompted managers to seek feedback from the staff assigned to the work or who had submitted the idea. It also encouraged them to consider the possibility of assigning newly available staff members, such as a temporarily reassigned nurse or a student, to a particular effort.

All managers reported that the Kaizen approach improved staff morale and delivery of care. They were not interested, however, in quantifying the exact value, financial or otherwise, of each idea. They felt that their time would be better spent supporting other improvements.

Obstacles to Successful Kaizen

Two main obstacles were encountered during the implementation of Kaizen in the Allina Health facilities. The first was a lack of time for managers and staff to work on ideas. The second was managers' limited ability to coach employees in this method.

Managers worried about not having enough time to review the Kaizen Daily Improvement Board, plan initiatives, discuss barriers, and evaluate progress during daily huddles. They recognized the fact that successfully sustaining Kaizen would require strategies to incorporate the management of the Kaizen activities into existing processes and delegate it to influential and reliable staff members.

Two of the four pilot sites organized unit-based committees whose members could take on this role. For example, the manager at one hospital delegated responsibility for encouraging colleagues to submit ideas for solving problems they encountered to four senior staff nurses who worked varying shifts. Every other week, any staff member who had been assigned work to implement the ideas was allotted two to four hours for doing so. During this time, they contacted different stakeholders for assistance, updated the idea cards, or completed documentation on the Kaizen board.

Another manager of a cardiovascular inpatient unit delegated the Kaizen work to a unit-based committee of six staff members who were familiar with performance improvement. Staff members had previous experience with TCAB (Transforming Care at the Bedside), a national quality-improvement initiative sponsored by the Institute for Healthcare Improve-

ment. Because of this previous experience, many projects in this unit were more complex than in others. Problems that were addressed included standardizing patient handoffs to the next care provider and improving the timeliness of test result communications to the patient.

Kaizen tended to be most successfully implemented and sustained in the Allina Health units when senior staff members were delegated responsibility and managers had good coaching skills.

The unit's manager assigned the quality committee to work on submitted ideas. In addition to giving the committee time to meet, the manager also allots two to four hours every other week for individuals to work on Kaizen ideas. Staff members communicate their progress using e-mail, newsletters, and updates written on the cards. The manager, who monitors progress on the Idea Board, is available to help address any barriers. Having learned to accept and promote the suggestions submitted by staff members, she describes her role as that of a coach.

Kaizen tended to be most successfully implemented and sustained in the Allina Health units when senior staff members were delegated responsibility and managers had good coaching skills. These units generated more ideas, completed more projects, and successfully engaged staff members to create a positive work environment. Directors and peers provide support for managers' coaching during implementation. Support from top executives is also necessary for setting a positive tone throughout the organization and can facilitate the system-wide spread of applicable improvements.

Concerned that staff would become cynical if solutions to identified problems were not implemented immediately, managers realized the need to provide a supportive coaching environment by

ensuring open communication and prompt feedback. The importance of doing so became apparent when an infectious disease nurse advised against a staff member's idea to purchase fans to circulate the air for patients with breathing difficulty. Thanks to open communication, the nurse explained that the fans might spread germs. Instead of leading to discouragement, the rejection of the idea provided an opportunity to disseminate information about the risks of airborne germs.

Progress Toward Continuous Improvement

Since Kaizen Daily Performance Improvement was initiated at Allina Health in October 2013, more than 275 ideas have been submitted, with projects associated with 70 percent of them completed within the first six months. As of March 2014, the managers at the four Allina sites that have implemented Kaizen reported ongoing support of and commitment to this process. A breakdown of the efforts at each of the four sites, as of this writing, follows.

- *Adult/Pediatrics Unit: 104 improvement ideas—70 Kaizens “Done”; 34 in the “Doing” phase.* The manager of this unit reported that since embarking on Kaizen, employee engagement scores improved in three key areas. The number of employees who agreed with the statement “I have resources to do the work” increased from 72 percent to 83 percent. Those who agreed with the statement “I participate in decision-making” increased from 83 percent to 88 percent. And those who said, “My job makes good use of my skills/abilities,” increased from 76 percent to 83 percent. The manager also reported that patient satisfaction scores increased in the areas of communication with nurses and staff responsiveness.
- *Suburban Cardiovascular Unit: 79 improvement ideas—59 “Done” (not including 9 that were not able to be implemented); 20 in the “Doing” phase.* The manager of this unit reported that using Kaizens to improve processes was often a chal-

lenge because many smaller improvements had already been achieved during other performance improvement initiatives. Current projects include tackling such complex issues as reducing time to access test results and improving patient care handoffs during shift change.

- *Emergency Department: 67 improvement ideas—31 “Done”; 17 in the “Doing” phase; 19 left “To Do.”* The ED manager reported that various types of staff members were involved in submitting ideas for improving this busy department. Staff members noted that they appreciated seeing their ideas quickly implemented to improve operations and workflow.
- *Cardiovascular Unit in St. Paul: 27 improvement ideas—20 “Done”; 2 in the “Doing” phase; 5 left “To Do.”* The manager plans to engage staff members from an adjacent unit to increase the number of submitted ideas. This is because the units share common resources, patient care requirements are similar, and staff may be assigned across the units. These commonalities will support spreading improvement initiatives across the broader work environment.

Next Steps for Kaizen at Allina Health

The efforts at the four sites currently engaged in Kaizen will be supported via bimonthly telephone calls by the Performance Improvement facilitator and biannual daylong meetings during which staff can share their achievements and progress. These forums have fostered camaraderie and led to the creation of informal networks that staff and managers use to address specific questions or problems regarding Kaizen implementation. A second cohort of sites is now preparing to implement Kaizen. The establishment of a foundation of units successfully using Kaizen eventually will lead to the expansion of this daily improvement strategy throughout each hospital. Staff and managers in the pioneer units will provide support and act as role models to the personnel in other units when problems are encountered.

As the Kaizen method spreads through the Allina organization, two tactics will be used to help track its value. The first is to use the spreadsheet data available in the shared resource folder to count the number and types of ideas that are implemented. The second is to continue using surveys of patient satisfaction and staff member engagement. These measures will help determine whether Kaizen methods are having a positive impact on both patients and staff.

In addition, Allina's executives are investigating a software solution for establishing a more robust feedback mechanism that will further encourage a culture of continuous improvement. Ideally, such a system would allow staff members to enter their ideas directly into it. Ultimately, the ideal system would serve as a repository of descriptions of completed projects that could be searched to help people solve newly submitted problems, in some cases by leveraging what has already been done at other sites.

By piloting this process in four units and making plans to disseminate it throughout Allina's system, the organization's leaders have demonstrated their conviction in the power of Kaizen to positively engage staff in continuous improvement. The experiences of Allina Health and other facilities in a variety of industries have proven the effectiveness of this process. Regardless of the size or scope of those organizations, they have found that Kaizen is most successful when managers become coaches who engage staff members in a collaborative way

that solves problems by using ideas from those who do the work each day.

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