



Transforming Care at the Bedside

An RWJF national program

SUMMARY

Transforming Care at the Bedside (TCAB) was a national initiative to improve hospital patient care and the hospital work environment by empowering front-line nurses to implement innovative new practices on their units.

Developed by the Robert Wood Johnson Foundation (RWJF) in collaboration with the [Institute for Healthcare Improvement \(IHI\)](#), TCAB differed from the traditional hospital quality improvement program by emphasizing a bottom-up approach to change.

The goal was not only to make the hospital experience safer and more pleasant for patients but also to free up nurses to spend more time in direct patient care, thereby increasing nurse job satisfaction and retention as well as quality of care.

TCAB ran from 2003 through 2008 and had three phases. The first two developed and piloted the TCAB approach in a handful of select hospitals (13 at one point); the third continued the pilot projects but also disseminated the model more broadly.

Key Findings

Researchers from the University of California, Los Angeles (UCLA), School of Public Health and the RAND Corporation evaluated the TCAB pilot sites and reported findings that included the following:

- TCAB units in 10 hospitals tested 533 changes in work processes and adopted 377 (71%) of them. A total of 20 (39%) of the changes were spread to other units.
- Available data from the TCAB units showed a statistically significant reduction in harmful falls and readmissions within 30 days of discharge—two measures indicating improvements in safe and reliable care.
- Other TCAB outcome measures showed little movement.
- Questionnaire responses by hospital unit managers and chief nursing officers were supportive of TCAB.

- Staff engagement in TCAB increased—and resistance decreased—as the initiative progressed.

Key Overall Results

The TCAB program developed, tested and disseminated a structured process for empowering nurses and other front-line hospital staff to take the lead in improving the work environment and quality of patient care on medical-surgical units. The program:

- Initiated the TCAB model in more than 100 hospitals across the country
- Produced online and printed instructional materials to enable additional hospitals to implement TCAB on their own
- Raised awareness of—and interest in—TCAB within the nursing profession through journal articles, conference presentations, media accounts and word of mouth
- Laid the foundation for continued spread of the TCAB model after the RWJF-supported pilot phase of the initiative. The spread happened across the country.

Conclusion

In a 2009 article ("TCAB: The 'How' and the 'What'"), leaders of the TCAB team at the IHI summed up the overall result of the program this way:

Through TCAB, a movement has begun to transform the care delivered on medical-surgical units to better serve patients and to transform the work environment to support professional nursing practice and collaborative teamwork at the bedside.¹

Program Management

RWJF and the Institute for Healthcare Improvement (IHI) in Cambridge, Mass., implemented TCAB in partnership. Patricia A. Rutherford, M.S., R.N., IHI vice president, was the TCAB Project Leader and Susan B. Hassmiller, Ph.D., R.N., RWJF senior adviser for nursing, oversaw the program.

IHI directed the initiative's design process and pilot projects. In Phase III, the [American Organization of Nurse Executives](#) (AONE) managed dissemination of TCAB to additional hospitals, and IHI continues to disseminate TCAB through a variety of IHI Programs and Forums.

¹ Rutherford P, Moen R and Taylor J. *American Journal of Nursing*, 109(11): 5–17, 2009.

Funding

Over the 2003–2008 period, RWJF funded TCAB with \$8.3 million in 45 grants and contracts to the 22 hospitals and other organizations that participated in one or more of the program's three phases.

CONTEXT

Nurses are the largest group of health care professionals providing direct patient care in hospitals, and their performance has a significant impact on patient safety and the overall patient experience.

In 2003, the Institute of Medicine underlined the critical link between quality of care and quality of nursing in a report entitled *Keeping Patients Safe: Transforming the Work Environment of Nurses*.

The report—a follow-up to the Institute's 1999 *To Err Is Human* report that estimated as many as 98,000 hospital patients die a year from preventable medical error—called for fundamental redesign of how nurses work and the culture in which they work.

The report cited research showing that patient outcomes directly relate to nursing vigilance, and that all too often limited staffing levels and other workplace conditions make it difficult for nurses to adequately monitor and care for patients.

The "typical work environment of nurses is characterized by many serious threats to patient safety," including heavy patient loads, long hours and inefficient work processes, the report said. The finding echoed a complaint heard from nurses themselves: that the hospital workplace makes it difficult to focus on what they entered the profession to do: provide care.

As one nurse leader, Linda Burnes Bolton, Dr.P.H., M./P.H., M.S.N., B.S.N., vice president for nursing at Cedars-Sinai Medical Center in Los Angeles, told an interviewer:

Chaotic and complex, inefficient environments contribute to nursing dissatisfaction, nursing staff turnover and diminished capacity to provide quality care.

Bolton, a former president of the American Academy of Nursing, has played leadership roles in several RWJF-funded nursing initiatives, including chairing the TCAB national advisory committee. (See her [Grantee Profile](#).)

Nurse Retention: A Significant Problem

In the early 2000s, the nation was experiencing a severe shortage of nurses, and there was evidence that job frustrations among experienced hospital nurses contributed to the problem.

Researchers reported in the May 2001 issue of *Health Affairs* that of some 13,500 hospital nurses surveyed in Pennsylvania, 41 percent were dissatisfied with their jobs—four times the dissatisfaction rate of American professional workers in general. Almost 23 percent planned to leave their jobs in the next year. Article available [online](#).

In addition to the potential effect on patient care, low nurse morale and high turnover are costly for hospitals. A 2002 study cited in the RWJF publication *Charting Nursing's Future* put the cost of replacing a medical-surgical nurse at \$92,442 (including human resource expenses, temporary pay, training and other expenditures related to filling the vacancy).

In a separate RWJF-funded report, *Health Care's Human Crisis: The American Nursing Shortage*, published in 2002, researchers at Health Workforce Solutions, a San Francisco consulting firm, examined a wide range of reports on the nursing shortage then gripping the nation. From the literature, the team distilled several recommendations for addressing the shortage. One was to increase the supply and retention of nurses "by regarding them as strategic assets and making positive changes in the work environment."

RWJF's Interest in the Area

The mission of RWJF is to improve the health and health care of all Americans, and the Foundation views nurses—who make up more than half the health care workforce—as central to that endeavor.

In recent decades, RWJF has invested more than \$150 million in initiatives to increase the supply of nurses, improve the quality of nursing-related care and otherwise strengthen the nursing profession.

"We recognize that it is impossible to pursue our mission...without addressing the challenges facing the nursing profession," RWJF president and CEO Risa Lavizzo-Mourey, M.D., M.B.A., has said. (For more information on RWJF's overall efforts in the nursing field, including a list of its key nursing-related programs, click [here](#).)

TCAB STRATEGY

In 2003, the RWJF staff responsible for its nursing-related strategy was anxious to address factors contributing to the poor hospital work environment that many nurses faced.²

Instead of the top-down approach typical of quality improvement efforts, the team wanted to give nurses and other hands-on caregivers a central role in redesigning workplace practices and systems.

Involving front-line staff in finding new ways to carry out their care-giving tasks would help generate practical, sustainable solutions to workplace problems, the RWJF team led by Hassmiller believed.

It would also, the team hoped, increase nurse engagement, job satisfaction and retention and demonstrate to hospital senior leaders the value of including a broad range of staff in improvement efforts—all leading ultimately to an increase in the quality of patient care.

To put flesh and bones on this concept, RWJF turned to IHI, which specializes in identifying, testing and disseminating innovative models of care. In July 2003, RWJF awarded IHI a \$482,063 grant³ to develop the model for what was christened *Transforming Care at the Bedside* (TCAB).

"The program's name denotes exactly what our organizations envision nurses doing: transforming care at the bedside," RWJF president Lavizzo-Mourey, and IHI president (at the time) Donald M. Berwick, M.D., M.P.P., said in a joint statement introducing the initiative.

Why TCAB Was Different

TCAB differed from the traditional hospital quality improvement program in three key ways:

- **TCAB engaged nurses and other staff working at the patient level in the design, testing and implementation of new work practices and systems.**

Many previous quality improvement efforts involved nurses, but—as characterized by the UCLA-RAND Corporation team that evaluated TCAB—this was the "the first major national initiative to focus directly on nurses in promoting a participatory approach" to transforming the hospital workplace.

² Subsequently, as part of a reorganization of RWJF, the nursing team was disbanded, and responsibility for TCAB and certain other nursing programs shifted to a team focused on improving health care quality and equality. Hassmiller, RWJF senior adviser for nursing, was a team member and continued to oversee TCAB.

³ ID# 048092.

While the active support of senior hospital leaders was viewed as essential to success, a basic tenet of TCAB was that the unit nurse manager and front-line staff were themselves capable of recognizing the need for improvement and identifying and implementing effective means to achieve it.

"It's as much about putting nurses in the driver's seat—identifying problems, brainstorming solutions and having the authority to implement them—as about the innovations themselves," Lavizzo-Mourey said of TCAB in [testimony](#) prepared for the House Subcommittee on Health of the Committee of Energy and Commerce.

- **TCAB sought to transform the overall approach to caregiving, not just specific practices and systems.**

The changes in procedure made by the hospital units participating in TCAB were for the most part relatively small in scale and cost. However, fundamental to the initiative was that in the process of revamping workplace practices, the front-line staff would develop new perspectives and change the very culture of the unit.

"TCAB is not a project; it's a philosophy," explained Denise Mazzapica, B.S.N., R.N., nurse manager at Long Island Jewish Medical Center, New Hyde Park, N.Y., one of the TCAB pilot sites.

For example, TCAB emphasized involving patients and their families in the care process—to view them as partners in the care-giving process, not just as recipients of care.⁴

- **TCAB emphasized improvement as a continual process, as opposed to a one-time project with a beginning and an end.**

Nurses working in a TCAB unit were expected to continually brainstorm new ideas, test them on a small scale, evaluate the outcome and—based on data—spread those that worked and discard those that did not.

This process was to be an ongoing part of the unit's work routine. For details, see [IHI's Idealized Design Process](#) and the [TCAB Process](#).

Taken together, these three characteristics go to the heart of what RWJF and IHI intended TCAB to be—not just a five-year program but a *movement* that would impact hospitals across the country for years to come.

THE PROGRAM

TCAB focused specifically on hospital medical-surgical units, where most inpatient care (with the exception of maternity and critical care) is delivered—and where nurse turnover is typically highest.

⁴ For more information see the TCAB [Toolkit](#).

Also, medical-surgical units—according to IHI research—account for 35 to 40 percent of *unexpected* hospital deaths, suggesting substantial room for patient safety improvement.

As initially designed, TCAB set four goals—or *design themes* in TCAB terminology—for participating medical-surgical units. The specific nature of the innovations was expected to vary widely within each TCAB unit and from hospital to hospital. But all changes were to aim at advancing one or more of the following goals or themes⁵:

- Improve the quality and safety of patient care (*safe and reliable care* was the TCAB shorthand for this goal/theme)
- Increase the vitality and retention of nurses (*vitality and teamwork*)
- Engage patients and families, and improve their experience of care (*patient-centered care*)
- Improve the effectiveness and efficiency of the entire care team (*value-added care*)

Later—in Phase III—the program added a fifth goal/theme:

- Transformational Leadership. Spread successful TCAB innovations to other medical-surgical units in the participating hospitals and to other hospitals in the same system.

This addition was based on a recognition by the IHI design team that TCAB's success depended on replicating effective changes made by individual units. For that to happen, the team concluded, leaders at all levels, from the CEO down, had to be committed to providing the resources and management philosophy necessary to empower staff and foster innovation—a condition termed *transformational leadership*.

Phase I: Development and Prototyping 2003–2004

TCAB had three phases of activity:

- Phase I: Development and Prototyping 2003–2004
- Phase II: Piloting at 13 Hospitals 2004–2006
- Phase III: Continued Piloting and Broad Dissemination 2006–2008

In Phase I, an IHI team of staff and outside experts led by IHI Vice President Patricia Rutherford, M.S., R.N., developed TCAB's conceptual *framework* and worked with three hospitals to test and refine it. (See [Appendix 1](#) for the membership of the IHI design team, which remained active through all three phases.)

⁵ For more information, see [Section 1, Chapter 3](#) of the TCAB Toolkit, *Understanding TCAB's Four Focus Areas*.

TCAB Framework

The framework, which continued to evolve throughout the RWJF-funded initiative, guided the improvement efforts of the pilot hospitals as well as the hospitals participating in the later dissemination effort. The framework established:

- The five TCAB goals or themes
- A performance definition for each goal
- A list of potential "high-leverage changes" that might help hospitals achieve each goal
- Outcome measures and targets for each goal

As an example, for the first goal (safe and reliable care), the framework provided that:

- A successful medical-surgical unit should be able to respond immediately to a change in a patient's clinical condition and have reliable processes in place to prevent:
 - Medication errors
 - Injuries from falling
 - Pressure ulcers
 - Harm from other adverse events
- Establishing an internal hospital system that allows patients or family members to summon immediate professional help is one innovation with the potential to significantly increase safety and reliability.
- One measure of safe and reliable care is patient falls serious enough to cause moderate or greater injury. The target was 0.1 such falls per 1,000 patient days. A second key measure is the number of codes. (A code is an internal hospital signal of a life-threatening situation.) The target was zero codes.⁶

Other key TCAB targets. Outcome targets for the other goals/themes included:

- *Vitality and teamwork:* A TCAB unit should have 5 percent or less voluntary turnover of nurses in a year. (In general, the turnover rate for hospital nurses is 8 percent to 14 percent, the IHI team said.)
- *Patient-centered care:* No more than 5 percent of the unit's patients are readmitted within 30 days of discharge. (Nationwide the average 30-day readmission rate is approximately 20 percent, according to the IHI team.) (The evaluators also considered this a measure of safe and reliable care.)

⁶ RWJF also funding a separate program, *Prevention of Hospital Falls*. See [Program Results](#) for more information.

- A second indicator of patient-centered care was patient satisfaction as measured by the percentage of surveyed patients *definitely willing* (highest possible score on that question) to recommend the hospital to friends and family. The target was 95 percent of patients definitely willing to recommend. (Nationally the percentage was 66, according to a federal survey.)
- *Value-added care:* Nurses spend at least 70 percent of their work time providing care directly to patients as opposed to documenting records, finding supplies and carrying out other duties away from the bedside. (The literature indicates that medical-surgical nurses in general spend only 20 percent to 30 percent of their time in direct patient care, the team said.)

In part because it was added later, the fifth goal (spreading TCAB innovations to all medical-surgical units through transformational leadership) had no quantitative measures/targets.

The TCAB Process

As designed by the IHI team, TCAB entailed a specific change process. Derived from IHI's Idealized Design Process, the key ingredients of the TCAB Process were:

- **Formation of an improvement team at the nursing unit level.** While generally led by a registered nurse, participants could include:
 - Other front-line staff: nurse assistants, social workers, pharmacists, dietary workers—and physicians
 - The hospital's chief nursing officer, other senior executives and quality improvement staff
 - Patients, former patients and family members

(In Phase III, the pilot units were required to include a physician and patient on their TCAB teams. They also were expected to add a nursing school representative. See [Phase III: Continued Piloting and Broader Dissemination 2006–2008](#).)

- **Staff brainstorming sessions to identify problems and generate innovative ideas for solving them.** The sessions were an adaptation of a structured brainstorming approach called *Deep Dive* developed by the design firm IDEO. The TCAB version was shorter, less formal, and the TCAB Design Team called this adaptation a "snorkel". The TCAB teams were instructed in how to conduct a *snorkel*.
 - The ideas generated in a snorkel did not have to be original.
 - The TCAB Design Team also encouraged nurses on med/surg units in the hospital to learn from one another and to look at other industries for ideas to improve their care processes. The IHI mantra "Share senselessly and steal shamelessly" was adopted by the TCAB Teams.

- **Multiple, rapid tests of proposed changes, starting small—as small as one nurse interacting with one patient—and measuring the outcome.** If promising, the idea would be refined and retested on a broader scale, with more staff and patients. If the results continued to be positive, the change would eventually spread throughout the unit. See the [Associates in Process Improvements' Model for Improvement](#) for more information.

- This progressive "tests of change" process was to be ongoing, not a one-time practice. However, the individual staff participants would vary, depending on what was tested.

For example, dietary staff would likely be involved if meals were the focus, pharmacy staff if the change affected medication delivery.

- **Spread of successful changes throughout the unit, then to other units in the hospital and, ultimately, to other hospitals in the system.**

For a more detailed explanation of the TCAB framework and process, see the *American Journal of Nursing* article "[TCAB: The 'How' and the 'What'](#)" by members of the IHI design team.⁷

Three Prototype Hospitals

In Phase I, three hospitals served as prototypes, each providing a medical-surgical unit to help the IHI team hone the TCAB process and identify potential innovations for inclusion in the framework.

The hospitals—which were recruited by IHI and RWJF based on their reputations for quality and innovation—were:

- Kaiser Permanente Roseville Medical Center, Roseville, Calif.
- Seton Northwest Hospital, Ascension Health System, Austin, Texas
- University of Pittsburgh Medical Center–Shadyside, Pittsburgh

From November 2003 to March 2004, the three units tested a total of 74 concepts, adopting 43.

Example: The Roseville unit experimented with teaming a nurse and hospitalist to make a quick check of all patients just before the start of the night shift. The idea was to identify and address potential problems—such as inadequate pain-management medication—before they blossomed into middle-of-the-night calls for physician attention.

⁷ Rutherford P, Moen R and Taylor J. Supplement 109(11): 5–17, November 2009.

The added round was judged a success. It helped patients sleep through the night and helped the staff use its time more efficiently, the hospital reported. "It's about being proactive, taking time to think of things you could do ahead of time to head off problems during sleep," says Barbara Crawford, M.S., R.N., Roseville director of hospital operations.⁸

Phase II: Piloting at 13 Hospitals 2004–2006

In 2004, 10 additional hospitals joined the initial three for a two-year pilot of the TCAB framework. As in Phase I, IHI and RWJF invited the hospitals to participate based on their reputations for care and quality improvement. The 10 additions were:

- Brigham and Women's Hospital, Boston
- Bronson Healthcare Group, Kalamazoo, Mich.
- Cedars-Sinai Medical Center, Los Angeles
- Children's Memorial Hospital, Chicago
- James A. Haley Veterans' Hospital, Tampa, Fla.
- North Shore-Long Island Jewish Health System, Great Neck, N.Y.
- Northwestern Memorial Hospital, Chicago
- Prairie Lakes Hospital, Prairie Lakes Healthcare System, Watertown, S.D.
- ThedaCare™, Appleton, Wis.
- University of Texas M.D. Anderson Cancer Center, Houston

The 13 hospitals were predominantly academic medical centers in urban settings; one (Prairie Lakes) was a stand-alone rural community hospital. Nine of the hospitals piloted TCAB in one medical-surgical unit while four provided two units each—for a total of 17 pilot projects in all.

Supported and coached by the IHI design team, the staffs tested and implemented changes related to the four goals/themes. The hospitals were expected to submit monthly reports with outcome data.

Example: Based on an innovation at a non-TCAB hospital (Luther Midelfort-Mayo Health System in Eau Claire, Wis.), Seton Northwest Hospital's TCAB nurses developed a "traffic-light system" for designating nurse workloads and availability for additional patient care.

⁸ As stated in an IHI report to RWJF.

Four times a shift, each front-line nurse placed on a centrally located board one of the following colored magnets:

- Green, indicating the nurse could take on new patients
- Yellow, signaling the nurse was near his or her capacity
- Red, meaning the nurse could not safely accept another patient

The new practice enhanced teamwork, making it easier for nurses to know which colleagues to turn to for assistance and who not to bother. It also demonstrated respect for nurses' professional judgment, the IHI team reported.

Use of the magnet board or similar device spread to other TCAB hospitals, including University of Pittsburgh Medical Center–Shadyside. "It sounds very simple, but it really helped us learn a lot about the workflow on the patient unit," said Tamra E. Minnier, M.S.N., R.N, chief nurse at Shadyside at the time and now the medical center's chief quality officer. "It became a part of growing the sense of teamwork and culture."

The "traffic light" innovation illustrates a broader point about TCAB, Minnier added:

It's not about spending millions of dollars. It's not about buying new computers, and new gizmos and new gadgets. It's about very simplistic changes that empower staff to empower patients and families to be equal partners in care.

Minnier made the comments in a [videotaped interview](#) included in an online [TCAB Toolkit](#) published in 2008 by RWJF. In a March 2011 interview for this report, Minnier said her comments remained "100 percent" applicable.

For a list of other key changes adopted by the pilot units, see [Appendix 2](#). For a summary description of several key activities at each of the 10 hospitals that participated in both Phase II and Phase III, see [Appendix 3](#). For a more extensive look at how TCAB worked, see the Sidebars at the end of this report on:

- [Cedars-Sinai Medical Center](#)
- [Children's Memorial Hospital](#)
- [Prairie Lakes Healthcare System](#)
- [University of Pittsburgh Medical Center \(UPMC\)](#)

Phase II Results: "Promising"

By the end of Phase II in spring 2006, the 13 sites had tested more than 400 innovations and, in the judgment of the IHI team, "demonstrated promising results." The team reported the following results to RWJF:

- A decline in the average annual voluntary nurse turnover rate for the 13 sites from 15.0 percent to 5.8 percent
- An increase in the average time spent in direct patient care from 41.6 percent to 52.1 percent
- One TCAB unit—at Cedars-Sinai Medical Center—reached the targets for three key measures: nurse turnover, time in direct patient care and patient falls.

Phase III: Continued Piloting and Broader Dissemination 2006–2008

Phase III encompassed two distinct categories of activity:

- Continued piloting at 10 of the 13 sites
- Dissemination of the TCAB model to the broader hospital community through IHI's IMPACT Network

Pilot Sites: An Expanded Agenda

Three of the 13 hospitals discontinued participation in Phase III, citing the press of other priorities and an increase in the commitment required of the pilot sites. The three were Brigham and Women's Hospital, Bronson Healthcare Group and Northwestern Memorial Hospital.

The remaining 10 sites continued to test and implement changes but were also given additional tasks:

- **Nursing School Partnership.** Each hospital was expected to partner with a nursing school, engaging its faculty and students in the hospital's TCAB improvement process.

The objective was to integrate TCAB principles into academic nursing so as to produce students better prepared to identify and advocate for patient-care improvements when they entered practice.

The 10 hospitals partnered with 14 nursing schools. (Four hospitals selected two schools each.) See [Appendix 4](#) for the names of the schools.

RWJF contracted with Patricia Chiverton, Ed.D., R.N., dean of the University of Rochester School of Nursing, to coordinate the hospital-school partnerships, adapt

TCAB content for their curricula and spread the TCAB approach to additional schools.⁹

For details of the program's nursing school component, see the *American Journal of Nursing* article "TCAB in the Curriculum: Creating a Safer Environment through Nursing Education" by Deborah Struth, M.S.N., R.N. The article—full text available [online](#)—is an account of the partnership between the University of Pittsburgh Medical Center (UPMC) and its Shadyside School of Nursing.

- **Spread.** Phase III placed increased emphasis on spreading the hospital's successful TCAB changes beyond the pilot units.

RWJF and IHI asked the senior leadership of each hospital to commit to provide the resources to disseminate the TCAB innovations to all medical-surgical units in the pilot hospital and to other hospitals in that system—and to designate by name a senior executive responsible for the dissemination effort.

Pilot Site Funding

Phase II. RWJF invited each Phase II pilot site to apply for an additional grant of about \$20,000 to support a specific innovation. Eleven of the 13 hospitals received awards.

Examples:

- Prairie Lakes Healthcare received \$17,600¹⁰ to help advance the hospital's transition to electronic health records. The organization viewed replacement of its paper system as a key strategy to reduce the intensity of nurses' work.
- The M.D. Anderson Cancer Center received \$19,760¹¹ to help establish the role of unit-based discharge nurse—a new position designed to help prepare patients for discharge, expedite the discharge process and reduce the time that the unit's other nurses spent on discharge-related logistics.¹²

Phase III. Reflecting the expanded scope of activities, RWJF awarded each Phase III site a grant of about \$90,000, with a third of the money earmarked for support of the hospital's nursing school partnership. For details of the individual hospital grants in both Phase II and III, see [Appendix 5](#).

⁹ Contract ID#s 058032 and 062645.

¹⁰ ID# 055803.

¹¹ ID# 055792.

¹² For more information see the [TCAB Toolkit](#).

Additional Site Support

As noted, one key TCAB measure was the percentage of nurse time spent on direct patient care. To collect this data, RWJF awarded IHI a \$62,091 grant¹³ to purchase electronic devices and distribute them to the pilot units.

A PDA (personal digital assistant), prompted the nurse carrying it to enter his or her location or activity at set intervals during the shift. The unit and related software aggregated the data over several days, enabling a report on the breakdown.

The grant funded the purchases of 26 new PDAs (two for each of the 13 pilot hospitals then participating) plus staff training in use of the devices and software upgrades for some existing PDAs.

Other site support included:

- During 2005–2006 RWJF funded three of the pilot organizations to test different methods of spreading TCAB principles and innovations to other hospitals in their systems.

The work was part of a research project to help RWJF staff understand how best to disseminate TCAB. The grants of about \$100,000 each went to Ascension Health¹⁴, Kaiser Permanente¹⁵ and University of Pittsburgh Medical Center.¹⁶

For details—including factors found to be necessary for successful spread—see the [online article](#) by the UCLA-RAND evaluation team, which oversaw the research.

- During 2006–2007, RWJF funded a TCAB spin-off program, *Prevention of Hospital Falls*, focused on this safety problem that has long plagued hospitals.¹⁷ RWJF made grants totaling \$348,840 to IHI and eight hospitals to develop and test a package of interventions to prevent falls and serious injury from falls.

The eight hospitals, which got grants of about \$19,000 each under the hospital falls program, included four TCAB pilot sites: James A. Haley Veterans' Hospital¹⁸, Kaiser Permanente Roseville¹⁹, North Shore-Long Island Jewish Health System²⁰ and M.D. Anderson Cancer Center.²¹

¹³ ID# 053658.

¹⁴ ID# 055472.

¹⁵ ID# 055471.

¹⁶ ID# 055469.

¹⁷ See the [Program Results](#) for more information

¹⁸ ID# 057527.

¹⁹ ID# 057583.

²⁰ ID# 057607.

²¹ ID# 057536.

Technical Assistance

The IHI TCAB team worked to forge the pilot hospitals into what the team termed "a robust collaborative learning community." To that end, the team convened periodic meetings of the sites' TCAB personnel to discuss their innovations and learn from each other and from experts provided by IHI.

IHI also provided the site teams with:

- Individual coaching
- Group visits to TCAB hospitals and also non-TCAB organizations, including a Toyota plant to learn about the corporation's "lean" management philosophy
- Monthly teleconferences
- Monitoring of the participants' monthly reports and measurements

IMPACT Network. In addition, the pilot hospitals were expected to enroll in IHI's IMPACT Network—a series of learning collaboratives conducted by IHI separately from TCAB and open to all health care organizations on a fee basis:

- Senior executives of the pilot hospitals, including the CEO, were asked to join IMPACT Network's Leadership Community, which focused on improving care through changes in strategy and organization.
- Front-line TCAB staff participated in IMPACT Network collaboratives dealing with specific content areas, such as patient safety and clinical reliability.

The pilot sites paid IHI an annual TCAB participation fee that covered the technical assistance they received from the TCAB design team and from the IMPACT Network collaboratives. (The hospitals paid the fees from their own resources, not RWJF grant funds.)

Grants to IHI and Other Organizations

To support IHI's development of TCAB and its work with the pilot sites, RWJF awarded IHI three grants—one in each phase—totaling \$3,489,939.²²

In addition, RWJF awarded IHI four other grants to support specific TCAB-related activities, including the PDA purchase. See [Appendix 6](#) for details of all seven grants to IHI.

RWJF also supported a number of TCAB-related projects carried out by other organizations, including:

²² ID#s 048092, 050813 and 57197.

- In 2005, RWJF awarded Brigham and Women's Hospital a \$44,982 grant²³ to study the cost of adverse events involving hospital intensive care patients.

The study—separate from the hospital's Phase II grant—was an effort to build a business case for innovations that have a positive effect on nursing care. See a [summary](#) of the published findings.

- In 2006, RWJF gave the University of California, Los Angeles, School of Nursing a \$50,075 grant²⁴ to revise and validate a survey instrument to assess health care team functioning, job satisfaction and other indicators of vitality.

The study found that the instrument—*Healthcare Team Vitality Survey*—could be used to collect meaningful data on the vitality of nurses and other front-line health care workers. See [Program Results](#) for more information.

National Advisory Committee

An advisory committee of outside experts helped guide the TCAB initiative. The members recommended pilot hospitals to RWJF and IHI, helped shape TCAB policies and served as spokespersons for TCAB and quality improvement in general.

See [Appendix 7](#) for a list of the committee members.

Dissemination: Three Mechanisms to Spread TCAB in Phase III

In addition to continuing work at the pilot sites, the objective of Phase III was to spread the TCAB concept to hospitals across the country. Phase III encompassed four main dissemination mechanisms:

- A program managed by the American Organization of Nurse Executives (AONE) that introduced the TCAB process to 68 hospitals
- Support that enabled 44 rural and public hospitals to participate in a TCAB learning collaborative launched by IHI as part of its IMPACT Network
- Development of an online TCAB "resource center" and other communications materials and activities to promote the TCAB model and provide tools to implement it
- IHI's website and public programs such as IHI's National Forum

AONE Dissemination

AONE, a subsidiary of the American Hospital Association, is an organization for nurses in management and other leadership roles. By 2006, word of the TCAB pilot projects had

²³ ID# 052220.

²⁴ ID# 058123.

reached enough AONE members to interest the organization in developing a TCAB initiative of its own.

Consequently, AONE sought and received RWJF funding²⁵ for a two-year program to introduce the TCAB approach to a broader group of hospitals and without the intense level of assistance that IHI provided the pilot sites. In short, the AONE program was more of a real-world demonstration of TCAB.

Initially, AONE designed the program to teach the TCAB process to up to 50 hospitals. However, the number of applicants was larger than expected—a "pleasant surprise" and an indication of RWJF's and IHI's communication success, said Veronika Oven Riley, M.A., AONE director of special projects.

In response, RWJF provided AONE additional funding²⁶ to expand participation to 68 hospitals. A committee of AONE and RWJF staff plus representatives of the pilot hospitals selected the 68, and AONE announced the list in June 2007. (See [Appendix 8](#) for the hospitals' names and locations.) One hospital dropped out, making 67 the actual number of participants.

Hospital Activities. Unit managers and staff nurses in the 67 hospitals worked to meet the same TCAB goals set by the IHI team in Phase I, and many of the changes implemented were the same or similar to those that the pilot sites adopted. However, AONE encouraged the sites to address their individual needs, not simply duplicate the piloted changes, according to staff.

AONE divided the hospitals into two cohorts, and staff conducted monthly conference calls of 60–90 minutes with the hospital teams in each cohort. Staff members also coordinated several face-to-face meetings of the cohorts plus Web-based seminars and other educational sessions. As with the pilots, the TCAB units were expected to report outcome measures.

AONE created its own how-to TCAB toolkit for use by its hospital teams²⁷ and developed a [TCAB website](#) with both public information about the program and password-protected access to conference call dates and other participant materials.

The hospitals paid AONE a fee to participate in the program. Unlike the pilot sites, they received no RWJF grant funds.

AONE Funding. RWJF awarded AONE two principal grants totaling \$1.5 million²⁸ to administer the program, assist the site teams and purchase two PDAs for each hospital.

²⁵ ID# 057978.

²⁶ ID# 061998.

²⁷ The toolkit, which AONE considered proprietary, was undergoing revision as of early 2011 and was not publicly available, according to AONE staff.

In March 2009, RWJF awarded AONE a third grant of \$375,593²⁹ to help spread TCAB to additional units in the participating hospitals and to involve nursing school faculty in the work. For details of the three grants, see [Appendix 9](#).

(With RWJF concurrence, AONE provided a portion of the third grant to the American Academy of Nursing to help fund work undertaken as part of another RWJF-supported initiative, *Technology Drill Downs*. See the [Program Results](#) on that separate initiative.)

IHI's IMPACT Collaborative

To improve nursing care and help spread TCAB principles, IHI launched a TCAB learning collaborative for hospital staff in 2007 as part of its IMPACT Network series. Called the TCAB Learning and Innovation Community, the collaborative was open to all hospitals on a fee basis and was separate from the RWJF-supported pilot.

Some 41 hospitals enrolled in the TCAB Learning and Innovation Community, but only three were rural or public hospitals. The enrollment fee and related expenses were a barrier to the participation of institutions with limited resources, IHI told RWJF.

Consequently, in October 2008, RWJF gave IHI a 12-month, \$737,118 grant³⁰ to provide "scholarships" to 44 rural hospitals and minority-serving public hospitals—22 in each group—to participate in both the TCAB Learning and Innovation Community and IMPACT's Leadership Community for senior executives.

IHI recruited the 44 hospitals—many of which had not previously participated in a quality improvement project—and provided them access to TCAB learning community activities and resources, including:

- Two face-to-face meetings of the full community
- Web conferences and other technical assistance
- Special help through conference calls, site visits and one-on-one interviews

Online "Resource Center" and Other Communications Efforts

To help hospitals nationwide implement TCAB, RWJF in March 2008 commissioned the Washington communications firm GYMR LLC to develop an online "[TCAB Resource Center](#)."

²⁸ ID#s 057978 and 061998.

²⁹ ID# 065551.

³⁰ ID# 065153.

Under a seven-month, \$65,419 contract³¹, the firm interviewed front-line staff and senior managers at the pilot hospitals, and videotaped demonstrations of some of the changes they implemented.

The GYMR team organized the materials into a menu of online instructions, videos and downloadable tools aimed at explaining both the underlying TCAB concepts and the practicalities of implementing and spreading the TCAB approach.

Launched on the RWJF website in 2008, the Resource Center consisted of five sections, each divided into chapters on different aspects of TCAB.³²

Additional Communications. RWJF also sought to raise awareness of TCAB through other avenues:

- In 2008, RWJF funded IHI to write and publish online a series of seven TCAB "how-to guides" with practical advice on reducing patient fall injuries, increasing staff teamwork and implementing other innovations successfully tried by the pilot sites.

The 10-month, \$108,250 grant³³ also supported production of TCAB white papers and articles. For details—including the titles of the seven how-to guides and links to their location on the IHI website—see the [Bibliography](#).

- In 2004, RWJF allocated \$400,000³⁴ to support a variety of communications activities aimed at promoting TCAB specifically and, more generally, the linkage between nursing, the care environment and the quality of care that patients receive.

— The allocation funded production of a special supplement to the *American Journal of Nursing* focused exclusively on TCAB. The 80-page supplement—published in November 2009—contained two dozen articles on the philosophy and mechanics of TCAB and the experiences and results of the pilot hospitals.

The authors included staff of RWJF, IHI, the pilot hospitals and the UCLA-RAND evaluation team. See the [Bibliography](#) for a list of the supplement articles, many of which are available online in full text through the [RWJF website](#).

³¹ ID# 064064.

³² ["Reducing Documentation Time by Eliminating Written Care Plan Reports," "Engaging Physicians," "Redesigning Equipment to Reduce Time Wasted and Increase Time Spent at Bedside," "Assessing Risk and Designing Tools to Reduce Falls," "Engaging Senior Leadership"](#) (Four separate videos with top executives of Seton Family of Hospitals, Cedars-Sinai Medical Center, Kaiser Permanente Roseville Medical Center and Prairie Lakes Health Care System), ["How to Test Changes," "Better M.D.-R.N. Collaboration Through Unit Meetings," "Selecting Units and Forming the Team," "Reducing Time for Admission Through Team Process," "What's Involved in TCAB," "Reducing Bedsores by Creating Awareness of When to Turn Patients," and "When and How to Spread."](#)

³³ ID# 063754.

³⁴ ID# 050672.

- The allocation included honoraria and travel reimbursement for TCAB national advisory committee members as they served as spokespersons for TCAB and quality improvement. The allocation also supported preparation by consultants of reports and other materials used in the TCAB communications effort.
- RWJF's Hassmiller, IHI's Rutherford and members of the IHI design team made numerous presentations on TCAB at conferences and meetings convened by IHI, AHA, AONE, state hospital associations and other health care-related organizations.

Also, Hassmiller, Rutherford and others involved in the program, including the pilot teams, wrote articles on TCAB for health care publications and provided information to authors writing for both professional and general interest publications. For example:

- In a [2007 editorial](#) in the *American Journal of Nursing*, Editor-in-Chief Diana J. Mason, a TCAB national advisory committee member, outlined TCAB's impact on the pilot hospitals.
- In a [2006 article](#) in the *Journal of Nursing Care Quality*, leaders of the Seton Northwest pilot reported on the hospital's Phase I experience.
- In February 2006, *Nurses World Magazine* ran a five-page [article](#) explaining the philosophy behind TCAB and some of the pilot site results to date.
- An October 2006 article in *Newsweek* magazine ("[Case Study: New Ideas for Nurses](#)") detailed the TCAB accomplishments as an illustration of time-saving innovations that could improve work conditions and patient care at hospitals nationwide.
- A November 2006 *Boston Globe* article ("[Cambridge Nonprofit Cuts Nursing Turnover](#)") attributed improvements at Prairie Lakes Hospital and other pilot sites to TCAB.

THE EVALUATION AND ITS FINDINGS

The UCLA-RAND Evaluation

In 2004, RWJF commissioned a research team from the UCLA's School of Public Health and RAND Corporation to evaluate the Phase II pilot sites—specifically their success in meeting the TCAB goals, factors that hindered and helped their work and the role that hospital culture and leadership played.

Two years later RWJF funded the team to continue the evaluation through Phase III, this time assessing the outcome of not just the pilot sites but also the broader dissemination efforts, particularly the AONE program and its online Resource Center.

In addition to gauging the value of the TCAB approach, RWJF wanted to know what level of intervention was necessary for it to be effective. Could hospitals reach the TCAB objectives with less intense assistance than the pilots received, including only Web-based support?

The two grants³⁵ totaled \$1.5 million. In response to several factors, including expansion of the AONE program, RWJF later provided the evaluation team with a supplemental \$250,000³⁶ and an extension of the evaluation to November 2009.

The grantee for all three awards was the UCLA School of Public Health, where Jack Needleman, Ph.D., the evaluation team leader, is a professor.

Pilot Site Evaluation Methodology

To assess the pilot sites, the evaluation team:

- Made site visits and conducted surveys and interviews with front-line nursing staff, unit nurse managers, quality improvement staff and administrators
- Tracked the number of innovations tested and implemented at each site and the impact on outcome measures
- Assessed whether the sites met the measurable targets for each of the four goal areas set by IHI design team
- Monitored multisite TCAB meetings and phone calls and reviewed documents and data submitted by the hospital teams to IHI

Pilot Site Evaluation Findings

Needleman and his colleagues reported on their pilot site evaluation in a special supplement of the November 2009 *American Journal of Nursing*. The article ("[Overall Effect of TCAB on Initial Participating Hospitals](#)") focused on the 10 hospitals that participated in both phases. The 10 had a total of 13 TCAB pilot units. The article included the following findings:

Quantitative Findings

- **During Phases II and III, the 13 TCAB units in the 10 hospitals tested 533 changes in work processes and adopted 377 (71%) of them.** A total of 210 (39%) of the changes were spread to other units.

³⁵ ID#s 049962 and 057477.

³⁶ ID# 064052.

- The units conducted on average a total of 41 tests—nearly one test per unit per month. However, "the actual volume of testing varied substantially across all units," as did the units' performance overall.
- The implemented changes spanned the four TCAB goal areas, with the largest number in *patient-centered care*, the fewest in *vitality and teamwork*. However:
 - Many changes fell in multiple goal areas, making classification "somewhat arbitrary. For example, improved discharge procedures can improve *patient-centered care* and *safe and reliable care* while also improving efficiency, a value-added process."
- "Few of the innovations tested or implemented...were groundbreaking, but that wasn't the priority of the program." (As noted, "steal shamelessly" was a TCAB mantra, and the pilot site teams were encouraged to adopt and adapt practices that worked in other hospitals.)
- **Data available from the TCAB units showed a statistically significant reduction in two measures of safe and reliable care: harmful falls and 30-day readmissions.** "Most of the units instituted changes that directly sought to reduce falls and readmissions, such as special signage or safety rounds to reduce falls, and revised discharge procedures to reduce readmissions."
 - From 2005 to 2007, the number of harmful falls per 1,000 patient days dropped from 1.32 to 0.72, based on data from 10 of the 13 units.
 - Between 2006 and 2007, the percentage of readmissions within 30 days of discharge dropped from 8.1 to 6.1, based on data from nine units.

Neither decline, however, was sufficient to meet the TCAB target—0.1 harmful falls per 1,000 patient days and 5 percent readmissions.

- **The number of *codes*³⁷, another "safe and reliable" indicator, also dropped but not with statistical significance—from 0.89 codes per 1,000 patient days in 2005 to 0.66 in 2007.** (The target was zero.)
 - The sites tried to reduce codes through indirect methods, such as establishing rapid-response teams of physicians and other caregivers.
- **Other TCAB outcome measures showed little movement.**
 - Time spent in direct patient care "was basically level." It went from 47 percent in 2005 to 49 percent in 2008, based on data from eight units. (The target was 70 percent.)

³⁷ A code is an internal hospital signal of a life-threatening situation.

- The percentage of patients likely to recommend the hospital increased from 61 percent to 66 percent), which was not statistically significant. (The target was 95 percent.)
- The percentage of highly positive staff responses to a survey question on teamwork declined slightly. The question was whether the respondent felt part of an effective work team that continuously strived for excellence. Highly positive responses dropped from 45 percent in 2005 to 43 percent in 2007.
- Average voluntary staff turnover dropped from 4 percent in 2005 to 3 percent in 2006 but then increased to 3.9 percent in 2007. Thus, while continually below the nationwide median of 8.4 percent, turnover remained essentially unchanged.
- **Measurement difficulties, including incomplete site data, placed limitations on these and other quantitative findings.** See [Limitations on Pilot Site Findings](#).

Qualitative Findings

- **Questionnaire responses by unit managers and the hospitals' chief nursing officers were supportive of TCAB.**
 - All of the managers said the four TCAB goal areas had improved "somewhat" or "greatly." Asked what was gained by TCAB, they repeatedly mentioned:
 - Improved teamwork
 - Empowerment
 - Ownership of practice
 - Increases in concrete methods
 - Capacity to make changes
 - At least half of the unit managers said that TCAB "played a significant role or was fully responsible for changes made" in the goal areas except for those under safe and reliable care.
 - Unit managers and chief nursing officers "indicated overwhelmingly that TCAB was responsible for involving front-line staff in the improvement process and for increasing collaboration among hospital departments."
 - Several respondents said TCAB improved nurses' skill in working with physicians.
 - Most of the leaders expected to continue TCAB processes after the RWJF-IHI initiative ended, and all said they would be willing to participate in the initiative again.

- **Staff engagement in TCAB increased—and resistance decreased—as the initiative progressed.**
 - At the end of the first year of Phase II, "seven of the 13 pilot unit managers reported that less than 40 percent of their front-line nursing staff was actively involved in TCAB activities." At the end of Phase III, "only one manager reported staff engagement at that low level."
 - At the end of year one of Phase II, "one-third of unit managers reported that at least half of the nursing staff was unsupportive. At the end of Phase III, only one unit manager reported that.
- **At the end of Phase III, "almost all of the hospitals were spreading TCAB processes and culture as well as specific innovations."**
 - Most unit managers and chief nursing officers "believed that most of the innovations that had been tested and adopted could be implemented as best practices on other units or spread to other hospitals."

Limitations on Pilot Site Findings

- **In the [article](#), the evaluation team identified a number of factors that "limit our ability to draw strong inferences" from the reported outcome data:**
 - "First and most critically, effective measurement required expertise that many units lacked in collecting, interpreting and applying data."
 - Hospitals "were reluctant to collect data that they considered to be mainly for external assessment, with limited value to the hospital itself."
 - TCAB's "flexible, autonomous approach" resulted in a broad spectrum of interventions, making it difficult to apply a common set of outcome measures.
 - Frequently there was a "lack of a clear causal link between changes and outcome measures."
 - The sample size was small.
- **With reputations as "high-quality, innovative organizations," the 10 pilot hospitals were "not typical."** Their "results illustrate what is possible, but they may not be generalizable to a wider range of hospitals."

Variability of the Intensity of Implementation Across Units in the Second Year

In a 2009 article in the special supplement of the *Journal of Nursing Care Quality*³⁸, the evaluators noted in the discussion:

- **"About two-thirds of the units reported that front-line staff—usually the TCAB team—continued to decide which changes to test in the second year.** However, the extent to which nurses continued to generate ideas for change is not clear, given that only 18% of the units continued staff brainstorming sessions in the second year.... A question for further research is whether the decreases in brainstorming sessions... reflect efficient adaptation of the TCAB approach or missed opportunities for further engaging nurses in change processes."

Evaluations team members wrote additional articles on various aspects of their pilot site study. See the [Evaluators' Bibliography](#).

Evaluation of the AONE Program and the Online Resource Center

As of early 2011, when this report was prepared, the UCLA-RAND evaluation team had not reported on its assessment of AONE's TCAB program and the TCAB Resource Center.

Cost-Benefit Analysis

In addition to the UCLA-RAND evaluation, RWJF funded³⁹ a separate cost-benefit analysis of the pilot sites. The purpose was to establish a business case for TCAB. See [Appendix 10](#) for details and findings of the analysis.

PROGRAM RESULTS

Overall Results

The RWJF-funded TCAB program developed, tested and disseminated a structured process for empowering nurses and other front-line hospital staff to take the lead in improving the work environment and quality of patient care on medical-surgical units.

Based on information from IHI and RWJF, the 2003–2008 TCAB program:

- **Initiated the TCAB model in more than 100 hospitals across the country—counting the pilot sites and hospitals in the IHI and AONE dissemination efforts**

³⁸ "Participation of Unit Nurses," Pearson J, Needleman J, Parkerton PH, Upenieks VV, Soban LM and Yee T, pp. 66–70. Available [online](#).

³⁹ ID# 063255.

- All of the 10 Phase III pilot sites spread TCAB to additional units within those hospitals, and four organizations (Kaiser Permanente, Seton, ThedaCare and University of Pittsburgh Medical Center) report the spread of TCAB to additional hospitals in their systems—a total of 25 spread hospitals in the four systems.
- **Produced online and printed instructional materials to enable additional hospitals to implement TCAB on their own**
- **Raised awareness of—and interest in—TCAB within the nursing profession through journal articles, conference presentations, media accounts and word of mouth**
- **Laid the foundation for continued spread of the TCAB model after the 2003–2008 program ended—spread that did, in fact, materialize. See [Afterward](#).**

In the 2009 article ("[TCAB: The 'How' and the 'What'](#)"), Rutherford, the head of IHI's TCAB team, and two team members (Ron Moen, M.S., M.A., and Jane Taylor, Ed.D.) summed up the overall result of the program this way:

Through TCAB, a movement has begun to transform the care delivered on medical-surgical units to better serve patients and to transform the work environment to support professional nursing practice and collaborative teamwork at the bedside.

Pilot Site Results

In the November 2009 *American Journal of Nursing* supplement, the IHI team reported on the pilot projects and their results.

"TCAB: The 'How' and the 'What'" included some outcome data different at least in format from the evaluators' and, in several instances, seemingly more positive. For example: the article reported:

- **Of the 10 sites that worked to reduce fall injuries, six achieved the TCAB goal for at least six consecutive months. "On average, falls decreased 52 percent between 2005 and 2007."**
- **Eight of the 10 sites had no codes for six or more consecutive months, and "The average number of codes decreased 33 percent between 2005 and 2007."**
- **While only one pilot unit met the target of 70 percent time in direct patient care, "Nevertheless, most nurses on the TCAB pilot units spent twice as much time on direct patient care after TCAB was initiated."**

Citing these and other data, the article concluded that the pilot hospital teams "demonstrated substantive improvements in the care delivered on their units."

The authors also pointed to what they said was an important TCAB result that cannot be captured quantitatively: "the activation of the previously untapped talents of the front-line staff." The article elaborated:

Front-line staff actively involved in TCAB experience a profound shift in their perspectives, with most coming to see themselves as change agents for the first time.

After participating in TCAB, nurses and care team members realize that they have the ability to catalyze change that can make a positive difference for patients and staff alike.

Maryjoan D. Ladden, Ph.D., R.N., an RWJF senior program officer focused on nursing issue, echoed that point in an interview:

[TCAB] had some quantitative outcomes, but much of the value for our investment in TCAB was qualitative. It was taking these grass-roots people and making them a force within their unit and their hospital for improvement.

If you asked me, 'Was it a worthwhile \$8 million[-plus] investment...', I would say, 'Definitely yes.'

For a brief description of several of the key activities and results reported by each of the 10 Phase II–III pilot hospitals, see [Appendix 10](#). For a more in-depth look at four pilot projects, see the Sidebars on:

- Cedars-Sinai Medical Center
- Children's Memorial Hospital
- Prairie Lakes Healthcare System
- University of Pittsburgh Medical Center (UPMC)

Dissemination Results

AONE Program

Riley, the AONE special projects director, said in an interview that:

- **The 67 hospital teams in the TCAB program were enthusiastic about designing and making workplace improvements and overall appeared to have tested and implemented the TCAB model.**
- **However, AONE did not track the hospitals' outcome data during the program—that was the responsibility of the evaluators—or the extent to which the hospitals sustained and spread TCAB after the program ended.**

IHI's IMPACT Network TCAB Community

Patricia A. Rutherford reported the following :

- **The hospitals that participated in the IMPACT Network TCAB Learning and Innovation community were introduced to the TCAB Method and key changes in the TCAB Themes, but experience has shown that it usually takes two years of effort to see the results from the transformational changes.**
- **Most of the 44 rural and public hospital TCAB teams took advantage of at least some of the learning opportunities and were "highly engaged" in testing changes at their sites.** However, the degree of participation was not uniform:
 - Five of the 44 hospitals did not engage in the pre-work for the TCAB Collaborative
 - A special site visit to Prairie Lakes Hospital, a TCAB pilot site, drew teams from only two of the 44 hospitals. Many of the sites reported that travel budgets were very limited.
 - Attendance at the TCAB Learning and Innovation Community meetings and reporting of data declined over time—a trend, however, that also applied to the full community membership.
 - None of the 44 hospitals attended an in-person meeting of the Leadership Community, and "very few" participated in that community's monthly conference calls.
- **Limited staff and financial resources coupled with the national economic downturn in 2008 prevented many of the 44 hospitals from realizing the program's full set of benefits.**
 - The hospitals cited a lack of resources as the reason their executives did not attend Leadership Community meetings.

Online Resource Center

In October 2008, the firm GYMR reported to RWJF:

- **In its first five months the online *TCAB Toolkit* regularly ranked among the top five most e-mailed publications from the RWJF website.**
 - Between the June 5, 2008, launch and October 22, 2008, the toolkit had 26,013 total page views, with the number of page views per month declining after the first month.

LESSONS LEARNED

1. **Be sensitive to overburdening hospitals with data requirements.** The pilot hospitals already faced numerous requests for measurements, and the TCAB reporting requirement placed additional strain. Inconsistency in the content and frequency of the site reports presented a challenge to the IHI and evaluation teams.

In response, representatives of IHI, RWJF and the evaluation team held conference calls with the hospital teams to get feedback on their measurement difficulties and develop strategies to overcome them. When the teams understood the value of their data, they were much more willing to submit them. Site visits with one-on-one consulting from the IHI Design Team were also helpful. (IHI Design Team)

2. **Involve grantees in developing the measurement strategy before a program gets underway.** The measures prescribed for TCAB were complex, and many of the pilot teams felt that they were neither helpful in guiding improvement activities nor reflective of the progress being made.

Participation in the design of the measures at the outset might have made the data requirements seem more relevant and increased site buy-in. Also, a less complex measurement scheme might have sped up the reporting process. (IHI Design Team)

3. **Balance the desire to disseminate a new model with the need to maintain progress at the initial pilot site.** In some instances, the intensive spread strategy of Phase III pulled staff and resources away from the original pilot units, reducing their capacity to continue testing and implementing innovative changes.

The IHI design team added a member to support the hospitals' spread units. However, as the number of spread units increased, providing the necessary support became more and more difficult. (IHI Design Team; Program Officer/Ladden)

4. **For initiatives aimed at organizational transformation, make a strong effort to engage leaders at all levels of the organization, especially the top.** A hospital's strategic priorities and its allocation of resources must be aligned if the goals of a program such as TCAB are to be achieved. That is unlikely to occur if top management is not fully involved in the initiative. (IHI Design Team)

5. **When engaging hospital teams in a learning collaborative, bring the teams together at the outset for a face-to-face meeting.** That will orient the teams to the content and allow them to make early connections with each other. The collaborative may lose momentum if members work too long by themselves before meeting in person.

If teams are unable to attend the orientation meeting because of travel costs or other factors, provide a Web-based or other electronic alternative to permit their virtual participation. (IHI Design Team; AONE TCAB Team)

6. **Adding patients to an improvement effort is beneficial, but first get the organization's senior leadership behind the move.** The TCAB teams that were able to incorporate patient representation found it accelerated the improvement work.

However, they also learned that there are barriers to patient involvement and that overcoming them requires the backing and support of the hospital's senior leaders. (IHI Design Team)

7. **Provide additional resources in quality improvement to front-line nurses.** They are already overburdened and cannot be expected to take on the testing process without additional resources.

A good example is Shadyside, which differed from some of the other TCAB pilot sites in that the work was supported by two staff members from the UPMC quality improvement department. It was their job to help the TCAB unit nurses test their proposed changes and track the outcomes, explains Tamra E. Minnier, M.S.N., R.N., chief nurse at Shadyside when TCAB began and later chief quality officer for UPMC.

She notes that other staff members who can help out might be from the organization's QI department, or a unit nurse partially relieved of regular patient responsibilities. "Either way, there must be paid time devoted to the effort," says Minnier. "You can't deliver sustainable, long-term quality improvement and safety improvement without some degree of infrastructure dedicated to the work, and the amount you have will be a very strong predictor of the change and the sustainability of that change."

8. **Engaging physicians in front-line improvement efforts is likely to be challenging, but it is not impossible.** Many of the TCAB teams had difficulty getting physicians actively involved in their front-line improvement efforts, but a few sites were able to do so.

One was Cedars-Sinai, which instituted collaborative nurse-physician rounding and conferencing. When physicians see positive results, they want to be involved, said Peachy Hain, R.N., a Cedars-Sinai nurse manager. (IHI Design Team; project participant/Hain)

9. **Understand the importance of the nurse manager in implementing change.** In the AONE dissemination program, the nurse manager played a critical role in determining whether the hospital's TCAB team was able to implement changes.

"The key factor that contributed to the success of the teams was the level of nurse manager engagement," wrote AONE TCAB program staff. AONE learned "how unprepared many of the nurse managers were to undertake this process and be in charge of culture change on their unit."

(Also, see "Lessons from Nursing Leaders on Implementing TCAB" in the *American Journal of Nursing* special supplement. The article, by members of the UCLA-RAND evaluation team, is available [online](#).)

- 10. Bring in experts to coach TCAB teams in their hospitals but after—not before—they have begun testing innovations.** Initially IHI planned to provide on-site expert consultation to the three Phase I hospitals immediately after they completed their brainstorming sessions.

IHI staff, however, later decided to arrange for the experts to visit after the innovation-testing process was underway. That way, the consultants could comment on the team's actual work instead of just a conceptual framework. Expert site visits are a powerful tool to help hospitals achieve TCAB goals. (IHI Design Team)

- 11. Try to involve nursing school faculty at the outset of a project, not midstream.** Faculty of the TCAB partnership schools found it difficult to enter an improvement team whose other members had already been working together for some time.

Including the faculty at the outset of the pilot projects would have been helpful. As it was, they had to learn about both the TCAB program and the hospital's individual initiatives. (Project Director/Chiverton)

- 12. When involving nursing school faculty in a hospital improvement project, consider paying for the faculty's time.** In only one of the 14 nursing school partnerships did the hospital "buy back" faculty time spent on TCAB. That school's positive TCAB outcomes reflected the faculty's strong commitment.

In addition, increasing faculty accountability might help strengthen the partnership. For example, participating faculty might be required to make a presentation on the school's TCAB outcomes. Faculty members have many tasks and tend to focus on those that entail accountability of some kind. (Project Director/Chiverton)

- 13. Evaluators: think twice about developing your own evaluation tools.** The UCLA-RAND team did develop its own tools, and brought added richness and specificity to the TCAB research. On the other hand, doing everything from scratch required a large investment of time and resources. If it were doing the evaluation over, the team would consider using previously validated instruments. (Evaluation Director/Needleman)

AFTERWARD

TCAB as a formal, RWJF-supported program ended in late 2008, but TCAB as a *movement* continued on a number of fronts. By early 2011, more than 200 additional hospitals had initiated the TCAB approach.

AONE

- In 2009, AONE launched a new TCAB program based on the previous RWJF-supported program. Staff selected another 32 hospitals, providing technical assistance and conducting occasional face-to-face meetings of the hospital TCAB teams.

One difference from the previous effort was that the new program placed greater emphasis on helping nurse managers develop their skills. The teams are scheduled to continue their work through August 2011.

In addition, AONE conducted a "virtual" TCAB community with 18 hospitals that participated in conference calls and webinars but had no face-to-face meetings. That activity ended in December 2010.

- Building on TCAB, AONE developed a new hospital improvement program that got underway in early 2011. Called the [Center for Care Innovation and Transformation](#), the initiative followed the TCAB approach to improving medical-surgical units but with an added focus on meeting the needs of nurse leaders. Plans called for two cohorts of up to 30 hospitals each, with the first cohort scheduled to meet in March 2011.

RWJF

- In 2009 RWJF initiated a program that implemented TCAB in 50 hospitals in New Jersey, the state in which RWJF is located. RWJF awarded an arm of the New Jersey Hospital Association a three-year \$732,159 grant⁴⁰ to recruit the hospitals, oversee training and technical assistance for their front-line staffs and track progress on performance measures.

Teams from the 50 hospitals (plus a home care agency) received training in two cohorts—in November 2009 and March 2010—and met face-to-face for the first time in fall 2010. For more on this ongoing program, see this [online article](#).

- Also in 2009, RWJF added a TCAB component to its core quality improvement initiative, [Aligning Forces for Quality](#) (AF4Q). Eighteen hospitals from AF4Q communities joined the TCAB collaborative.

Initially AONE administered the collaborative as a subcontractor to the George Washington University Medical Center (GWUMC) School of Public Health and Health Services, which serves as the national program office, managing the AF4Q

⁴⁰ ID# 066289.

program. In September 2010, the national program office took direct control. The collaborative is scheduled to continue until the fall of 2012.

In addition to that collaborative, hospitals in each of the 17 AF4Q communities around the country are able to organize a TCAB collaborative for their geographic area.

As of March 2011, there were three regional TCAB collaboratives (in Minnesota, western New York state and Wisconsin) with additional collaboratives in the planning stage.

The national program office expected more than 100 hospitals to be participating in regional TCAB collaboratives by the summer of 2011, according to Catherine West, M.S.N., R.N., the AF4Q staff member overseeing the TCAB component at GWUMC School of Public Health and Health Services.

IHI

- In the fall of 2009, IHI started a new TCAB learning collaborative for front-line hospital teams. Several pilot site TCAB leaders joined the IHI "faculty" assisting the collaborative members. The collaborative ended in 2010.
 - In 2010, IHI started a TCAB Collaborative for all the hospitals affiliated with the McGill University Health Centre (MUHC)
 - In 2011, and IHI team of experts and faculty will be conducting a three-day workshop for any hospital interested in learning the key components for implementing TCAB (and IHI will be conducting a similar seminar for hospitals in Saudi Arabia in the fall of 2011)
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Sidebars

CEDARS-SINAI MEDICAL CENTER, LOS ANGELES

Implementing Transforming Care at the Bedside with a Focus on Communication Between Nurses and Physicians

The Problem

In any organization, there is a potential for miscommunication. Hospitals are by no means immune, and a misunderstanding between physician and nurse, the two key members of the care-giving team, can have serious consequences.

"There is a separation between physicians and nurses," says Christopher Ng, M.D., a urologic surgeon at Cedars-Sinai Medical Center, describing a common condition, one not specific to any single hospital.

"There's that stigma where the doctor is some almighty person, and the nurse is in more of a subservient role. And with that disparity...there's going to be, certainly, a lapse in communication and, potentially, a lapse in patient care, patient safety and quality outcomes."

The Solution: Improving Relationships

At Cedars-Sinai, a 900-plus bed teaching hospital in Los Angeles, improving physician-nurse collaboration and communication was a key part of TCAB..

Cedars-Sinai's effort to strengthen physician-nurse rapport was already underway in 2004 when the hospital became one of 13 TCAB pilot sites. Four years earlier it had formed an M.D.-R.N. collaborative focused on encouraging more collegial relationships between the two groups of providers.

The hospital's TCAB staff joined in and strengthened that effort. "There was tremendous synergy between our M.D.-R.N. Collaborative Committee and TCAB, such that each initiative was significantly advanced by the other," says Ng, who co-chaired the Collaborative Committee along with Peachy Hain, R.N., a TCAB nurse manager.

One initiative that TCAB helped spread was the M.D.-R.N. unit meeting—a monthly, informal get-together of nurses and doctors away from the immediate demands and pressures of patient care.

A typical session included in-service training—a physician instructing the nurses on a technical issue or a nurse instructing the doctors. The unit meeting was also an opportunity to discuss administrative and procedural issues on the unit.

For instance, Ng says, a doctor who has had trouble finding a patient chart will bring up the problem and hash out a solution. "And from that the collaboration is enhanced."

Another TCAB-backed move was initiation of joint doctor-nurse patient rounds—the matching of a nurse and a doctor to make bedside visits as a team. "So everyone involved knows what the plan of care is: the patient, the nurse and the physician," Ng explained in an interview for an RWJF video on TCAB.

"No calls need to be made to clarify the orders [and] care plans are initiated immediately. And that small change clearly has enhanced the quality of care on the unit."

In addition to physician-nurse engagement, TCAB teams tested and implemented innovations that included:

- Joint patient rounds by the nurses going on and coming off their shifts, a step to increase information sharing
- A falls-prevention program that provided at-risk patients with bright orange armbands and booties and an orange warning sign for the room door—all aimed at alerting staff to the patient's heightened danger of falling
- Staff recognition programs to promote quality performance and job satisfaction, including a President's Award handed out annually to a limited number of employees, spot cash bonuses and unit-level awards Another initiative, the Safety Star Award, encourages workers to identify hospital safety hazards—anything from a frayed rug to faulty equipment. Employees reporting three real or potential dangers get a Safety Star certificate in their personnel record plus either a movie ticket or gift card to the hospital restaurant.

TCAB Integration

While designed to empower nurses specifically, TCAB at Cedars-Sinai was an all-hospital endeavor, with strong backing from senior leadership.

TCAB started in one surgical unit. By the end of the pilot phases, the hospital had spread the TCAB process to all 40 inpatient units, including critical care, maternal and child health, pediatric and psychiatric.

"TCAB was thoroughly intertwined with the organization's operational and strategic policies as well as practices," says Linda Burnes Bolton, Dr.P.H., R.N., chief nursing officer and vice president of Cedars-Sinai and chair of the TCAB national advisory committee. "Transforming Care at the Bedside was owned not by nursing but by the entire organization."

In an interview in early 2011, Bolton said that integration of TCAB was so complete that achievement in meeting the TCAB outcome goals became one of the measures used by management in evaluating staff performance.

The hospital continued to track nurse time spent in direct patient care, and a majority of units were above the 70-percent TCAB target, Bolton said. The hospital's tracking also found that with increased time in patient care came higher patient satisfaction scores and lower rates of adverse events.

CHILDREN'S MEMORIAL HOSPITAL IN CHICAGO

Empowering nurses by having them test and implement changes they think will improve patient care and enhance patient and nursing staff satisfaction

The Problem

Nurses who work in hospitals often have many ideas to improve patient care and their work environment. But making changes in a hospital can be a long and drawn-out affair. TCAB employs a change process that rapidly allows nurses to test their ideas on a trial basis and implement successful ones, thereby offering nurses a tool to speed quality improvement innovations to the benefit of patients and staff.

Asking Nurses to Brainstorm

When the Pulmonary Allergy Transitional Care Unit at Children's Memorial Hospital in Chicago first started using the TCAB "Test of Change" process in 2006, Constance Hill, the unit's director, asked the nurses to brainstorm small ideas to improve patient care and enhance patient and nurse satisfaction.

"Our hospital staff tends to think of big ideas, but I wanted to give the nurses something more tangible," says Hill. "I wanted to show them that they could have high impact in short amount of time."

She asked the nurses what bothered them throughout the day; what changes could be made; and what possible solutions could be put in place and tested over two weeks instead of the customary six-to-nine month period that clinical governance committees use. Her floor tested and evaluated each idea and adapted successful ones.

The nursing floor also asked families and others who entered the unit to write down their suggestions for ways to improve their experiences on the unit. A young man who works in housekeeping suggested that the floor use a sign to identify a room where a mom was breastfeeding.

"We created a picture of a mother holding her child to be placed on the door outside to indicate that this is a breastfeeding mom," says Hill. "That was something that made sense and was easily adapted. Now it has been implemented hospital-wide."

The floor abandoned other ideas that were not beneficial. For example, one nurse suggested changing the physical location of the charts. "It caused chaos for the whole unit," says Hill. "So that was something that was aborted, and the charts were moved back to their original location."

The floor also altered its interactions with the rotating residents who train at Children's Memorial. "We introduce them to our unit, give them a brief orientation and feed them breakfast or lunch. We talk about our expectations and theirs, and how we value our patients' opinions," says Hill. Then, once a month, based on patient satisfaction surveys, the nurses vote on the resident of the month, an award replete with tiara or crown, blown-up picture prominently displayed on the unit and a gift certificate to a local business. "You would have thought we gave them an Oscar," says Hill of resident reaction to the honor. "The award is a popular initiative that helps with our staff vitality and helps build relationships and makes our lives easier."

Giving a Sense of Ownership

Perhaps the most popular changes were those that improved the nurses own vitality and well-being. "Nurses get caught up in their day and constantly are on the go, often sacrificing their lunch breaks so they do not have to leave the unit," explains Hill. To help reduce nurse stress during the day, the unit brought in a massage therapist. "We wanted to provide them with an opportunity to get away for 15 minutes and go to a room on the unit where they could de-stress and rejuvenate before going back into patient care," says Hill. The massage therapist was so popular that other departments at Children's Memorial that are implementing the TCAB process now use one as well.

"The greatest thing about TCAB was that it gave nurses a sense of ownership in the decision-making process on the floor," says Hill. Participation in TCAB also helped the nurses appreciate bigger organizational changes that occurred. "There was less resistance to changes that could not be aborted. They were willing to engage in each change and take it on-whether or not they liked the change-because they understood the process of trying to implement change."

Nurses who have a connection to the institution are more likely to stay working there. Retention, which has long been a nursing issue, is also one at Children's Memorial, albeit with a twist. With an average nurse age of 28 years in Hill's unit versus 50 in a general medicine unit, the main reasons for nurse turnover are marriage and relocation or going back to school. But Hill's nurses love the teamwork and personal growth opportunities at Children's Memorial so much that many commute an hour and a half each way from the suburbs.

"TCAB gives newer nurses a sense of having ownership of what is being done on this unit, and the satisfaction that if their idea is embraced, it could be adopted throughout the institution," Hill says.

PRAIRIE LAKES HEALTHCARE SYSTEM

Elimination of Annual Performance Reviews Increases Manager and Staff Satisfaction at TCAB Hospital

Identifying Obstacles

Shelly Turbak, R.N., director of medical and surgical services at Prairie Lakes Healthcare System in Watertown, S.D., faces the same daily challenge as many in middle management—how to balance the administrative responsibilities of her position with the need and desire to spend time supporting and mentoring her frontline staff.

Recognizing Turbak's quandary, Jill Fuller, R.N., Ph.D., chief nursing officer at Prairie Lakes, took action. Fuller asked Turbak to identify obstacles that prevented her from being with her staff on the med/surg unit and propose solutions that might streamline her responsibilities.

Prairie Lakes has a strong history of encouraging nurses to improve quality by addressing some of the complexities often found in health care delivery. Since TCAB demonstrated how nurse-led change can result in innovative solutions, Fuller knew that Turbak was in the best position to develop a new, more effective approach to her work.

Although Turbak believed in the importance of providing employee feedback, she felt the existing system of doing so was exceedingly inefficient. For each of her 65 direct reports, Turbak averaged almost two hours per annual employee performance review (30 minutes completing the written assessment; scheduling the appointment; and conducting a one hour meeting to discuss the performance appraisal). To address this, Turbak proposed an unconventional solution—eliminate traditional annual performance reviews.

Upon researching the idea further in the nursing literature, Fuller and Turbak realized that Prairie Lake's compensation model supported the change. Prairie Lakes does not have a pay-for-performance model; instead it offers staff across-the-board pay increases and market adjustments as needed.

Implementing a Pilot Program

Using principles learned from TCAB, Fuller and Turbak implemented a pilot that began in August 2006 and still continues. This new system does not altogether eliminate staff evaluation. Each employee is still required to perform a mandatory set of skills required for his/her position that are documented as part of annual training. Employees are also evaluated on Prairie Lakes' Qualities of Defined Success—communication, service, growth, teamwork and attitude.

However, under the new system nurses and staff on the Prairie Lakes medical/surgical unit no longer complete annual performance appraisals. Instead, routine patient care tasks

that nurses competently perform during every shift are observed. Documentation only occurs when a deficiency exists, a complaint is made about employee performance, and counseling about job performance is required.

For example, during the traditional annual performance appraisal, managers assessed nurses' ability to complete standard nursing skills such as medication administration, by checking a box indicating that the nurse possesses this competency. In the pilot program, managers observe nurses performing their tasks, but only document substandard performance. Because of the nursing director's increased time on the unit, deficiencies are identified and corrected immediately, resulting in improved patient care.

Convincing the Human Resources Department this model can work has been challenging for Fuller and Turbak. Before the pilot even began, Human Resources raised concerns that proper counseling and documentation of performance problems and workplace issues may not be handled appropriately, and the department remains a proponent of formal, annual evaluations.

However preliminary feedback from the staff has been positive. Stephanie Namken, R.N., who works under Turbak on the Prairie Lakes med/surg unit, prefers the new system. She never regarded the traditional performance appraisal process as important because it seemed like she was answering the same question repeatedly.

Namken added that Turbak's management style is a significant factor in the program's success. Turbak begins her day on the med/surg unit and returns several times, monitoring the nurses and providing them with continuous feedback. She sends notes to nurses who demonstrate exemplary skills and service.

An Open Door for Problems and Concerns

Turbak has also instituted an open-door policy, encouraging staff to visit her any time to share problems and concerns. She has even told staff to contact her at her home phone number, if necessary.

Several months into the pilot, Turbak prefers this new process of employee evaluations because it leaves her with more time to build connections with her staff through mentoring and coaching.

Fuller anticipates continuing the pilot program for at least a year. Prairie Lakes will evaluate the program's effectiveness by tracking employee opinions about the feedback they received from Turbak. Fuller will also review how well Turbak handled conflict resolution, communication and peer-to-peer reviews of performance during the pilot. The health system will also evaluate staff competencies and disciplinary actions with respect to appropriate and timely responses.

Following that evaluation, Fuller anticipates eliminating annual performance appraisals in other departments and units at Prairie Lakes, an idea that will be welcomed by the system's middle management. Fuller also reported that nurse managers are "lining up outside my door" to begin similar programs for their staff.

UNIVERSITY OF PITTSBURGH MEDICAL CENTER (UPMC)

Implementing TCAB With a Focus on Medical Errors

The Problem

The Institute of Medicine's 1999 report *To Err is Human* estimated as many as 98,000 hospital patients die each year from preventable medical error. The case of Josie King put a face on that statistic—the face of an 18-month old.

Hospitalized for hot water burns, Josie was recovering nicely when her mother, Sorrel King, observed alarming changes in her daughter and sought help from the staff—ultimately to no avail. Josie died in the hospital as a result of undisputed medical error.

So it is not a theoretical problem: A family member sees something wrong and thinks the staff is not responding adequately. What to do?

The Solution: A Number to Call for Immediate Assistance

UPMC Shadyside in Pittsburgh, one of three original pilot sites for TCAB, established a rapid response hot line that family members, patients and visitors can call for immediate assistance. (UPMC is a 20-hospital system that includes 13 acute care hospitals and a psychiatric institute in Pennsylvania and additional facilities in Europe.)

UPMC had no connection with the Josie King tragedy but was moved by it—and by Sorrel King's subsequent advocacy for patient safety innovations, including an emergency lifeline for nonhospital personnel. Working with Josie's mother, Shadyside's TCAB pilot unit tested and implemented Condition H (for Help). It works like this:

A patient, family member or visitor notices a medical change and feels the situation is not being adequately addressed by the assigned care team—or that there is confusion within the team about what steps to take.

From any hospital phone, the concerned person calls the designated Condition H number (3-3131), which is answered by an operator trained to solicit the pertinent information and trigger the response team: a physician, administrative nurse coordinator, floor nurse and patient relations coordinator.

The next day a patient relations staffer asks the caller to complete a questionnaire about the incident—data that helps the hospital identify any common causes and possible interventions to prevent reoccurrence.

To publicize the system and phone number, Shadyside provided patients with a Condition H brochure, placed signs in the rooms and put stickers on the phones. Based on a positive response to the TCAB pilot, Shadyside spread the system to all of its inpatient units in 2005. Later that year UPMC began establishing Condition H in all of its acute care hospitals.

Based on Condition H questionnaires completed in 2006, the hospital reported that 69 percent of the calls "potentially may have prevented events that may have resulted in a patient incident." Of 71 Condition H calls made during 2005–2007, the largest proportion—41 percent—involved pain management/medication issues.

"Our goal is that the care patients receive will warrant this service unnecessary, but we want patients and their families to have this resource available should they need it," said Tamra E. Minnier, M.S.N., R.N., chief nurse at Shadyside when TCAB began and later chief quality officer for UPMC.

Other TCAB Initiatives

Shadyside's TCAB staff tested and implemented additional innovations subsequently adopted by other UPMC units. These included:

- **Liberalized meal policy.** Shadyside overhauled its menu to give patients a greater choice of what and when to eat plus information on nutrition. The goal was to increase patient autonomy and satisfaction and, thereby, encourage faster healing.

The change sprung in part from patient dissatisfaction; interviews indicated that patients felt that they were forced to eat what staff wanted them to eat without regard to personal preferences. It also sprung from physicians' concern that patients were not eating enough of what they were served and, consequently, not receiving adequate nutrition.

In response, physicians and nurses worked with dieticians and patient relations staff to develop a menu with an expanded set of options and symbols to educate patients on nutrition, including a symbol for foods high in fat and another for foods high in sodium.

Patients were free to disregard the educational guidance and order what they wanted. And what they ordered is what they were served. The new policy also gave patients greater flexibility as to when their meals were served.

The result was an increase in both food consumption and the number of patients who said the food service exceeded expectations, the hospital reported. Another result was

a lesson learned: Don't expect a brief hospital stay to change the patient's dietary habits. Dietary counseling is important, but a hospital stay is not "a diet boot camp."

- **Vitality huddle.** Conversion to an electronic health record system has many advantages, but Shadyside staff found it also has a negative: isolation. As nurses spent more using computers to provide and receive information, they spent less time with each other. The result was a perceived loss of collegiality.

To build up camaraderie, a Shadyside TCAB unit inaugurated the "vitality huddle"—a brief, informal staff gathering to forge personal relationships. Signaled by the unit call system, the nurses gathered most mornings about 9:30 for 10 to 15 minutes of interaction.

It was not a "meeting," and the topic was never clinical. Indeed, sometimes the huddle was nothing more than unstructured socializing. Other times there was a specific topic for discussion—What is your favorite movie? What is your favorite sports team? Or the huddle might be devoted to a quick game like this one: Each nurse reveals three pieces of personal information—two that are true, and one that is false. The others guess which is which.

At one huddle, a nurse included among his three revelations that he had been a national pinball champion—a statement that his colleagues immediately identified as false. In fact, it was true. The rule: Keep it light.

- **Supplies in the room.** Based on observation, Shadyside TCAB team members found that nurses were spending approximately 16 to 18 hours per week walking to and from utility rooms in search of patient care supplies.

In response, the hospital equipped each patient room with a storage cabinet for gauze, tape, bedpans, slippers and other everyday supply items—15 to 20 in all. The move saved 832 nurse hours per year, UPMC staff told RWJF.

- **Red, yellow, green board.** This simple device allowed nurses to designate their current workload status, signaling colleagues and managers when they needed help and when they could help others.

Every two hours each nurse placed a colored dot on a central board—red meaning the nurse was swamped and needed assistance, yellow indicating the nurse needed an hour to catch up and green meaning available to help others. Use of the board spread through the UPMC system, eventually evolving into an electronic format.

Spreading the TCAB Approach

In addition to specific TCAB innovations, the underlying TCAB approach spread across Shadyside, according to Minnier. Noting that in 2010 Shadyside was recognized as a Magnet® hospital by the American Nurse Credentialing Center, she says:

"They built their entire Magnet preparation journey around the methodology and approach that we used with TCAB. So [TCAB] not only sustained itself as a methodology in nursing; it really became a methodology of the organization. It's become how they do business."

Lesson Learned

Shadyside differed from some of the other TCAB pilot sites in that the work was supported by two staff members from the UPMC quality improvement (QI) department. It was their job, explains Minnier, to help the TCAB unit nurses test their proposed changes and track the outcomes.

The lesson, says Minnier, is that front-line nurses are already overburdened and cannot be expected to take on the testing process without additional resources. That might be staff from the organization's QI department, or it might be a unit nurse partially relieved of regular patient responsibilities. Either way, there must be paid time devoted to the effort, says Minnier.

"You can't deliver sustainable, long-term quality improvement and safety improvement without some degree of infrastructure dedicated to the work," she says. "And the amount you have will be a very strong predictor, in my opinion, of the change and the sustainability of that change."

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RWJF Team: Quality/Equality

APPENDIX 1

TCAB Design Team

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APPENDIX 2

Innovative Changes Adopted by Pilot TCAB Units

IHI identified the following as among the key changes tested and implemented by one or more of the TCAB pilot hospitals:

- **Condition H (HELP)** rapid response system⁴¹
- Liberalized diet rules allowing patient choice
- An established "peace and quiet time" each day to improve the healing environment
- Procedures to ensure quality transition across the spectrum of care
- An admission process in which a nurse, physician and pharmacist participate jointly and in collaboration with the patient and family members
- Inclusion of patients on hospital work-design and improvement teams
- Involvement of patients and family members in care decision-making
- Use of Toyota Production System and other "**lean**" **manufacturing methods** to enhance efficiencies
- Redesign of patient rooms and other spaces to improve the physical environment and optimize efficiencies
- "Red, yellow, green" status boards to enhance nursing teamwork
- "**SBAR**" **techniques** to optimize team communications⁴²
- Use of the "**global trigger tool**" to identify trends of patient harm⁴³

⁴¹ Condition H for Help is a program that enables patients and family members to call for immediate help if they feel the patient is not receiving adequate medical attention.

⁴² SBAR (Situation, Background, Assessment, Recommendation) training scenarios reflect a range of clinical conditions and patient circumstances. They are used in conjunction with other SBAR training materials to assess front-line staff competency in using the SBAR technique for communication.

- Installation of "acuity-adaptable beds"—beds that can be lowered to near-floor level to reduce the risk of fall injury
- Teaching and learning strategies to increase patients' health literacy

APPENDIX 3

Some Key Pilot Site Activities and Qualitative Results

The following is a summary of some of the key TCAB activities and qualitative results reported by each of the 10 pilot hospitals. The hospitals implemented numerous changes as part of their TCAB participation. These brief descriptions provide only a sampling and are not intended to be full accounts.

The information comes from the hospitals' written reports to RWJF, published articles, statements disseminated as part of TCAB promotional materials and interviews conducted for this report.

Cedars-Sinai Medical Center, Los Angeles

Obtaining the active engagement of physicians in front-line improvement was a challenge for many of the pilot sites, but at [Cedars-Sinai](#), a large institution of about 1,000 beds, interdisciplinary collaboration was a priority.

Among the hospital's TCAB projects was initiation of a collaborative care model that matched physicians and nurses for joint patient rounds and meetings to coordinate patient care plans.

Another TCAB initiative was the creation of a series of employee-recognition awards, including Safety Star certificates for staff members who identify three potential or actual safety hazards.

All 10 Phase III pilot hospitals spread TCAB to some extent beyond the pilot unit, but the degree of spread varied, according to IHI. Cedars-Sinai, was among the most active in that regard, spreading TCAB to all patient units.

"From my standpoint, it's now built into...the culture and fabric of the organization," said Tom Priselac, the hospital's CEO. Cedars-Sinai views TCAB "as the way to do business when it comes to quality and process improvement."

⁴³ The IHI Global Trigger Tool for Measuring Adverse Events provides an easy-to-use method for accurately identifying adverse events (harm) and measuring the rate of adverse events over time. Tracking adverse events over time is a useful way to tell if changes being made are improving the safety of the care processes. The Trigger Tool methodology includes a retrospective review of a random sample of patient records using "triggers" (or clues) to identify possible adverse events. Many hospitals have used this tool to identify adverse events, to measure the level of harm from each adverse event and to identify areas for improvement in their organizations.

For more, see the [Cedars-Sinai Sidebar](#).

Children's Memorial Hospital, Chicago

One key TCAB project at [Children's Memorial](#) was a health and wellness initiative aimed at improving staff vitality. The TCAB unit created a *Relaxation Corner*—a space for nurses to rejuvenate themselves.

The offerings included a massage chair with relaxation CDs, 10-minute neck massages by a therapist and weekly wellness sessions on such topics as deep breathing and life-work balancing strategies.

The unit also purchased laptop computers for use by patients and family members—a response to feedback from parents that computers would help their hospitalized children keep up with homework.

Other initiatives included use of a training video to help staff become more sensitive to parents' concerns, and establishing an afternoon "peace and quiet time" to give patients time to sleep or interact with families uninterrupted by hospital staff.

"TCAB has improved patient and staff satisfaction as well as provided a framework for implementing tests of change," the hospital reported to RWJF. "TCAB has given front-line staff more of an opportunity to have a voice in making change that affects their work and practice environment."

For more, see the [Children's Memorial Hospital Sidebar](#).

James A. Haley Veterans' Hospital, Tampa, Fla.

The [James A. Haley Veterans' Hospital](#) reported that the TCAB changes tested and incorporated into practice included:

- Redesign of the physical space to improve distribution of supplies and equipment
- Inclusion of patients and family in patient rounds
- Purchase of additional vital-sign machines to reduce staff time spent looking for them
- Use of new methods to improve the hand-off of patients to incoming staff at shift change
- An improved method for storing and flagging lab specimens
- Regular participation of nurses in interdisciplinary patient rounds

The changes had "variable results" on measured outcomes, but mainly the data went "in the desired direction," the hospital told RWJF. In addition to the specific innovations, there was "a culture change that helped front-line staff assume accountability for good

patient care outcomes" and made staff members more supportive of each other's initiatives.

Following TCAB, J.A. Haley Veterans' Hospital became one of more than 40 hospitals in the Bedside Care Collaborative—a TCAB-like demonstration program managed and funded by the Veterans' Administration.

Kaiser Permanente Roseville Medical Center, Roseville, Calif.

As part of its TCAB work, [Roseville Medical Center](#) developed special rooms for elderly patients. Called ACE (for Aging Care Environment), the rooms incorporated features to reduce the risk of adverse events to which the elderly are particularly susceptible, especially falls and hospital-induced delirium—which appears to be brought on by medication, the unfamiliar environment and/or other facets of hospitalization.

Rubberized, nonslip flooring and special base molding to contrast the floor and the wall for better orientation were two design features. The rooms also had additional tables and chairs to encourage the patient to get out of bed, a VCR/DVD for entertainment and a refrigerator to make liquids readily available and reduce the chance of dehydration.

Staff also oversaw development of a 10-minute welcome video for new patients. Titled "Your Stay at Kaiser: What You Need to Know," the video was shown to every patient upon admission. It covered room orientation, the discharge process and other facets of the hospital experience.

The strategy was to reduce the fear and anxiety that commonly accompany hospitalization by ensuring patients received all relevant information. Eventually, Kaiser produced 500 copies of the video and distributed them to each of its northern California hospitals for continuous play on closed-circuit TV.

Of TCAB overall, one impact was a culture shift that emphasized "innovation and welcoming change for the promotion of patient safety and patient-centered care," as reported to RWJF.

"I think first and foremost [TCAB] engaged staff in the quality process, Sandy Sharon, M.B.A., R.N., chief operating officer of Kaiser Permanente Roseville Medical Center, said in an RWJF-funded TCAB video.

...quality doesn't belong any more to the quality department," she said. "It's owned at the unit level, the staff level, and they're actively engaged in creative problem-solving, and how they can make a better environment for our patients.

North Shore-Long Island Jewish Health System, New Hyde Park, N.Y.

The health system's TCAB initiatives included establishing teams of clinicians trained to respond quickly to suddenly unstable patients and provide immediate critical care, heading off a full-blown crisis.

Another initiative was development of an assessment and communications tool to help nurses provide patient information to physicians quickly and effectively. Known as **SBAR** (Situation, Background, Assessment and Recommendation), the tool set a specific protocol to guide nurses in what to assess and in what order to relay the assessment information.

Also, to keep caregivers informed as well as patients and family members, staff equipped all rooms with a white board on which nurses outlined the patient's goals, the care plan for that day, tests scheduled and any other pertinent information.

White boards and other, similar messaging devices—which a number of pilot sites implemented—also allowed patients and family members to provide information back to the staff.

Initially in units in two hospitals (North Shore University Hospital and Long Island Jewish Medical Center), TCAB spread to other units in those hospitals and in other hospitals in the system.

At Long Island Jewish Medical Center, for example, nurses in all inpatient units adopted the practice of documenting their assessment of the patient while sitting at the bedside. The medication process also moved entirely into the patient's room.

The TCAB innovations had positive outcomes that showed front-line caregivers they had the ability to make a difference, the system staff said in its final report to RWJF.

Staff felt that TCAB "essentially has empowered them into 'a new way of being.'"

Prairie Lakes Hospital, Prairie Lakes Healthcare System, Watertown, S.D.

As an 81-bed independent community hospital serving a rural population, **Prairie Lakes Hospital** was unique among the TCAB pilot sites.

One of the hospital's major TCAB initiatives was improvement of the admission process, which had become slow for patients and burdensome for nurses, infringing on their capacity for patient care.

The result was creation of a new nursing position, the resource nurse. Freed of assigned patients, the resource nurse was just that, a resource for colleagues needing an extra set of experienced hands—a circumstance common at admissions.

With the arrival of each new patient, the resource nurse teamed with the patient's assigned unit nurse to conduct the physical exam, admission interview and other admission tasks. Also, the admission documentation was streamlined, and a pharmacist made part of the admission team.

Under the new system, the average admission time dropped from 90 minutes to 24 minutes, with 40 percent of admissions completed within 15 minutes, hospital staff reported in the *American Journal of Nursing* ("Practice Innovations: Team Admission: Change the Way We Work," November 2008).

Other TCAB changes at Prairie Lakes included revising the care process to eliminate written care plan reports, considered to be an unnecessary drain on nurses' time. In their place, staff used the hospital's electronic record system and initiated a daily interdisciplinary conference to review each patient's case.

TCAB had a lasting impact on the hospital, said Shelly Turbak, M.S.N., R.N., chief nursing officer. "TCAB really wasn't a project. For us, it led to an organizational cultural change."

For more, see the [Prairie Lakes Healthcare System Sidebar](#).

Seton Northwest Hospital, Ascension Health System, Austin, Texas

Prevention of injury from falls was one focus of the TCAB unit at Seton Northwest, part of the [Seton Family of Hospitals](#) in the Ascension Health System. The hospital staff had been assessing patients for fall risk but not adequately, TCAB leaders believed.

One step was to reeducate front-line nurses on how to properly use the hospital's risk-assessment tool, with live demonstrations of the proper procedure. As a result of the training, screening became more thorough, and the number of patients identified as fall risks increased.

Nurses also began assessing patients not just at admission but every 24 hours. And the unit initiated a system that divided risk classification into three categories (at risk, high risk and very high risk), each level triggering a higher level of patient monitoring.

For patients at highest risk, staff visited every hour, ready to help with a bathroom visit, provide food and drink or meet other needs. The unit also employed a series of visual signals to alert staff and visitors to fall-risk patients—red socks and an orange identification bracelet for the patient and orange flags for the room door.

During Phase III, the Seton system spread TCAB from the Seton Northwest pilot unit to 21 units throughout the network. Two of the spread units implemented a written Falls Contract outlining the hospitals efforts to prevent falls and asking the patient to do his or her share by agreeing to call for assistance before attempting to get out of bed.

Other TCAB initiatives at Seton Northwest included creating a Critical Response Team composed of an intensive care nurse and respiratory therapist. Also, the unit equipped each inpatient room with a white board on which the assigned nurse wrote his or her name, other information pertinent to the patient and a question: "What is the most important thing I can do for you today?" For more information, see the [video](#).

As a result of TCAB, front-line "staff feel empowered in decision-making" on matters regarding both patient care and their own careers, the hospital staff told RWJF.

Also see the [Grantee Profile](#) of Joyce A. Batcheller, D.N.P., R.N., N.E.A.-B.C., senior vice president and chief nursing officer for the Seton Family of Hospitals, about her work in spreading TCAB.

ThedaCare, Appleton, Wis.

At the same time it was piloting TCAB, the [ThedaCare](#), a community health system, was integrating *lean* practices into its hospital operations. (*Lean* is a management philosophy based largely on Toyota's production system.)

The result was that ThedaCare combined the TCAB approach with *lean* to develop what it called the Collaborative Care Clinical Model. Central to the model is a three-member core team: a nurse, physician and pharmacist working closely together to provide care to each patient from admission to discharge.

Along with teamwork, Collaborative Care entails physical changes, such as the addition of handrails and other devices to reduce falls, installation of supply cabinets that can be accessed from inside the patient's room and replacement of the traditional central nursing area with bedside work stations and other features.

In April 2008, ThedaCare announced a multiyear, multimillion-dollar redesign of two of its hospitals (Appleton Medical Center and Theda Clark Medical Center) to conform the structures to the model and create what the organization termed the "Hospitals of the Future."

In Phase III, ThedaCare brought two schools of nursing—University of Wisconsin Oshkosh and Fox Valley Technical College—into the TCAB/Collaborative Care project. Among the activities, faculty representatives spent time in the designated TCAB units to learn about new work processes and team dynamics.

University of Pittsburgh Medical Center (UPMC), Pittsburgh

The initial TCAB pilot was at UPMC's Shadyside Hospital, but in Phase III [UPMC](#) began spreading the TCAB approach and innovations to units throughout the system, eventually to 13 UPMC hospitals in western Pennsylvania. See [video](#) for more information.

One of UPMC's TCAB initiatives addressed the problem of pressure ulcers, better known as bedsores, a serious health threat to bed-restricted patients. As a preventive measure, at-risk patients should be turned regularly.

UPMC staff members were concerned that in the busy hospital environment, that task was not being done frequently enough—and for two reasons.

"We lacked a clear indicator to tell us where our high-risk patients were on the unit," said Lisa Vertacnik, M.S.N., R.N., a unit director. "Secondly, we needed something to tell us when the last time we turned the patient was, and when the next time the patient was due to be turned."

The solution, called Time 2 Turn, was a simple visual device placed prominently outside the room of at-risk patients. It consisted of a magnet board divided into two-hour increments—the prescribed turning frequency.

When staff members turned a patient, they moved the magnet to mark the time—and signal when the next turning was due, a signal hard for staff passing down the hallway to miss.

UPMC spread the Time 2 Turn throughout the system. In addition to helping staff, "Time 2 Turn" helps family members understand the importance of consistent turning, and the need to continue the practice this at home, said Vertacnik.

Another of UPMC's TCAB projects addressed a less pressing but frustrating problem: missing patient charts. One physician at Shadyside hunted for a chart for 20 minutes before learning it had been removed from the unit, the hospital reported.

The remedy was a Plexiglas plate. When removing a chart to copy or for any other purpose, the staff member replaced it with the Plexiglas and a note explaining where the chart could be found.

Other TCAB changes included increasing patients' menu options, instituting a rapid response system that patients and family members could activate (called [Condition H](#) for Help) and conducting daily team huddles—brief, informal unit meetings designed to strengthen staff collegiality.

For more, see the [UPMC Sidebar](#).

University of Texas M.D. Anderson Cancer Center, Houston

Among its TCAB initiatives, the [M.D. Anderson Cancer Center](#) created a simple electronic reporting system that allowed nurses to quickly update information on their patients throughout the shift.

The advantage was that when a shift was over, the nurse no longer had to pass information verbally on to his or her replacement—a process that could be time consuming.

The result was a speedier handover process and greater staff satisfaction. "Shift changes used to be a very tense time for our nurses, who need to get home to families or other personal obligations," said Barbara L. Summers, Ph.D., R.N., chief nursing officer.

Along with making life easier for nurses, the innovation benefited the hospital by reducing overtime pay, she said. It was a win-win sufficient enough that the hospital soon spread the innovation to all inpatient units.

Other TCAB changes adopted organizationwide included:

- Placing a white board in each room to identify the patient's caregivers and daily development goals
- Funding a nurse in each unit to expedite the discharge process
- Establishing a 24-hour rapid response team staffed by experienced nurses (called MERIT—for Medical Emergency Rapid Intervention Team)

TCAB "has provided a framework for testing and implementing changes as well as a 'common language' and process familiar to staff," the hospital staff reported to RWJF at the end of the program, adding:

"Staff often use TCAB as a verb, and talk about 'TCABing' something when they talk about ideas and possibilities for change."

APPENDIX 4

Nursing School Partners

The 10 Phase III TCAB hospitals partnered with 14 nursing schools, as follows:

Cedars-Sinai Medical Center, Los Angeles

- University of California, Los Angeles, School of Nursing
- California State University, Los Angeles, School of Nursing

Children's Memorial Hospital, Chicago

- DePaul University Department of Nursing

James A. Haley Veterans' Hospital, Tampa, Fla.

- University of South Florida College of Nursing

Kaiser Permanente Roseville Medical Center, Roseville, Calif.

- California State University, Sacramento, School of Nursing

North Shore-Long Island Jewish Health System, Great Neck, N.Y.

- Molloy College

Prairie Lakes Hospital, Prairie Lakes Healthcare System, Watertown, S.D.

- South Dakota State University College of Nursing

Seton Northwest Hospital, Ascension Health System, Austin, Texas

- University of Texas at Austin School of Nursing
- Austin Community College

ThedaCare, Appleton, Wis.

- University of Wisconsin, Oshkosh, College of Nursing
- Fox Valley Technical College

University of Pittsburgh Medical Center–Shadyside, Pittsburgh

- University of Pittsburgh School of Nursing
- Shadyside School of Nursing

University of Texas M.D. Anderson Cancer Center, Houston, Texas

- University of Texas School of Nursing-Houston

APPENDIX 5

Pilot Hospital Grants

(Contact information was current at the time of the grant. The dollar amount reflects the total actually expended, which may be less than the amount initially awarded.)

Brigham and Women's Hospital (Boston)

Phase II

Training multidisciplinary teams in medical/surgical units in effective communication

ID# 055864 (December 2005 to November 2008): \$20,000

Project Director

Mary Lou Etheredge

(617) 525-7749

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Cedars-Sinai Medical Center (Los Angeles)

Phase II

Establishing a student nurse-focused performance improvement project

ID# 055787 (December 2005 to November 2006): \$20,000

Phase III

Transforming Care at the Bedside

ID# 057966 (September 2006 to August 2008): \$89,888

Project Directors

Jane W. Swanson, Ph.D., R.N.

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Linda Burnes Bolton, Dr.P.H., M.P.H., M.S.N., B.S.N..

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Children's Memorial Hospital (Chicago)

Phase II

Support for nursing health and wellness

ID# 055783 (December 2005 to May 2007): \$15,920

Phase III

Transforming Care at the Bedside

ID# 057967 (September 2006 to August 2008): \$90,402

Project Director

Sherri R. Ewing, M.S.N., R.N.

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James A. Haley Veterans' Hospital (Tampa, Fla.)

Phase II

Developing tools for use at hospital admission for patient education and discharge planning

ID# 055788 (February 2006 to November 2007): \$19,875

Phase III

Transforming Care at the Bedside

ID# 057968 (August 2006 to August 2008): \$89,287

Project Director

Sandra K. Janzen, M.S., R.N.

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Kaiser Foundation Hospitals (Roseville, Calif.)

Phase II

Developing medical/surgical rooms to meet the needs of elderly patients and their families

ID# 055789 (December 2005 to December 2006): \$19,000

Phase III

Transforming Care at the Bedside

ID# 057969 (August 2006 to August 2008): \$89,415

Project Director

Sandy Sharon, M.B.A., R.N.

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North Shore-Long Island Jewish Health Care Inc. (New Hyde Park, N.Y.)

Phase II

Developing a dedicated television channel for patients on complementary health approaches to free nurse to perform other tasks

ID# 055790 (December 2005 to November 2006): \$20,000

Phase III

Transforming Care at the Bedside

ID# 057970 (August 2006 to January 2009): \$84,831

(For the first grant—ID#057970—the named grantee was North Shore University Hospital, Manhasset, N.Y., a part of the North Shore-Long Island Jewish Health System.)

Project Directors

Deborah McElligott, R.N.

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Maureen T. White, M.B.A., R.N.

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Prairie Lakes Health Care system Inc. (Watertown, S.D.)

Phase II

Promoting increased physician use of electronic patient records in Transforming Care at the Bedside units

ID# 055803 (December 2005 to November 2006): \$17,600

Phase III

Transforming Care at the Bedside

ID# 057972 (September 2006 to August 2008): \$81,000

Project Director

Jill Fuller, Ph.D., R.N.

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Seton Northwest Hospital (Austin, Texas)

Phase II

Creating private space for families and professionals adjacent to the rooms of chronically and terminally ill patients

ID# 055802 (December 2005 to November 2006): \$16,465

Phase III

Transforming Care at the Bedside

ID# 057973 (August 2006 to February, 2009): \$88,360

Project Directors

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Joyce A. Batcheller, D.N.P., R.N.

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ThedaCare Inc. (Appleton, Wis.)

Phase II

Implementing a patient fall assessment program

ID# 055795 (December 2005 to November 2006): \$20,000

Phase III

Transforming Care at the Bedside

ID# 057974 (September 2006 to August 2008): \$90,000

Project Directors

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UPMC Presbyterian Shadyside (Pittsburgh, Pa.)

Phase II

Interventions to promote and monitor nurse hand washing
ID# 055784 (December 2005 to November 2006): \$16,117

Phase III

Transforming Care at the Bedside
ID# 057975 (September 2006 to August 2009): \$86,489

Project Directors

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University of Texas M.D. Anderson Cancer Center (Houston)

Phase II

Piloting a dedicated unit-based, nurse-run patient discharge program
ID# 055792 (December 2005 to November 2006): \$19,760

Phase III

Transforming Care at the Bedside
ID# 057971 (August 2006 to November 2008): \$89,860

Project Directors

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APPENDIX 6

Grants to the Institute for Healthcare Improvement

Phase I

Developing ideal care delivery models for hospital

ID# 048092 (July 2003 to July 2004): \$482,063

Phase II

Transforming Care at the Bedside

ID# 050813 (April 2004 to April 2006): \$1,392,097

Phase III

Technical assistance and direction for the Transforming Care at the Bedside program

ID# 057197 (May 2006 to August 2008): \$1,678,779

Other TCAB-Related Grants

Developing financial tools to assist improvement efforts for the Transforming Care at the Bedside program

ID# 051193 (October 2004 to May 2006): \$132,586

Upgrading personal digital assistants to improve patient care at the bedside

ID# 053658 (July 2005 to September 2005): \$62,091

Writing and publishing how-to guides with practical guidance for applying high leverage changes from the Transforming Care at the Bedside program

ID# 063754 (January 2008 to October 2008): \$108,250

Scholarships for rural and public hospital teams to attend the Leadership and Transforming Care at the Bedside Learning and Innovation Communities

ID# 065153 (October 2008 to September 2009): \$737,118

Program Director

Patricia Rutherford, M.S., R.N.

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APPENDIX 7

TCAB National Advisory Committee

The following was the committee membership during Phase III 2006–2008.

Rosalyn J. Alvarez, R.N.

Charge/Staff Nurse
Inova Alexandria Hospital
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Aleta Holub Belletete

Retired: First Vice President
Bank One Corporation
Burr Ridge, Ill.

**Linda Burnes Bolton, Dr.P.H., M.P.H.,
M.S.N., B.S.N. (Committee Chair)**

Vice President and Chief Nursing Officer and
Director of Nursing Research and
Development
Cedars-Sinai Health System and Research
Institute
Los Angeles, Calif.

Linda R. Gronenwett, Ph.D., M.A., B.S.N.

Dean and Professor
University of North Carolina at Chapel Hill
School of Nursing
Chapel Hill, N.C.

Erica Drazen, Sc.D.

Vice President
First Consulting Group
Lexington, Mass.

Vernon Henderson

Patient Representative
Cedars-Sinai Medical Center
Los Angeles, Calif.

Diana J. Mason, Ph.D., R.N.

Editor-in-Chief
American Journal of Nursing
Lippincott Williams & Wilkins
New York, N.Y.

John Nelson, M.D.

Director, Hospitalist Practice
Overlake Hospital Medical Center
Bellevue, Wash.

Derek Parker, F.A.I.A., R.I.B.A.

Director
Anshen & Allen Architects
San Francisco, Calif.

William Rupp, M.D.

President and CEO
Immanuel St. Joseph's-Mayo Health System
Mankato, Minn.

Stuart D. Trachy

Principal
Kennedy Associates
136 North Main Street
Concord, N.H.

RWJF Liaison:

Marilyn Chow, Ph.D., R.N.

Vice President of Patient Care Services
Kaiser Permanente
Oakland, Calif.

APPENDIX 8

Hospitals Selected to Participate in the American Organization of Nurse Executives AONEDissemination Initiative

Alabama

- DCH Regional Medical Center, Tuscaloosa
- University of South Alabama Medical Center, Mobile

Alaska

- Fairbanks Memorial Hospital Denali Center, Fairbanks

Arizona

- Mayo Clinic Arizona, Phoenix
- Yuma Regional Medical Center, Yuma

Arkansas

- Central Arkansas Veterans Healthcare System, Little Rock

California

- Department of Veterans Affairs, Greater Los Angeles Healthcare System, Los Angeles
- Glendale Adventist Medical Center, Glendale
- John Muir Medical Center, Walnut Creek
- Palomar Pomerado Health, San Diego
- Veterans Affairs Medical Center, San Francisco

Colorado

- Poudre Valley Hospital, Fort Collins

Florida

- Lakeland Regional Medical Center, Lakeland
- Mercy Hospital, Miami
- University Community Hospital, Tampa

Hawaii

- Maui Memorial Medical Center, Wailuku

Idaho

- St. Luke's Health System, Boise

Illinois

- Blessing Hospital, Quincy
- Edward Hospital, Naperville
- FHN, Freeport
- Loyola University Medical Center, Maywood
- MacNeal Hospital, Berwyn
- Memorial Medical Center, Springfield
- OSF St. Joseph Medical Center, Bloomington

Indiana

- Ball Memorial Hospital, Muncie
- Bloomington Hospital, Bloomington
- Columbus Regional Hospital, Columbus
- Community Hospital East, Indianapolis

Iowa

- Allen Memorial Hospital, Waterloo
- Mercy Medical Center–Des Moines, Des Moines
- Genesis Medical Center, Davenport

Louisiana

- Baton Rouge General Medical Center, Baton Rouge

Maryland

- Greater Baltimore Medical Center, Baltimore
- Franklin Square Hospital Center, Baltimore

Massachusetts

- Cambridge Health Alliance, Cambridge
- Children's Hospital, Boston
- Massachusetts General Hospital, Boston
- MetroWest Medical Center, Framingham
- Saint Anne's Hospital, Fall River
- South Shore Hospital, South Weymouth

Michigan

- Oakwood Healthcare, Inc., Dearborn

Minnesota

- St. Cloud Hospital, St. Cloud

Missouri

- Children's Mercy Hospitals and Clinics, Kansas City

New Jersey

- Englewood Hospital and Medical Center, Englewood
- Somerset Medical Center, Somerville

New York

- Arnot Ogden Medical Center, Elmira
- Bronx-Lebanon Hospital Center, Bronx
- Mercy Hospital of Buffalo, Buffalo
- St. Peter's Hospital, Albany

Ohio

- Bethesda North Hospital, Cincinnati
- Cincinnati Children's Hospital Medical Center, Cincinnati
- Good Samaritan Hospital, Dayton
- Lake Hospital System, Painesville

- Samaritan Regional Health System, Ashland

Oklahoma

- St. John Medical Center, Tulsa
- Valley View Regional Hospital, Ada

South Dakota

- Avera Sacred Heart Hospital, Yankton
- Sanford USD Medical Center, Sioux Falls

Tennessee

- Johnson City Medical Center, Johnson City
- Methodist Le Bonheur Germantown Hospital, Germantown

Texas

- San Jacinto Methodist Hospital, Baytown

Virginia

- Inova Alexandria Hospital, Alexandria
- Mary Washington Hospital, Fredericksburg
- Virginia Commonwealth University Health System, Richmond

Washington

- St. John Medical Center, Longview

Wisconsin

- Hudson Hospital, Hudson
- Zablocki VA Medical Center, Milwaukee

Wyoming

- Wyoming Medical Center, Casper

APPENDIX 9

Grants to the American Organization of Nurse Executives

Disseminating lessons learned from Transforming Care at the Bedside projects

ID# 057978 (December 2006 to November 2008): \$919,548

National dissemination of lessons learned from the Transforming Care at the Bedside program

ID# 061998 (July 2007 to December 2008): \$546,605

National dissemination of lessons learned from the Transforming Care at the Bedside program

ID# 065551 (March 2009 to September 2010): \$375,593

Project Directors

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APPENDIX 10

Cost-Benefit Analysis of the TCAB Pilot Sites

In January 2008, RWJF funded a cost-benefit analysis aimed at establishing a business case for TCAB separately from the UCLA-RAND evaluation. The University of Central Florida, Orlando, received a \$29,490 grant⁴⁴ to support the study, which was headed by Lynn Y. Unruh, Ph.D., R.N., an associate professor.

Unruh—who began the study while a joint fellow in nursing policy and philanthropy at RWJF and the Rutgers State Center for Health Policy—estimated that from 2004 through 2007 TCAB pilot units averaged a net benefit of \$625,603.

That figure represented the savings from fewer falls with harm to the patient, lower nurse turnover rates and lower staff overtime minus the expense of implementing and maintaining TCAB, including IHI participation fees, travel to TCAB meetings, relief staff for TCAB functions and the cost of the individual TCAB innovations.

⁴⁴ ID# 063255.

However, in her report to RWJF, Unruh cautioned that because of methodological constraints, the net benefit estimate "must be used with extreme caution." The study does not imply that TCAB caused the savings, Unruh wrote.

Most importantly, the savings estimate was based on the average rate and cost of patient falls, nurse turnover and overtime identified through a literature search—not on data from the TCAB hospitals' own pre-TCAB performance or that of a comparison group of hospitals.

Significant gaps in TCAB hospital cost data were a further limitation. For more details of the analysis, see Unruh and Agrawal's [report](#) to RWJF.

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Communications or Promotions

Promotion or Communication

GYMR LLC, Washington, produced the following videos in 2008 as part of its development of the "TCAB Resource Center" on the RWJF website:

- "Reducing Documentation Time by Eliminating Written Care Plan Reports."
- "Engaging Physicians."
- "Redesigning Equipment to Reduce Time Wasted and Increase Time Spent at Bedside."
- "Assessing Risk and Designing Tools to Reduce Falls."
- "Engaging Senior Leadership" (Four separate videos with top executives of Seton Family of Hospitals, Cedars-Sinai Medical Center, Kaiser Permanente Roseville Medical Center and Prairie Lakes Health Care System).
- "How to Test Changes."
- "Better M.D.-R.N. Collaboration Through Unit Meetings."
- "Selecting Units and Forming the Team."
- "Reducing Time for Admission Through Team Process."
- "What's Involved in TCAB."
- "Reducing Bedsores by Creating Awareness of When to Turn Patients."
- "When and How to Spread."

Grantee Websites

www.aone.org/aone_app/aonetcab/index.jsp. Portion of the AONE website devoted to the organization's TCAB program. Includes information for the public about the program and password-protected access for participating hospitals to the program's meeting and

conference call dates and to hospital reports. Chicago: American Organization of Nurse Executives.

www.ihl.org/offerings/Initiatives/PastStrategicInitiatives/TCAB/Pages. Portion of IHI website with information on TCAB, including an overview of the program, a list of the outcome goals, names of the pilot hospitals and links to TCAB resource materials. Cambridge, MA: Institute for Healthcare Improvement.

www.rwjf.org/pr/product.jsp?id=30051. A portion of RWJF website created as a "TACB Resource Center" to provide hospitals with information on how to implement TCAB. Princeton, NJ: Robert Wood Johnson Foundation. (Formerly www.rwjf.org/goto/nursingtoolkit.)

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"Transforming Care at the Bedside: Paving the Way for Change." *American Journal of Nursing,* Supplement 109(11): 2009. The special supplement, which was developed with RWJF funding, included three articles by members of the TCAB evaluation team:

- "Overall Effect of TCAB on Initial Participating Hospitals," Needleman J, Parkerton PH, Pearson ML, Soban LM, Upenieks VV and Yee T. pp. 59–65. Available [online](#).
- "Participation of Unit Nurses," Pearson J, Needleman J, Parkerton PH, Upenieks VV, Soban LM and Yee T. pp. 66–70. Available [online](#).
- "Lessons from Nursing Leaders on Implementing TCAB," Parkerton PH, Needleman J, Pearson ML, Upenieks VV, Soban LM and Yee T. pp. 71–76. Available [online](#).

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Reports or Monographs

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