

Transforming Care at the Bedside

How-to Guide:

Engaging Front-Line Staff in Innovation and Quality Improvement

Transforming Care at the Bedside (TCAB) is a national effort of the Robert Wood Johnson Foundation and Institute for Healthcare Improvement designed to improve the quality and safety of patient care on medical and surgical units, to increase the vitality and retention of nurses, and to improve the effectiveness of the entire care team. For more information, go to <http://www.ihl.org/> or <http://www.rwjf.org/goto/tcabtoolkit>.

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The Robert Wood Johnson Foundation (RWJF) focuses on the pressing health and health care issues facing our country. As the nation's largest philanthropy devoted exclusively to improving the health and health care of all Americans, the Foundation works with a diverse group of organizations and individuals to identify solutions and achieve comprehensive, meaningful, and timely change. For more than 30 years the Foundation has brought experience, commitment, and a rigorous, balanced approach to the problems that affect the health and health care of those it serves. When it comes to helping Americans lead healthier lives and get the care they need, the Foundation expects to make a difference in your lifetime.

The Institute for Healthcare Improvement (IHI) is a not-for-profit organization leading the improvement of health care throughout the world. Founded in 1991 and based in Cambridge, MA, IHI is a catalyst for change, cultivating innovative concepts for improving patient care and implementing programs for putting those ideas into action. Thousands of health care providers, including many of the finest hospitals in the world, participate in IHI's groundbreaking work.

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Introduction

Launched in 2003, Transforming Care at the Bedside (TCAB) is a national program of the Robert Wood Johnson Foundation (RWJF) and the Institute for Healthcare Improvement (IHI) that engages leaders at all levels of the health care organization to:

- Improve the quality and safety of patient care on medical and surgical units;
- Increase the vitality and retention of nurses;
- Engage and improve the patient's and family members' experience of care; and
- Improve the effectiveness of the entire care team.

The ten hospitals in phase III of TCAB received technical assistance from IHI faculty, which included individuals skilled in quality improvement, innovation, change management, transformational learning, and the change strategies to dramatically improve performance in the five TCAB themes:

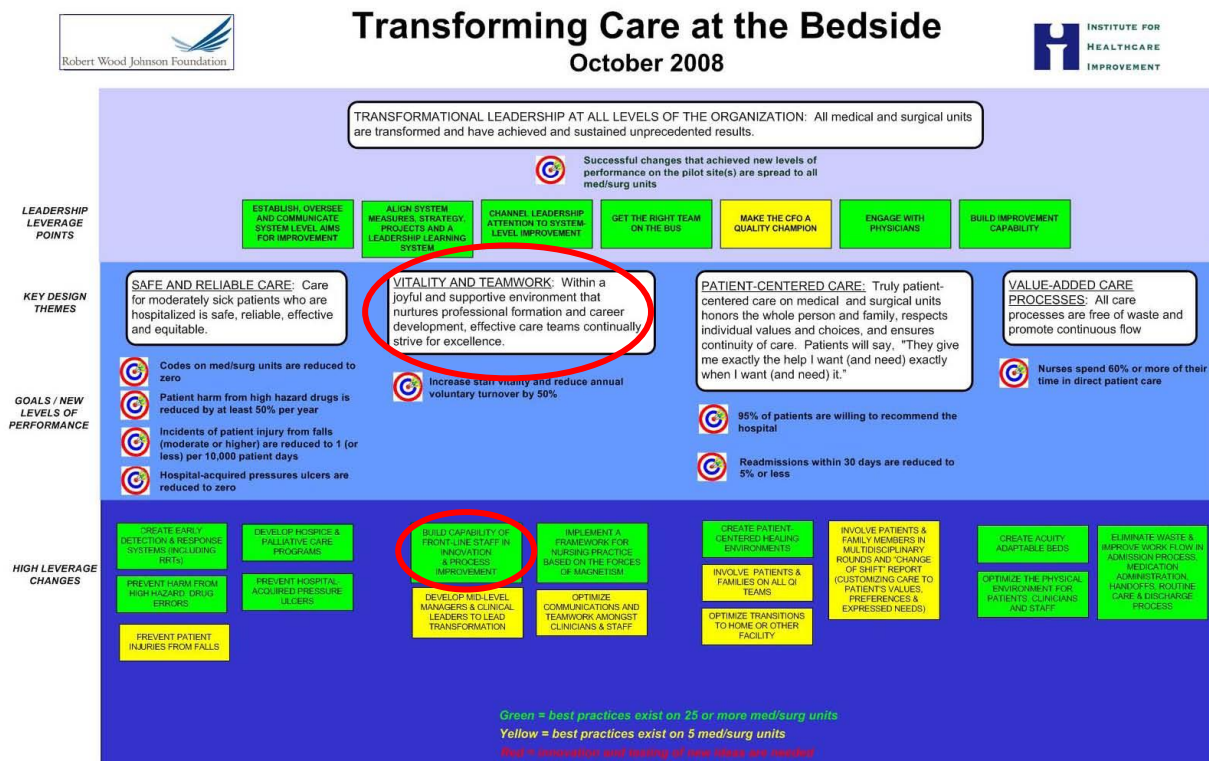
- Transformational Leadership
- Safe and Reliable Care
- Vitality and Teamwork
- Patient-Centered Care
- Value-Added Care Processes

As of September 2007, ten hospitals participated in phase III of the TCAB program by creating and testing new concepts, developing exemplary care models on medical and surgical units, demonstrating institutional commitment to the program, and pledging resources to support and sustain these innovations. A number of hospital teams across the United States have joined these ten initial participants in applying TCAB principles and processes to dramatically improve the quality of patient care on medical and surgical units (these units, as well as those at the original sites, are referred to as "TCAB units" throughout the guide). Newer participants include more than 70 hospitals in IHI's IMPACT Network's Learning and Innovation Community on Transforming Care at the Bedside, and 67 hospitals in the American Organization of Nurse Executives (AONE) TCAB program. For more information on the various TCAB programs and participating sites, please see the following websites:

- IHI TCAB initiative website (background, team stories, examples, and tools):
<http://www.ihl.org/IHI/Programs/StrategicInitiatives/TransformingCareAtTheBedside/>
- RWJF TCAB brochure:
<http://www.rwjf.org/files/publications/other/TCABBrochure041007.pdf?gsa=1>
- RWJF TCAB Virtual Resource Center
<http://www.rwjf.org/qualityequality/product.jsp?id=30051>
- AONE TCAB program website
http://www.aone.org/aone_app/aonetcab/index.jsp

Transforming Care at the Bedside

How-to Guide: Engaging Front-Line Staff in Innovation and Quality Improvement



When IHI and RWJF began the journey to transform care at the bedside on medical-surgical units, we knew the challenge was great. Front-line staff was exhausted and dispirited by the increasing workloads, inefficient work processes, and negative work environment. Nurses were leaving not only the unit, but the nursing profession. Yet, within the first year of TCAB, it became clear that by giving front-line staff the skills and permission to innovate and make improvements in their work, new energy and passion were building on the unit. Staff felt empowered as they contributed directly to making their work and the lives of their patients better. By sharing the lessons of the TCAB hospitals, this guide provides an opportunity for other hospitals to learn and experience the value of engaging front-line staff in innovation and quality improvement.

Acute Care Hospital Survey of RN Vacancies and Turnover Rates in 2000. Scottsdale, AZ: The HSM Group, Ltd. for the American Organization of Nurse Executives; January 2002. Available at: <http://www.wha.org/workforce/pdf/aone-surveyrnvacancy.pdf>.

Page A (editor). Institute of Medicine Committee on the Work Environment for Nurses and Patient Safety.
Keeping Patients Safe: Transforming the Work Environment of Nurses. Washington, DC: The National Academies Press; 2003.

The How-to Guide is divided into four sections:

- [Section One](#) describes the three key improvement strategies used in TCAB, the Institute for Healthcare Improvement's Idealized Design™ process, the Model for Improvement developed by Associates in Process Improvement, and IDEO's Deep Dive methodology. All are foundations for building improvement capability and engaging front-line staff in innovation on medical and surgical units.
- [Section Two](#) outlines a sequence of steps to build front-line staff's capability in innovation and quality improvement to transform care at the bedside.
- [Section Three](#) includes five case studies describing how hospital staff are implementing TCAB principles and processes.
- [Section Four](#) presents practical tips from TCAB participants, sample templates, and references to web tools and other resources.

Section One

How have we engaged front-line staff in the Transforming Care at the Bedside initiative?

TCAB is not a traditional quality improvement program. One primary characteristic that sets it apart is its focus on innovation — generating, testing, and implementing new ideas that dramatically improve outcomes on medical and surgical units. Ideas for transforming the way care is delivered on medical-surgical units do not solely come from the executive suite or the quality improvement department, but heavily rely on front-line staff; nurses and other care team members who spend the most time with patients and their families have a key role in redesigning and improving processes of care. In alignment with the hospital's strategic priorities, these front-line teams identify where change is needed, suggest and test potential solutions, and have a role in deciding whether those innovations should be implemented.

To meet the goals of the initiative, TCAB leveraged three improvement strategies to greatly increase staff involvement:

- IHI's Idealized Design™ process;
- The Model for Improvement, developed by Associates in Process Improvement (API) and used by IHI over two decades; and
- An adaptation of IDEO's "deep dive" idea generation methodology.

Utilizing IHI's Idealized Design™ process. Ron Moen, Senior Fellow at the Institute for Healthcare Improvement and Associate at Associates in Process Improvement, researched and developed a process for Idealized Design to guide the work of organizations committed to comprehensive system redesign. IHI first used the Idealized Design process in January 1999 for a project called the Idealized Design of Clinical Office Practices (IDCOP). Next, the Idealized Design of Medication Systems (IDMS) started in 2000 and the Idealized Design of the Intensive Care Units (IDICU), funded by VHA, Inc., began in 2001. These Idealized Design projects helped create breakthroughs in levels of performance in each of these settings.

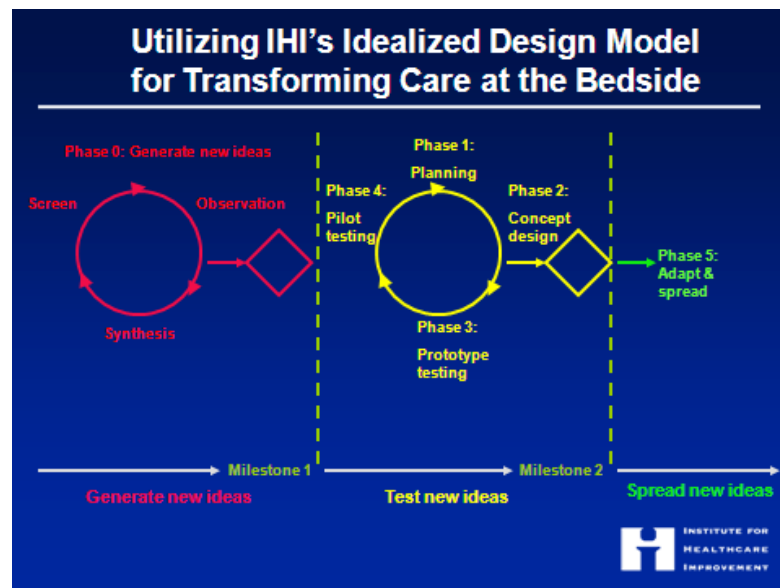
Moen, in collaboration with API and IHI leaders, modified the Idealized Design process in December 2002, adding Phase 0 for generating ideas to increase the chances for more innovation and unprecedented levels of performance.

IHI's Idealized Design process consists of three key stages:

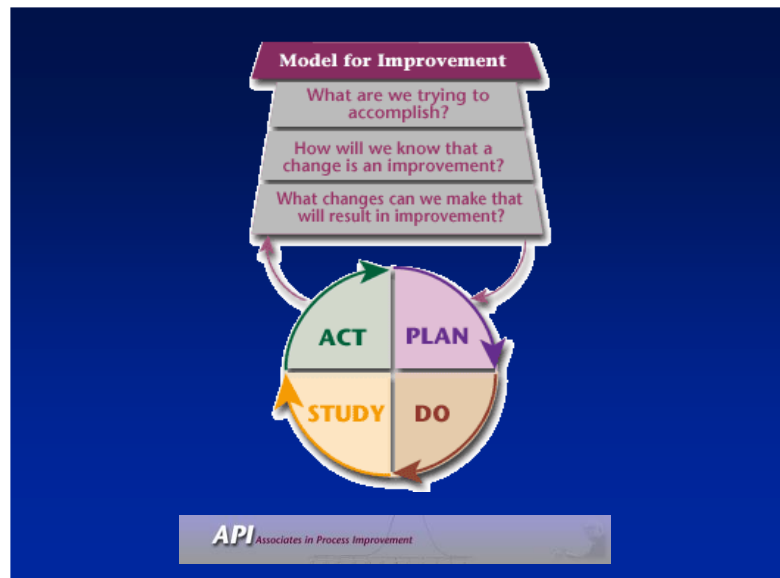
- Generate new ideas (Phase 0)
- Test new ideas (Phases 1 through 4)
- Implement and spread new ideas (Phase 5)

Moen R. *A Guide to Idealized Design*. Cambridge, MA: Institute for Healthcare Improvement; 2002.
Available at:

<http://www.ihi.org/IHI/Topics/Improvement/ImprovementMethods/Literature/AGuidetoIdealizedDesign.htm>.



Using the Model for Improvement. The IHI faculty used the Model for Improvement, developed by API, as a foundational framework in TCAB while also applying specific strategies to accelerate the rate of change and innovation and to encourage the involvement of all staff in improvement efforts.



The Model for Improvement is a simple yet powerful tool for accelerating improvement that has been used successfully by hundreds of health care organizations to improve many different health care processes and outcomes. The Model for Improvement equips front-line staff with an effective method to test ideas, engaging and empowering employees to try out changes.

Institute for Healthcare Improvement's Model for Improvement (including PDSA worksheet)
<http://www.ihl.org/IHI/Topics/Improvement/ImprovementMethods/HowToImprove>

An Introduction to the Model for Improvement (On Demand Presentation)
<http://www.ihl.org/IHI/Programs/AudioAndWebPrograms/OnDemandPresentationMFI.htm>

Adapting IDEO's "deep dive" process. TCAB provided IHI with an opportunity to test the modified Idealized Design method for the first time with an aim of increasing the focus on generating new ideas, fostering innovation, and prototype testing on medical and surgical units within hospitals. The IHI faculty engaged leaders from IDEO, an internationally known product design firm based in California, to incorporate its innovative "deep dive" focused process for idea generation as part of Phase 0 of the Idealized Design approach.

The IHI faculty adapted IDEO's deep dive process for use with front-line staff in the participating TCAB hospitals, namely substituting storytelling for direct observation and

shortening the brainstorming process. This shorter version of the deep dive came to be known as the “snorkel.” It is a valuable process, not only for generating new ideas for testing, but also as a powerful way to engage the hearts and minds of front-line staff.

IDEO website. Available at: <http://www.ideo.com>.

ABC Nightline. *The Deep Dive*. Twenty-minute segment that aired on July 13, 1999, as IDEO tackled an assignment to create a new shopping cart (can be ordered as VHS or DVD). Available at: <http://www.ideo.com/media>.

Kelley T, Littman J, Peters T. *The Art of Innovation: Lessons in Creativity from IDEO, America's Leading Design Firm*. New York: Doubleday Business; 2001.

Transforming Care at the Bedside "Deep Dive" video. Fourteen-minute video clip of TCAB's deep dive session. Available at: <http://www.ihl.org/IHI/Topics/MedicalSurgicalCare/MedicalSurgicalCareGeneral/EmergingContent/DeepDiveVideoClip.htm>.

What are staff in the TCAB hospitals saying about these strategies to transform care at the bedside?

Andi Vanderfeltz, RN, The University of Kansas Hospital, Kansas City, Kansas

"TCAB has made a difference on our unit because it is not always the same work routine everyday. We are constantly trying new ideas to improve our efficiency, and have made changes that let the nurses spend more time with patients. I can see a difference in the ways we communicate with other staff, and we strive to be even better by coming up with new projects to make our days more efficient and ultimately more satisfying."

Beverly Nelson, RN, MS, Director of Nursing Practice Programs, University of Texas M.D. Anderson Cancer Research Center, Houston, Texas

"We used to take a perfectionist approach. We would gather data, often for long periods of time, and perfect our design before we instituted any sort of change. TCAB's rapid-cycle testing is liberating. Not all change ideas need to be tested on a grand scale before the ideas are put to use. We sometimes use the phrase 'One nurse, one patient, one shift' to describe the TCAB approach."

Kurt Swartout, MD, Hospitalist, Kaiser Permanente Roseville Medical Center, Roseville, California

"The rapid cycle testing transformed patient problems into TCAB opportunities. All of a sudden, change became much simpler. . . in six months, over 250 ideas were tested . . . most of the ideas were either adopted or adapted. We had very few that were abandoned. . . Perhaps the biggest change from rapid cycle testing was the culture on the floor . . . When you start the TCAB journey, it's a step at a time and you don't know where it's going to take you. But it does take you to remarkable places."

Jill Fuller, RN, PhD, Chief Nursing Officer, Prairie Lakes Hospital, Watertown, South Dakota

"Through TCAB, we have learned to lead in a different way by re-thinking how the front-line staff are involved in change. My job is easier because the nurses now set the standard for quality improvement and have created an environment where they thrive."

Patty McBrierty, RN, Staff Nurse, Children's Memorial Hospital, Chicago, Illinois

"TCAB has shown me how to share ideas with others on my unit and improve patient care. The result is that we now have more time to spend with our patients and their families. Testing innovations is giving us a new opportunity to connect as a team while improving the care we deliver."

Tami Merryman, RN, MSN, FACHE, Vice President, Center for Quality Improvement and Innovation, University of Pittsburgh Medical Center Health System, Pittsburgh, Pennsylvania

"This is not just about technology . . . there are things you can do overnight with Post-It notes . . . and simplistic tools that you can use quickly and effectively that will make an environment better for your staff . . . most health care professionals' days are measured in minutes. Not hours, not days. If you give them back minutes, you give back a lot."

Mary Viney, RN, MSN, CNA, Vice President, Nursing Systems, SETON Healthcare Network, Austin, Texas

"The language that IHI brings to you is a different language . . . what it really created for us was the energy source to talk about what's possible. To really engage the staff about what's possible in the care we deliver for our patients."

Barbara Popkin, BSN, MA, Assistant Administrator for Nursing, North Shore–Long Island Jewish Health System, Great Neck, New York

"I feel like this has become part of our daily practice — using these methods. Ideas are being incorporated more informally. We're always hearing about new ideas or adaptations going into place."

Section Two

This section outlines a sequence of steps to guide front-line staff in executing the “how” of TCAB:

Step 1: Select your priority TCAB projects.

Step 2: Create a set of specific TCAB aims for the priority TCAB projects identified in Step 1.

Step 3: Involve front-line staff and patient and family members in generating new ideas for testing based on each of the TCAB aims outlined in Step 2.

Step 4: Create an action plan and timeline for testing, measuring, and implementing new change ideas.

Step 5: Test, learn....test, learn....Continually test and learn your way to results!

Step 6: Trend data over time and annotate run charts.

Step 7: Assess progress toward TCAB aims and leverage learning on the pilot unit(s) and across the organization.

Step 8: Celebrate successes in the pilot unit(s)!

Step 9: Create infrastructure to sustain the improvements and initiate spread of successful changes.

Please refer to Section Four for referenced resources. In addition, the following IHI white paper provides more detail:

Nolan TW. *Execution of Strategic Improvement Initiatives to Produce System-Level Results*. IHI Innovation Series white paper. Cambridge, MA: Institute for Healthcare Improvement; 2007. Available at: <http://www.ihl.org/IHI/Results/WhitePapers/ExecutionofStrategicInitiativesWhitePaper.htm>.

Step 1: Select your priority TCAB projects.

Your TCAB initiative's senior leader and TCAB unit leaders should meet to:

- Complete a Strategic Alignment Assessment template
- Assess current performance in project areas chosen
- Develop project selection criteria

- Prioritize TCAB projects and align these with the organization's system-level strategic aims and goals
 - Limit the number of projects to three or four
 - Match the projects to key stakeholder desire and will to accomplish the aim

The following is an example of a completed Strategic Alignment Assessment. In this example below, the items in the far right column have been identified as being the priority projects for the next year, and therefore they are areas of focus for the front-line TCAB team.

TCAB aims for projects on medical and surgical units	Which aims are <u>explicitly</u> aligned with this year's strategic plan for your hospital?	Have you achieved the <u>best known level of performance</u> for the TCAB aims (for at least 6 consecutive months)?	What are your priority projects for TCAB for the coming year?
Reduce Deaths	Yes [X] No []	Zero Codes Yes [X] No []	Yes [] No [X]
Prevent Harm from High-Hazard Drug Errors	Yes [] No [X]	Reduce patient harm from high-hazard drugs by at least 50% per year Yes [] No [X]	Yes [] No [X]
Prevent Pressure Ulcers	Yes [X] No []	Zero hospital-acquired pressures ulcers Yes [] No [X]	Yes [] No [X]
Prevent Patient Injury from Falls	Yes [X] No []	Incidents of patient injury from falls (moderate or higher) are reduced to 1 (or less) per 10,000 patient days Yes [] No [X]	Yes [X] No []
Increase Staff Vitality and Reduce Turnover	Yes [] No [X]	Increase staff vitality and reduce annual voluntary turnover by 50% Yes [] No [X]	Yes [] No [X]
Increase Patient Satisfaction	Yes [X] No []	95% of patients will definitely recommend the hospital Yes [] No [X]	Yes [X] No []
Reduce Readmissions	Yes [X] No []	Readmissions within 30 days is reduced to 5% or less Yes [] No [X]	Yes [X] No []
Increase Nurses' Time in Direct Care	Yes [X] No []	Nurses spend 60% or more of their time in direct patient care Yes [] No [X]	Yes [X] No []

See Section Four for a [Strategic Alignment Assessment Template](#).

Step 2: Create a set of specific TCAB aims for the priority TCAB projects identified in Step 1.

Create aims and action plans for your TCAB portfolio of projects. Make sure to:

- Clearly articulate the means to achieve the aim once you know it, e.g., “we will redesign the documentation system; move supplies and equipment closer to the bedside and decentralize the nursing unit to achieve this aim.”
- Answer the following questions to develop aim statements for each TCAB project:
 - What **investments** are we willing to make?
 - What activities should we **de-emphasize**?
 - What **conflicts** are we willing to resolve?
 - What **risks** are we willing to take?
 - How much **disruption** in the organization are we willing to support to make the transition to a better performing system
- Use these tips for creating aim statements:
 - State the aims clearly: What does success look like? What do you want to accomplish? How good, by when?
 - Define location or population.
 - Set breakthrough performance goals
 - **Example**: Incidents of patient injury from falls (moderate or higher) are reduced to 1 (or less) per 10,000 patient days
 - Use numerical goals/targets.

The examples on the following page illustrate strategies for dividing improvement projects over multiple units and sequencing improvements. How you design your improvement work will depend upon your unique environment and capacity.

Example Aim Statements for Pilot Unit(s) Implementing TCAB Improvements

1. **Pilot Unit(s):** 2 NORTH – Medical-Surgical Unit
Aim: Reduce injury from falls to less than 1 per 10,000 patient days by the end of the first 12 months. We will accomplish this by implementing reliable fall risk assessment (on admission and at regular intervals), conducting shift report/safety huddles for patients at risk, utilizing customized interventions and Teach Back, and implementing hourly rounding.
2. **Pilot Unit(s):** 2 NORTH – Medical-Surgical Unit
Aim: Reduce readmissions within 30 days for patients with heart failure within the next 12 months to less than 5 percent through a focus on health literacy and patient education (including Teach Back), and more effective transitions to home or other community setting.
3. **Pilot Unit(s):** 3 NORTH – Surgical Unit
Aim: Increase nurses time spent at the bedside to at least 60 percent by end of the first 12 months by moving equipment closer to patient rooms and supplies to the bedside.
4. **Pilot Unit(s):** 3 NORTH – Surgical Unit
Aim: Improve patient satisfaction so that 95 percent or more patients recommend our TCAB pilot Unit 2 North to friends and family. We will begin the work in the third quarter of TCAB and complete it by second year of TCAB.

See Section Four for an [Aim Statement Template](#).

Step 3: Include front-line staff and patient/family members to generate new ideas for testing based on each of the TCAB aims outlined in Step 2.

Describe the problem you are trying to solve and decide how you will pursue the four most common methods utilized in TCAB to generate ideas:

Method #1: Conduct Idea Generation / Brainstorming Sessions

Method #2: Conduct Site Visits or Storyboard Sessions to Exchange Ideas

Method #3: Use Strategies from Other Industries to Generate New Ideas

Method #4: Learn About “Best Practices” as a Source for New Ideas

Method #1: Conduct Idea Generation / Brainstorming Sessions

Snorkel sessions (an adaptation of IDEO’s deep dive methodology) served as an important method for TCAB teams to generate ideas. The following steps provide guidance for conducting a snorkel.

Planning for the Snorkel

- Organize an initial “What do you know?” planning meeting with executive leaders, key clinical staff on medical-surgical units, and key support personnel.
 - Share knowledge of what is working well, failures, and defects in the current designs. What are the current system performance levels? Share a story to illustrate an example of exceptional care and a story about when things did not go well for the patient and/or family.
 - Do an intense “state-of-the-art” review. Ask “What do you know?” and conduct a study of emerging technologies (either in preparation for sharing at this meeting or in advance of a second planning meeting).
- Develop a design challenge (and subsequent aim) based on the problem you are trying to solve (e.g., How can we put patients in control? How can we create an ideal transition home? How can we create excellence in our teamwork? How might we create the perfect admission experience? How might we create truly patient-centered care?).
 - Agree on what numeric targets will guide the team over time in accomplishing its aim, such as reducing readmission rates by a specific percentage, increasing patient satisfaction scores, and reducing voluntary staff turnover rates.
- Identify additional information needed or other assignments before conducting the snorkel, such as conducting a diagnostic evaluation of the problem. For example, review the last 20 codes on the unit and look for failures to recognize early warning signs, or review the last 20 falls with harm on a unit and look for patterns and causes. Such diagnostics can inform early tests of change.
- Establish the date, time, and length of the snorkel session. We recommend a three-to-four hour session to focus on the broader theme and then 45-60 minute sessions to generate targeted sets of ideas.
- Identify and invite participants (all who have roles in the process to be improved). Include patients/families, physicians, clinicians from the care team, and staff from ancillary care departments. Plan dates and free staff from routine work responsibilities.

- Identify facilitators and a recorder to capture notes during the session (for quick turnaround of information back to teams).
- Identify and reserve a dedicated project room or space where you will organize pictures, stories, and ideas as the team's work progresses. Use this room for the snorkel sessions, if possible.
 - The room needs to be large enough for small group work.
 - Set up the room with round tables or small clusters of tables.
- Gather supplies (see Section Four for a [list of recommended supplies](#)).

Conduct the Snorkel

See Section Four for two [sample snorkel facilitation plans](#)—one for a three-hour session and one for a 45-minute session. The three-hour session includes time to select initial ideas for testing and plan the tests. With the shorter 45-minute session, you'll need to complete these steps after the snorkel.

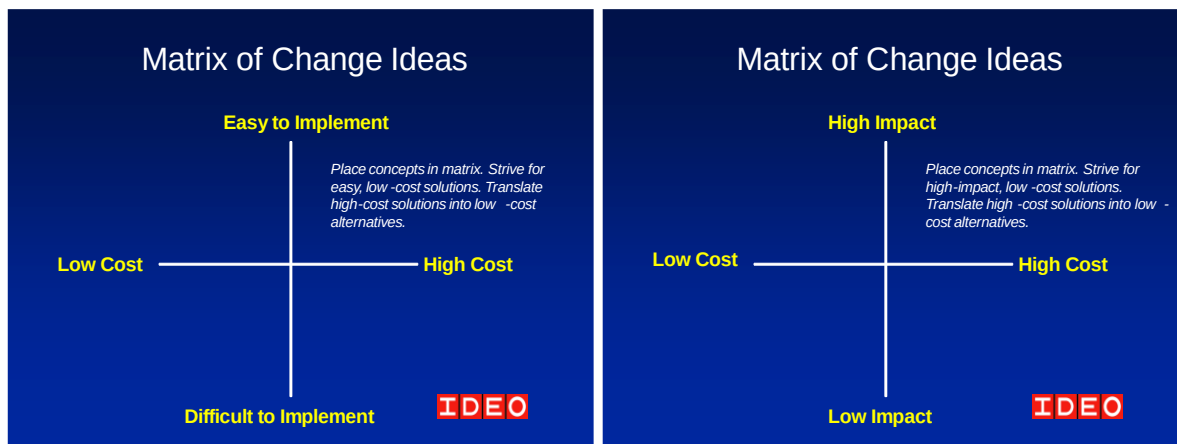


Front-line staff at Seton Northwest Hospital in Austin, Texas, use a decision matrix (far left) to harvest ideas during a TCAB snorkel session.

Here are some valuable snorkeling tips from TCAB teams:

- IDEO's premise regarding the importance of teams can be helpful information to ground participants in your project's Idealized Design approach:

- The team is at the heart of design.
 - Team efforts always exceed individual efforts.
 - The myth of the lone genius can hamper innovation efforts.
 - It's important to have widely divergent disciplines on a team.
- Generally it is difficult to do field observations during short snorkel sessions. If you can't build in an extra 30-60 minutes for observation time during your session, consider giving participants the option of doing this in advance. For example, communicate the session's design targets and ask participants to pause and notice relevant information during their daily routine. Give them examples of what to look for so they can then share their observations in the session and consider using Polaroid cameras to capture observations.
- You'll see the use of storytelling built into the snorkel agenda. While many process improvement methodologies use structured data collection and analysis to reveal issues and opportunities, IDEO's innovation process places great stock in the power of storytelling to help teams quickly come to an understanding of what's important. At this early stage in the process, we seek inspiration—those stories or themes that resonate most strongly with the team. (Later, we will seek validation—that is, verification that the solutions we have come up with are in fact the best ones.)
- Once you have ideas generated, cluster similar ideas together. Then, sorting and prioritizing these ideas (also known as harvesting) can happen through a variety of methods.
 - Identify “just do its”—ideas that are clearly improvements and easy to do.
 - Multi-vote—give participants a specific number of dots (e.g., 6 to 10 each) that they place next to items they feel are most important; tally dots to identify top items for initial tests of change.
 - Use a decision matrix—plot each idea (or top ideas) on a scale based on criteria you identify in advance (e.g., easy/hard, low/high cost, low/high impact). The goal is to identify easy, low-cost, high-impact ideas for initial tests of change.



- Hold several snorkel sessions if necessary. The first session will get you started in the right direction based on your overall aim, but you may need to run a series of short sessions as you progress to generate more targeted ideas, plan new tests, and engage more staff in the process.

Method #2: Conduct Site Visits or Storyboard Sessions to Exchange Ideas

One of the enlightening TCAB discoveries is the power of organizing site visits and storyboard sessions with others engaged in TCAB. Sharing ideas and successful changes at different sites serves as a source for new ideas. These methods can foster collaborative learning outside your organization or can be adapted to create a learning community within your hospital.

Site visits provoke, inspire, and stimulate participants with the concrete reality of other ways of doing things. They also can deepen the sense of community among health care organizations to increase sharing and knowledge management. Site visits can be to other hospitals and other units within your own hospital. See Section Four for a [sample site visit agenda](#).



Site visits gave North Shore-Long Island Jewish Health System (NSLIJ) in New York the idea of converting a hallway alcove for linen into a decentralized nursing station. This brought nurses closer to their patients, decreased time spent responding to patient calls, decreased noise levels on the unit, and reduced the amount of time wasted on hunting and gathering supplies.

To boost the effectiveness of site visits:

- Identify what guests should observe to foster learning about particular design targets.
- Encourage participants to keep their interaction with working staff at a minimum and become immersed in the surroundings, using all their senses. Participants are instructed to identify what they see, hear, and feel as they move through the environment. Include open discussion time for participants to share their observations, explore and deepen their thinking about what they learned.
- Enable reflection upon arriving home about what ideas could be adapted into their setting or used as a springboard for idea generation in their own snorkel sessions.

Interactive Storyboard Rounds

Interactive storyboard rounds, held during in-person and virtual meetings, is another valuable idea generation strategy. TCAB teams use storyboards as a graphic tool to

share results of their work, details on the changes tested and implemented, plus obstacles overcome.



Interaction between staff during storyboard rounds.

Here are basic steps to follow in setting up storyboard rounds:

- **Preparation:** Each team prepares a presentation that outlines changes made and their results to date.
- **Display:** Each team is given ample space, usually an entire bulletin board, to display their story. The most common approach is a series of PowerPoint slides with pictures, narrative explanations, and data displayed in run charts. The storyboards are posted before the scheduled rounds and are on display for viewing at any time.
- **Viewing and rounding:** The most common method is to assign one team member to each storyboard and then divide the room into small groups of five to seven participants. The participants are in mixed groups so everyone is rounding with members from other teams. This builds a sense of community and enriches the questions, learning, and exchange during the storyboard rounds. The rounds are synchronized and begin together. For each storyboard, the team's representative summarizes the work and leads a question-and-answer discussion. After seven or eight minutes (10 minutes if time allows), the rounding group advances to the next

storyboard and the process is repeated until all the participant groups have visited each storyboard.

- **Storyboard content:** Provide teams with a storyboard template that includes the team's aim statement, team members (with photo), changes that have been tested, and results of tests. Include reflective questions, informed by the work of Stephen Brookfield, such as the following examples:
 - “Compared to this time last year, we now know . . . about [XYZ].”
 - “Compared to this time last year, now we are able to do . . . to reduce harm from falls.”
 - “The most important thing we learned about patients at risk for clinical deterioration is. . .”
 - “In the last year, assumptions we held about reducing (or improving) [XYZ—e.g., mortality] that have been most confirmed include . . .”
 - “In the last year, assumptions we held about [XYZ—e.g., reducing mortality] that have been most challenged . . .”
 - “We are wondering if next we should . . .”

Brookfield SD. *Becoming a Critically Reflective Teacher*. San Francisco: Jossey-Bass Publishers; 1995.

Stephen D. Brookfield's website. Available at: <http://www.stephenbrookfield.com>.

There are a variety of approaches to storyboard rounds. Two examples to stimulate thinking about how you might try this strategy follow.

Example 1:

At one TCAB meeting, to increase interaction and sharing among TCAB teams in an otherwise typical storyboard rounds, each team was given a small stack of identical fabric swatches that became the team's motif. For example, one team was designated by black fabric with small white dots while another team was given purple swatches with yellow flowers. During storyboard rounds, team members pinned a swatch next to promising ideas or changes they liked on each other's storyboards. From a distance, the storyboards began to look like quilts, a symbol of the teams' work together, and

patterns emerged, portraying a vivid visual consensus around promising prototypes. Teams could easily see for themselves ideas they might want to replicate. At the end of the storyboard rounds, participants were given time to revisit the storyboards and harvest ideas to test.

Example 2:

At another TCAB meeting, each team created a three-dimensional, table-top storyboard using a metaphor to describe their experience with TCAB. Metaphorical thinking, a powerful transformative tool, involves making connections between two unlikely things to express an idea. Insights from metaphorical thinking give teams a fresh view of their work and ability to see in new ways. For example, a white water rafting trip was one team's metaphor. Teams were asked to explore the metaphor. What does society think about the metaphor (e.g., white water rafting is a leisure activity, it can be dangerous, it requires skill and experience, it usually involves a guide)? What does the culture say about the metaphor (e.g., white water rafting is a family activity)? What do experts say about the metaphor (e.g., you must know how to navigate safely through rapids)?

The team then thought about their experience with TCAB and interpreted it through the lens of the metaphor. Using the white water rafting example, the team might have decided it needed a guide (e.g., IHI faculty and local sponsor), and it would seek technical expertise by turning to the performance improvement department for help with testing and data collection. The team might conclude it was exploring uncharted territory, meaning they needed certain survival skills. Team metaphors included the Wizard of Oz, Extreme Makeover, early pioneers, a soccer game, a picnic, and outer space. They also included objects and examples of their work. Storyboard rounds, still conducted in small groups for approximately 10 minutes per storyboard, were more interactive because participants could examine objects, documents, and photographs. Sharing, inquiry, and discussion were lively.

Method #3: Use Strategies from Other Industries to Generate New Ideas

New ideas can come from many sources. Although other health care settings are a logical first choice to look for ideas, industries such as manufacturing and service also provide valuable inspiration. The TCAB program has harnessed concepts from a variety of sources outside health care.

Lean Manufacturing

The body of manufacturing knowledge on lean thinking and the Toyota Production System has stimulated health care's thinking about what services and tasks are value-added, how to simplify workflows, and how to remove waste from processes. TCAB teams adopted techniques such as 5S and point-of-use equipment and supplies.

- 5S stands for Sort, Simplify, Sweep, Standardize, and Self-discipline (to sustain). This method is used to reduce clutter on the units and eliminate the waste of searching for supplies and equipment by assigning them designated, marked locations.
- Point-of-use concepts led to improvements such as storing essential supplies and conducting documentation at the bedside to reduce staff hunting and gathering time.

Institute for Healthcare Improvement. *Going Lean in Health Care*. IHI Innovation Series white paper. Available at: <http://www.ihl.org/IHI/Results/WhitePapers/GoingLeaninHealthCare.htm>.

- Auto manufacturer New United Motor Manufacturing, Inc. (NUMMI) in Fremont, California, provided insights on its use of the Toyota Production System and its unique team-based corporate culture that brings together elements from Toyota, General Motors, and nearby Silicon Valley.
 - The creative ideas of NUMMI staff, rooted in lean principles, were posted throughout the facility for practical usage and as reinforcement of the company's quest to eliminate waste.
 - NUMMI believes in the power of small teams and teamwork, with high expectations from management that good work will result. Local team leadership is supported to enable this good work. This prompted TCAB teams

to discuss ways to set higher expectations for what the whole team can do, including making patients a part of the care team and letting them know they are expected to actively participate in their care so the provider team can better support them to achieve positive results.

- NUMMI's systems are designed for simplicity and consistency. TCAB teams used this concept to discuss use of a common language that is understandable by all and inspires actions leading to positive outcomes.
- The NUMMI factory uses color and shape to differentiate parts and products. This concept stimulated ideas for TCAB teams that included using colors to differentiate solutions and medications to prevent errors, making patient files different colors to identify special conditions, or placing files in color-coded organizers according to appropriate action (e.g., call for follow up, new patient—get history before appointment, etc.).



TCAB participants applied lean manufacturing methods like 5S to remove waste. They reorganized supplies, locating them closer to the bedside, and streamlined inventory levels to reduce hunting and gathering.

Airline Industry

Crew resource management techniques from the airline industry provided structured communication methods such as SBAR (Situation-Background-Assessment-Recommendations) and strategies to create a culture of standardization and safety.

- SBAR is being used by TCAB teams and others to guide physician-nurse communications and shift change handoffs, for example.

- Standardization and safety culture ideas are demonstrated through processes such as structured clinical handoffs, increased use of checklists, procedural pauses or time-outs, and multidisciplinary rounds, where every member of the clinical team contributes equally to care planning.

SBAR Toolkit. Available at:

<http://www.ihl.org/IHI/Topics/PatientSafety/SafetyGeneral/Tools/SBARToolkit.htm>.

Athletic Teams

High-performing athletic teams use quick huddles during the game, enabling the team to stay informed, review the effectiveness of changes, and rapidly change plans.

- Huddles in health care allow fuller participation of front-line staff and bedside caregivers, who often find it impossible to find time to participate in more conventional hour-long improvement team meetings. Huddles also keep improvement momentum going, as teams are able to meet more frequently for shorter periods of time.

Institute for Healthcare Improvement. *Huddles Tool.* Available at

<http://www.ihl.org/IHI/Topics/Improvement/ImprovementMethods/Tools/Huddles.htm>.

High-Reliability Organizations

Industries with critical safety needs such as nuclear energy need to develop highly reliable processes. An IHI white paper details high-reliability concepts and how to use a three-step model to improve reliability of complex health care systems to reduce defects, increase consistency of appropriate care, and improve patient outcomes. The model's steps are: (1) prevent failure (a breakdown in operations or functions); (2) identify and mitigate to intercede before harm is done, or mitigate the harm caused by failures not detected soon enough; (3) redesign the process based on critical failures identified.

- TCAB teams used high-reliability ideas such as implementation of clinical guidelines. They also studied the culture of safety in high-reliability industries to determine which concepts might be applicable in health care.
- To reduce injury from falls, TCAB teams increased reliability for conducting falls assessments and subsequent care plans. At every shift, patients at most

risk for injury from falls were identified and proactive techniques (floor mats, low beds, Teach Back, and hourly rounds) were implemented before potential harm could occur. Their redesign efforts also included daily safety huddles and improved handoff procedures when patients are transported and at shift change.

Nolan T, Resar R, Haraden C, Griffin FA. *Improving the Reliability of Health Care*. IHI Innovation Series white paper. Boston: Institute for Healthcare Improvement; 2004. Available at: <http://www.ihl.org/IHI/Results/WhitePapers/ImprovingtheReliabilityofHealthCare.htm>.

Method #4: Learn About “Best Practices” as a Source for New Ideas

Just as we can borrow ideas from other industries, we can also adapt and adopt best clinical evidence and best practices that already exist, deliberately seeking out the latest information as an idea generation strategy, not an afterthought.

Examples of how this occurred among the TCAB teams follow.

- The **Planetree Model** (<http://www.planetree.org>) is a method to use architecture and interior design to improve patient outcomes and satisfaction. Patient-centered hospital designs based on the Planetree Model include home-like, barrier-free environments that support patient dignity and encourage family participation in care. TCAB teams learned from organizations such as Bronson Methodist Hospital in Kalamazoo, Michigan, which intertwined patient-centeredness with physical design in its new facility.
- The **Institute for Patient- and Family-Centered Care** (<http://www.familycenteredcare.org>) focuses on patient-centered care best practices for involving patients and families in improvement work. Examples of ideas collected for use by TCAB teams:
 - Recruit patients and family members as advisors to develop “What We Wished We’d Known...” tip sheets for new patients.
 - Involve patients and families in the daily communication processes about their care, such as rounding and discharge planning.

- Ask patients and families to join a team in a walk-about through the hospital on a particular topic.
 - Involve patients and families as faculty in new staff orientation processes.
- The **American Nurses Credential Center's Magnet Recognition Program®** (<http://www.nursecredentialing.org/Magnet.aspx>) framework can help develop excellent nursing leadership and create a professional environment where nurses can do their best work. Hospitals with Magnet status are characterized by high staff engagement and participation in decisions about patient care and how their work is done. The Magnet Recognition Program® model includes five components:
 - Transformational leadership
 - Structural empowerment
 - Exemplary professional practice
 - New knowledge, innovations, and improvements
 - Empirical quality outcomes
- Adopting or adapting a variety of changes championed through the **IHI 5 Million Lives Campaign** (<http://www.ihl.org/IHI/Programs/Campaign>), such as:
 - Deploying Rapid Response Teams
 - Delivering reliable, evidence-based care for acute myocardial infarction (heart attacks)
 - Preventing adverse drug events (medication reconciliation)
 - Preventing harm from high-alert medications
 - Reducing surgical complications
 - Preventing pressure ulcers
 - Reducing methicillin-resistant *Staphylococcus aureus* (MRSA) infection
 - Delivering reliable, evidence-based care for congestive heart failure

Step 4: Create an action plan and timeline for testing, measuring, and implementing new change ideas.

Secure resources to accomplish the project aim and portfolio of work. Develop venues to share what the team learns and new knowledge that emerges as it improves, gets

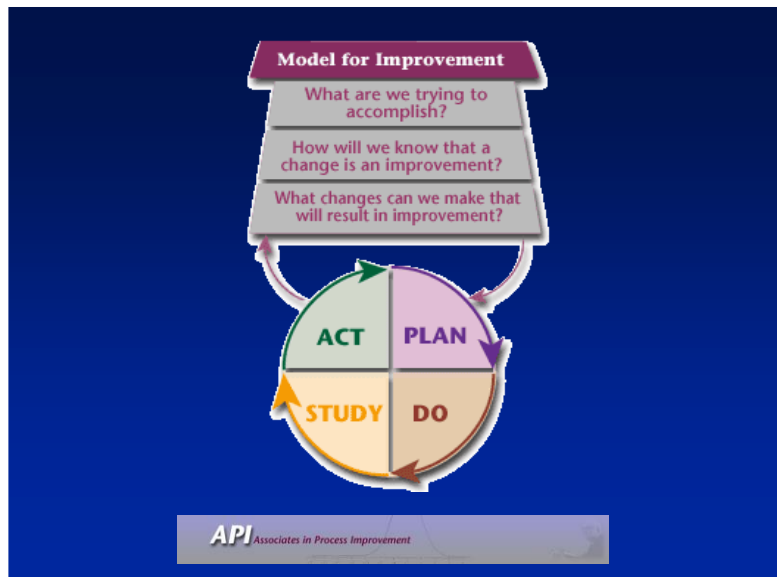
results, and accomplishes its aim. Teams can use the Action Planning Form to identify aims, measures, and plans to test changes. An example of a completed Action Planning Form follows.

EXAMPLE ACTION PLANNING FORM				
Pilot Unit(s): <i>2 North</i> Aim: <i>Reduce injury from falls to less than 1 per 10,000 patient days in 12 months in TCAB.</i> Outcome Measure: <i>Injury from falls</i> Process Measures: <i>Reliable risk assessment (on admission and every shift), shift report, and rounding</i> Current Outcome Measure Performance: <i>10 injuries from falls per 10,000 patient days</i> Gap Between Current Performance and Aim: <i>Tenfold</i> Six-Month Goal: <i>5 or fewer injuries from falls per 10,000 patient days</i> (recommend reducing the gap by 50% every six months) Ideas/Changes to Be Tested: <i>Implementing reliable assessment, shift reports for patients at risk, customized interventions, Teach Back, hourly rounding</i>				
Testing and Implementation Plan	Day-to-Day Leader	Who needs to be involved?	March 7 14 21 28 April 4 11 18 25 May 2 9 16 23 30 June 6 13 20 27 July 4 11 18 25	
<i>Test and implement reliable fall risk assessment on admission and every shift</i>	<i>Julie</i>	<i>Unit Manager, Pt. Safety Officer, Team Lead</i>		
<i>Test shift report of patients at risk</i>	<i>Julie</i>	<i>Unit Manager, Team Lead</i>		
<i>Develop and test patient-centered customized interventions based on fall risk</i>	<i>Julie</i>	<i>Patient and family, Patient Safety Officer, CNS Educator</i>		
<i>Test and implement a Teach Back protocol</i>	<i>Eddie</i>	<i>CNS Educator, Team Lead</i>		
<i>Implement hourly rounding</i>	<i>Susan (lean consultant)</i>	<i>Unit Manager, Team Lead, Unit RN and CNA</i>		

See Section Four for the [Action Planning Form Template](#).

Step 5: Test, learn....Test, learn....Continually test and learn your way to results!

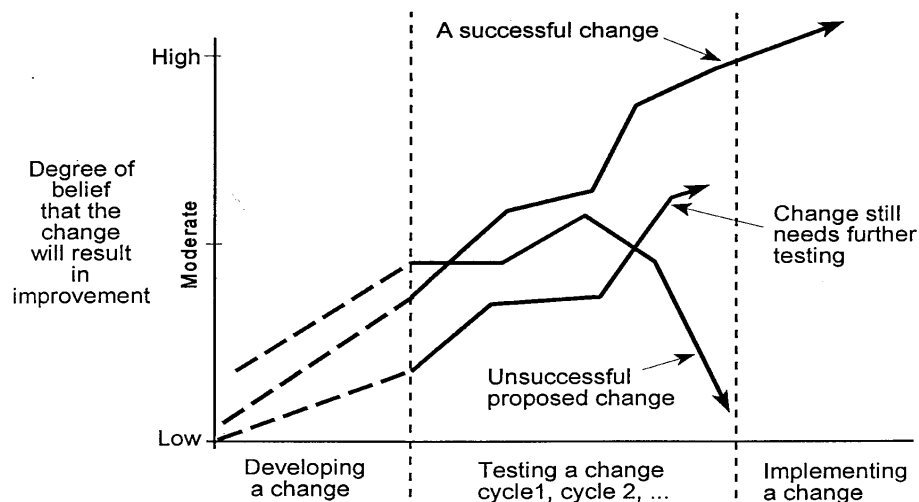
All improvement requires change, but not all change is an improvement. Use the Model for Improvement and Plan-Do-Study-Act (PDSA) cycles to continually improve and learn your way to results.



The **Model for Improvement** may be used to guide both systems-level change and the smaller portfolio of improvement projects that, together, bring about system change. Test ideas under a wide range of conditions to increase the degree of belief that the change will result in improvement. For example, will charting at the bedside increase the time a nurse spends with a patient during the day shift? How about at night and on weekends? Are there enough portable computers for the change to work? What about a situation such as short staffing or days with a high number of discharges and admits? The degree of belief that the change is an improvement will be higher if the change has been tested under different conditions and demonstrates that it still brings about improvement. The PDSA process also allows each unit or location involved in testing a change to identify how it must be adapted to fit their environment. The Model for Improvement and PDSA cycles enable improvement teams to test both ***new ideas*** for improvement and ***ideas that have been successful elsewhere*** and show potential to be adapted to the particular setting.

Develop a plan to sequence tests of change, deciding which ideas will be tested first.

first. A general rule of thumb is to test ideas where three conditions exist: a willingness by staff to try a change; belief that the idea is a good one (based on others' experience); and low cost of failure should the idea fail.



Langley GL, Nolan KM, Nolan TW, Norman CL, Provost LP. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance*. San Francisco: Jossey-Bass Publishers; 1996.

- Another tip is to focus early tests on those that require less cooperation among staff who do not work on the unit. Later, as skill in testing develops and a track record of success begins to breed success, work on more complex changes involving other departments and where the degree of belief is less certain.
- Begin with ideas generated in a local snorkel. This will build credibility with staff that they actually can influence and participate in change. Use resources developed by snorkel participants, such as initial test planning worksheets or rough prototypes of ideas. If you generated ideas using another method or held a shorter snorkel session, use the sorting and prioritizing methods outlined in the previous section before proceeding. Remember that work must stay focused on priority problems. It's easy to let your scope creep to include interesting ideas that might not address the root problem.

Use the discipline of Plan-Do-Study-Act (PDSA) to increase the degree of belief that the change will support transformational improvement on the medical and surgical unit. PDSA encourages a team to get experience with an idea, building knowledge sequentially. This reveals whether the team tested the idea sufficiently or whether it needs more development and tests. PDSA cycles also provide helpful information that may be used later if the idea might be destined for implementation. If the change idea is borrowed from another unit or hospital, testing allows customization of the change for the uniqueness of the unit. The PDSA cycle is the vehicle for learning and for transforming that learning into action. Even PDSA cycles that fail offer an opportunity to learn. IDEO encourages teams to “fail early and fail often, but learn from those failures.”

- Keep tests small in the beginning: One nurse, one patient, one shift (or modify this to fit your particular project). The point is to keep tests very small so they are easy, quick, and minimize risk. Issue this challenge: “What can you test by next Tuesday?”
- Use PDSA worksheets to facilitate team progression through successful test cycles. The worksheet provides a structured approach to ensure effective planning and learning.
 - **Plan:** Plan the test or observation, including a plan for collecting data. State the objective of the cycle or test. Pose a question: “If we do X, will Y happen to Z?” Make a prediction related to expected results. Think about who will do the test, when, for how long, and what data will be used to evaluate the test. How will the data be collected? Who will collect the data? Be prepared if the degree of belief that the change will help is low. If so, the cost of failure is then higher, whether that cost is about expenses or willingness of staff to experiment. The smaller the size of the test, the better. Think one day, one shift, one patient, one care team, the next three discharges, etc.
 - **Do:** Try out the test on a small scale. Record findings and facts on a PDSA worksheet.
 - **Study:** Set aside time to analyze the data and study the results. Compare the results of the test to the prediction. Was the prediction confirmed or not. If not, why not?

- **Act:** Refine the change based on what was learned from the test. Decide whether to continue testing and make adaptations to the idea for robustness, or whether the change may be adopted. Testing should continue until there is a high degree of belief and experience that the idea works, there is little cost associated with failure, and staff are willing to implement the change. If the idea is poor, it may be abandoned.

Institute for Healthcare Improvement. *Model for Improvement*. Overview and tools, including PDSA worksheet and guidelines. Available at: <http://www.ihl.org/IHI/Topics/Improvement/ImprovementMethods/HowToImprove>.

Develop a prototype of the ideas you want to test. Rapid prototyping makes abstract ideas more tangible. With complex system design, rapid prototyping can help reveal interdependencies of sub-systems and the relationship among elements such as roles, tools, space, and processes. At least two hospitals involved with TCAB created prototype units to test ideas and redesign patient care. But prototypes need not be as large as a patient care unit. Rapid prototyping takes many forms. For a product, it can be a physical object that represents some aspect or aspects of a new design, such as a form or other tool. For a service, it typically takes the form of a role-play or enactment (e.g., simulating a new approach to coaching patients with chronic illness), supplemented by props representing tools or spaces required to support an enhanced customer (or patient) experience.

Involve and inform your team as you test and develop ideas. Put everyone to work on the transformation. Remember that the Idealized Design model requires continuous and meaningful involvement by front-line patient care staff on projects that are aligned with the organization's strategic priorities. Although this presents challenges due to the nature of patient care operations, project teams must actively avoid the risk of becoming too distanced from the daily operations.

- Keep the change effort visible in the work setting. Rely on front-line staff to test ideas, report on results, and evolve ideas for further testing. Start with interested and curious staff—they will help the team quickly gain experience and confidence with ideas. Use communication tools such as bulletin boards, project management forms,

huddles, and such to keep staff informed and involved. Make the effort to embed PDSAs into staff's everyday work.

CURRENT PDSA CYCLES	TEAM LEADER	SUCCESSES	SUGGESTIONS
1. Safety Huddles - all staff go over patient safety issues for each admission, daily from 7 AM - 10 AM to improve communication and teamwork between shifts.	Summer, Rebecca & Angie S.	Adopted. Still working on it.	Planner note highlights related to the current PDSA cycles. All others may be placed on background notes.
2. Supplies in the Bedside - currently working with ITM to determine types of storage bins, working with DCH to reverse lock on waste server so trial on and room soon.	Angie S. & Chris R.	Received approval from infection control.	
3. Schedule Discharges - scheduling discharge appts. all Unit 43 ppts. 24Hr prior to discharge. As involved in discharge time.	Summer, Rebecca, Stacy	One beginning to expand to other services. PP starting 1/2/10.	
4. Patient Biographies - sheet included in patient packet, updated by pt. to learn more about them, will place inside wall post for a more personal approach to pt. care.	Shannon Stacy		
5. Patient Careers Bank - include pt. in plan of care, all discharges and provide communication to PAs.	Summer & Heidi		
6. Current Plan Standardization - develop template plan for physician forms spread to all staff. Will provide case for physician trying to find time on different plans. Physician will provide input on the forms they use.	Heidi & Chris R.		
7. Phone resource board - maintain physicians' availability.	Stacy & Barbie	Stickers placed, transition from whiteboard to plastic sleeve begins. (may separate from all) &	Below are all the chgs generated at Stokke LE meetings. Those highlighted are ones we are already trying to work on. ↓
8. Unit 43 EXTREME MAKEOVER - have performed 1st 50% portion to meet unit's responsibility (keeping unit staff to schedule needs, will maintain an active presence in unit).	Unit 43 team Chris R.	Unit appearance is greatly improved, cleaner walls, more organized. Cleaned and part of share room. New furniture use made unit, created a small share room.	
9. Quick Test - working with 4 major players to shift to have a 15 min test for patient's vital abnormalities, lab values, and more. plan to trial test next on 1st.	Erinnet & Stacy	Quick Time has become a great success. Patients are looking forward to it. Staff has time to check a 15 min test.	
10. Physician Communication Sheet - replaces notecard on chart for more concise communication with MDS.	Heidi & Shannon		
11. Whiteboard update - inform pt. goals involving the pt. & staff on whiteboard in room. Sign in taking plan sheet into room.	Erinnet, Heidi, Shannon		
12. Death Goals - 1st 50% meeting going on early morning to ask pt. what they would like a better defined type, variety of care pt. want board.	Erinnet, Heidi, Shannon		
13. W/ile - request on chart sheet how many patient meetings (equivalent 30 min) can be.	Summer & Barbie		
14. Round 4/10/10 - place all supplies needed for discharge, take 10 min to take on duty for 1 hour & discharge time to leave prior to discharge.	Erinnet	Unit 43 meeting is able to determine how it, patient health info, planning for next move.	

A PDSA communication board used by the University of Kansas Hospital TCAB Team.

- Whenever possible, don't wait for a committee's approval to test ideas that have little or no risk to patients. Go to the committee once you have tested and have data to support that the change is an improvement.

Test changes for robustness under multiple conditions. Tests should explore a variety of conditions like different staffing mixes, different shifts, different census levels, during holidays, etc. And, increase the scale of tests over time until ideas are ready for implementation.

Example of Test Cycles Focused on a Specific Aim

Aim: Within the next month, increase the number of surgical patients engaged in their daily care on 3 West through patient involvement in goal setting.

Cycle 1: One nurse elicits daily goals using script with her patients under age 60 for 1 day.

Cycle 2: Based on what worked and what was awkward with the script, the nurse next tests how to customize the dialogue for each patient and retests for a day.

Cycle 3: Test only with patients over age 60.

Cycle 4: Customize goal setting with patients who require input from family members and cannot set goals alone.

Cycle 5: Three nurses on one shift elicit daily goals based on different approaches for age and ability.

Cycle 6: Original nurse involved in testing seeks ways to help patients who are resistant to goal setting with overcoming their resistance.

Cycle 7: One nurse puts daily goals in chart to test best documentation.

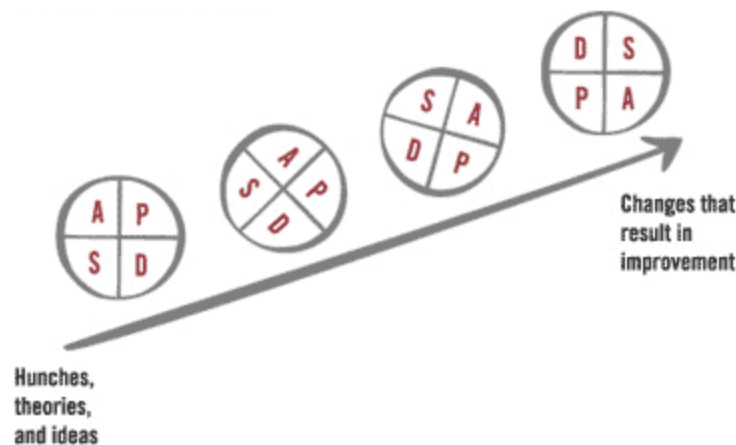
Cycle 8: Another nurse uses a white board in the room to communicate goals.

Cycle 9: Four nurses work on tests to standardize white board content.

Cycle 10: All nurses on one shift put goals on white boards.

Cycle 11: Standardize the process for identifying and communicating goals.

Cycles 12, 13, 14... Continue testing cycles until the aim is met



Focus on process data about how the change works and whether the small change makes an improvement based on your project's targets. Measuring for process improvement is different than measuring for research. With improvement, the goal is to understand whether the change tested has potential as an improvement. It is a way to bring new knowledge into daily practice by using small tests of change that give just enough data to learn and complete another test cycle until the change is ready to be put into practice.

- A PDSA process measure answers the question: By what method will we reduce harm from falls, or eliminate codes on the unit? And how will we measure our progress toward reducing harm? Thus, process measures represent the voice of how work gets done in the system. For example, how many Rapid Response Teams are called per week and how many codes were called in the same period? Then, does increasing Rapid Response Team calls reduce the number of codes on a unit? Are the parts and steps in the system performing as planned?

Use the “adopt, adapt, or abandon” approach to help evaluate the merits of an idea being tested. This is a valuable way for teams to assess whether ideas should be adopted in their current form, modified and adapted to better fit the unit’s needs, or abandoned as not useful to achieving the desired results. Don’t give up on an idea too quickly, but use the discipline of PDSA cycles to determine when it’s time to stop testing. At the end of each test, ask whether the idea should be adopted, adapted (and perhaps further tested), or abandoned.

- Some examples from TCAB participants:
 - Kaiser Permanente Roseville Medical Center in California initially abandoned an idea circulating through the TCAB hospitals to have nurses signal their workload status and call for coworker help through a green-yellow-red visual cue. But several months later, the idea resurfaced in a modified form and was adopted.
 - Conversely, Long Island Jewish Medical Center in New York adopted the nursing workload green-yellow-red idea and then found that the process did such a good job of helping to develop teamwork on the unit that the actual visual cue method was no longer needed. So, the idea was abandoned but with a tone of success.
 - When UPMC–Shadyside Hospital in Pennsylvania began to implement an idea that would eventually become known as the liberalized diet, the team started with a bold idea—no diet orders at all; put the patients completely in control of what they eat. But the team abandoned the idea in that form once they determined regulatory agencies require a written physician diet order. Instead, they adapted the idea and began focus on how to liberalize diet protocols based on a physician order.

- When Long Island Jewish Medical Center launched work to test the idea of peace and quiet time, the TCAB team also launched another project in parallel—documentation at the bedside. The team had committed to stopping testing ideas if staff got overwhelmed. It followed through on that commitment after the first test of bedside documentation, when the idea was abandoned. Months later, however, there was renewed interest on the unit in the idea. This time, the team planned ways to try very small steps at a slower pace. This bite-size testing approach worked.
- The UPMC–Shadyside Hospital snorkel sessions generated the idea of letting patients administer their own medications. But the idea was abandoned after the team received feedback from patients and better understood the practical challenges of implementation.

Step 6: Trend outcomes data over time and annotate run charts.

PDSA cycles need to be linked to larger system measures, called outcome measures, that inform whether a team is accomplishing its overall aim. Outcome measures typically represent the voice of the customer or patient. Examples might be the number of codes on a unit or the number of falls with moderate or higher harm.

Measures for Transforming Care at the Bedside. Available at:
<http://www.ihl.org/IHI/Topics/MedicalSurgicalCare/MedicalSurgicalCareGeneral/Measures/>.

Use measurement tools such as run charts to observe patterns over time and guide your learning. This will help you answer the second question in the Model for Improvement, “How will we know a change is an improvement?”

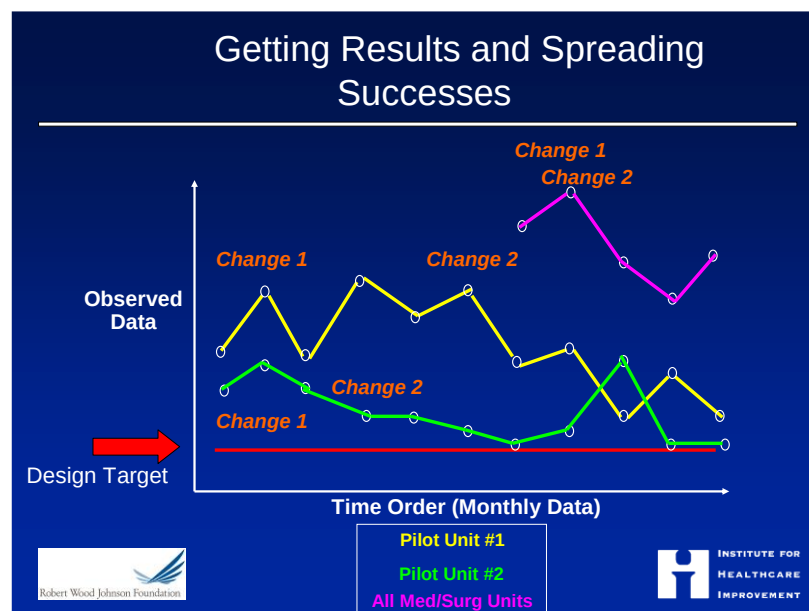
- Run charts, sometimes called line charts, are one of the most important tools in performance improvement. They help improvement teams formulate aims by depicting how well (or poorly) a process is performing, enabling teams to determine when changes are truly improvements. Just be clear about what the team is looking for—evidence of improvement or sustained levels of improvement?

- Collect a minimum of 10 data points for a run chart to be effective. Seek guidance from staff trained in measurement to be sure you understand what your data are telling you. Annotate the run chart by inserting the changes tested next to the date when a change was tested. Analyze run charts for trends and improvement signals. IHI has a run chart tool you can download or an online Improvement Tracker tool to display data over time.

Institute for Healthcare Improvement. *Run Chart Tool*. Available at:
<http://www.ihi.org/IHI/Topics/ImprovementMethods/Tools/Run+Chart.htm>.

Institute for Healthcare Improvement. *Improvement Tracker*. Available at:
<http://www.ihi.org/ihi/workspace/tracker>.

Institute for Healthcare Improvement. *Using Run and Control Charts to Understand Variation* (On Demand Presentation). Available at:
<http://www.ihi.org/IHI/Programs/AudioAndWebPrograms/OnDemandPresentationMeasurement.htm>.



Example of a run chart template.

Be sure to evaluate what other parts of the system may be impacted and how they will react to the change. Look at a system from different directions/dimensions. You need to understand how changes designed to improve one part of the system might cause new problems in other parts of the system. For example, when trying to improve transitions home, how satisfied is the home health agency with a new handoff

form? Did it make it easier or more difficult for home health to complete a medication reconciliation? Or, if lengths of stay are shortened on a medical unit, are there more readmissions within 30 days or increased urgent care visits?

Determine whether your testing strategy has accomplished necessary objectives to indicate when you are ready to move on to the next phase.

- Confirm that the performance and desired outcomes are built into the design. Do you have a high degree of belief that the tested changes will result in improvement?
- Detect likely problems and causes that would degrade performance, especially after implementation.
- Evaluate costs and resources needed.

Step 7: Assess progress toward TCAB aims and leverage learning on the pilot unit(s) and across the organization.

Hospital leaders and leaders of TCAB need to review progress and make linkages in the context of the entire organization. Specifically, this group should:

- Make clear connections between the TCAB projects and the portfolio of projects to achieve strategic priorities.
- Set the pace with regular reviews of progress (weekly, monthly, quarterly). Formalize the process, report on measures related to the aim and the “how’s” of the project. Include a report of changes tested, implemented, those spread and those abandoned. Review whether the project is on track or likely to fall short and, if so, why, what resources are needed, what barriers need to be removed and where various departments need to work together to accomplish the aim.
- Develop venues to share what the team learns and new knowledge that emerges as it improves, gets results and accomplishes its aim.
- Rebalance resources and priorities as needed every 90 to 120 days. Develop actions plans as needed to keep project(s) on track.
- Harvest what was learned, common themes and successful changes amongst all of the projects.

Step 8: Celebrate successes in the pilot unit(s)!!!

It is important to take time to celebrate all successes on the unit, big and small. Creative and meaningful celebrations help build staff energy and enthusiasm for the work. Examples include:

- Ice cream socials and pizza parties for unit staff
- Small tokens such as TCAB buttons for staff to wear on their uniform
- Poster boards that celebrate the work and results displayed throughout the unit for patients, families, and staff to see
- TCAB fairs at which staff share their work and results, and answer questions; hold the fairs in a common area of the hospital (courtyard, park, cafeteria) and provide snacks to encourage participation
- Presentations at board meetings, local and national professional meetings, etc.

Step 9: Create infrastructure to sustain the improvements and initiate spread of successful changes.

Ideas can move to this step as soon as they have demonstrated desired improvements during testing. You may have several ideas move quickly to implementation and yet implementation may take longer because support processes must be in place for the change to become part of the routine operation. For example, you might need feedback and measurement systems, revised job descriptions, documentation of standard procedures, new training efforts, and so on.

IHI has several useful tools for spread and sustainability.

Institute for Healthcare Improvement. *Spreading Changes*. Overview, white paper and tools. Available at: <http://www.ihi.org/IHI/Topics/Improvement/SpreadingChanges>.

Institute for Healthcare Improvement. 5 Million Lives Campaign. *Getting Started Kit: Sustainability and Spread How-to Guide*. Available at: <http://www.ihi.org/NR/rdonlyres/7F6E8E90-B6D5-4E96-91A1-AED87CDDAB0C/0/SpreadSustainabilityHowToGuidev13postedtoweb60906.doc>.

Schall MW, Chappell C, Nielsen GA, et al. *Transforming Care at the Bedside How-to Guide: Spreading Innovations to Improve Care on Medical and Surgical Units*. Cambridge, MA: Institute for Healthcare Improvement; 2008. Available at: <http://www.ihi.org/IHI/Topics/MedicalSurgicalCare/MedicalSurgicalCareGeneral/Tools/TCABHowToGuideSpreadingInnovations.htm>.

Develop a sustainability strategy. Changes that erode once the project is finished erode staff's confidence in the organization's ability to improve and their willingness to participate in change initiatives. Planning for sustainability must begin with the initiation of the project. Don't make it an afterthought.

Sustainability methods include:

- Removing the "old way" of doing things whenever possible
- Establishing and documenting standard processes
- Making changes to job descriptions
- Using audits and measures
- Assigning ownership for monitoring, coaching, and problem solving

The United Kingdom's National Health Service Institute for Innovation and Improvement, in partnership with Professor Dave Gustafson at the University of Wisconsin, has developed a useful sustainability model and diagnostic tool that helps teams analyze a change based on 10 crucial factors:

1. What are the benefits beyond helping patients?
2. Is the evidence credible?
3. How adaptable is the improved process as systems continue to change?
4. Is there an effective system to monitor progress?
5. How involved were staff in developing and testing the change, and have they been trained to sustain the improvements?
6. What are staff behaviors and attitudes about the change?
7. How engaged are senior leaders in the change?
8. How engaged are clinical leaders in the change?
9. Does the change fit within the organization's strategic aims and culture?
10. Will the infrastructure support sustainability, such as facilities, equipment, job descriptions, policies, procedures, and communication systems?

Teams can use this diagnostic tool during all phases of an initiative to identify strengths and address weaknesses regarding a particular change in terms of sustainability.

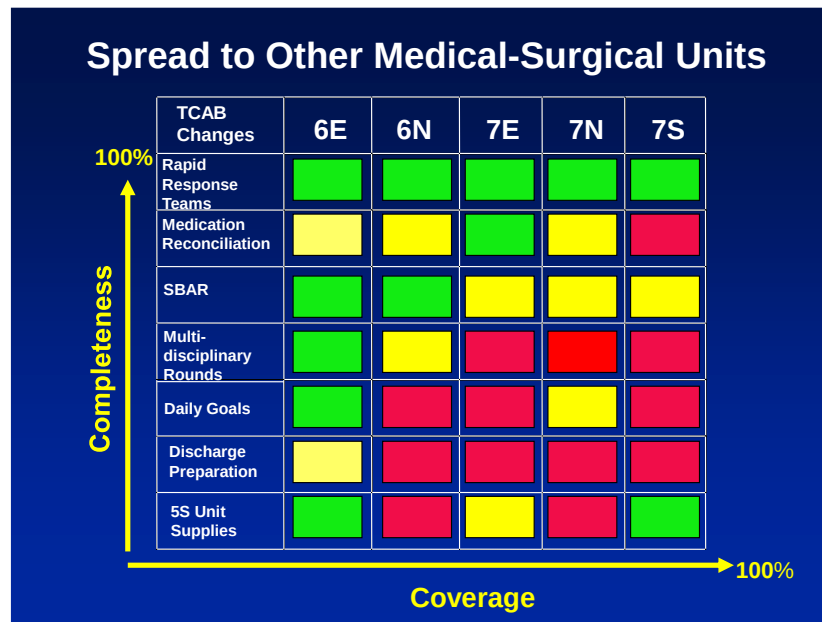
National Health Service Institute for Innovation and Improvement. *Sustainability and spread tools*. Available at: <http://www.institute.nhs.uk>.

The key is to not let up too quickly and stop paying attention to the change. Let it settle into operations and make sure it's really in place and working as you planned.

Develop a plan for spread. After changes are successfully implemented on a pilot unit, it is time to plan how to spread them across the organization. Some ideas will spread as staff see evidence of their effectiveness on one unit. Other changes require a plan for spread, including adequate resources to support spread.

The first step in the plan is to decide on the population for the spread. What units, departments, other systems should be included? What is the planned sequence for spreading to these units?

- Consider completeness and coverage as a way to direct the spread. Decide which strategy makes the most sense for your particular change.
 - Completeness is all changes on limited units. For example, do you want to replicate all changes on one additional medical and surgical unit as a next step?
 - Coverage involves all units with limited changes. Do you want to take one change and spread it to all units as a next step?



Example of a useful tool to map out and track spread of changes across units.
Colors indicate the extent of adoption of specific improvements.
[S= Spread Site; P = Pilot Site; Green = Implemented; Yellow = Testing; Red = No Activity]

- Explore what will increase the likelihood of success for spread.
 - What sequence for implementing the changes will maximize the learning?
 - What is the relationship of the units to the pilot sites?
 - Where do champions exist who will advocate for and help spread the changes, or where can they be readily developed?
 - Where are resources available?
 - How will successful units be involved to supply technical support, such as data analysis, testing changes, etc.?
- Create a promotion and communication plan. How will awareness of the initiative be communicated? Have the benefits been documented? What communication channels will be used to raise awareness in the spread teams?
- Identify how you will evaluate the progress of spread.

Example Aim Statements for Spreading Changes to All Medical-Surgical Unit(s)

1. **Spread Units:** 2S, 3N, 3S, 5W, 5E
Aim: Utilize successful TCAB interventions implemented on the 2N pilot unit (e.g., reliable fall risk assessment, hourly rounding, and customized interventions based on risk) to reduce injury from falls on all medical-surgical units to >1 per 10,000 patient days within one year of introducing changes to spread units.
2. **Spread Units:** All Patient Care Units
Aim: Increase caregiver time at the bedside and/or reduce waste by 50 percent on all patient care units by moving supplies and equipment to the point of care by 2010 (two years after introducing changes to spread units).
3. **Spread Units:** 2S, 3N, 3S, 5W, 5E and Cardiac Telemetry
Aim: Implement successful practices developed by the 2N pilot unit to reduce readmissions. Within 18 months of introducing the new patient education materials and practices, the discharge communication protocol for community care provider, and strategies to involve families in discharge planning, the percent of patients with heart failure who are readmitted within 30 days will be >5 percent.

See Section Four for the [Aim Statements for Spreading Changes to All Medical-Surgical Units Template](#).

Section Three

Section three includes five case studies of how organizations used TCAB methods to identify and implement improvements.

- [Case Study 1](#): Generating Ideas Using a Snorkel Session: Patient Liberalized Diet—University of Pittsburgh Medical Center (UPMC)—Shadyside, Pittsburgh, Pennsylvania
- [Case Study 2](#): Generating Ideas Using a Snorkel Session: Staff Choose a Project Improve Peace and Quiet Time for Patients—Long Island Jewish Medical Center, New Hyde Park, New York
- [Case Study 3](#): Adapting Ideas from Site Visits: Improving the Shift Change Report—James A. Haley Veterans' Hospital, Tampa, Florida
- [Case Study 4](#): Adapting Strategies from Other Industries and Generating Ideas from a Snorkel: Engaging Front-Line Staff to Reduce Hunting and Gathering—Prairie Lakes Healthcare System, Watertown, South Dakota
- [Case Study 5](#): Getting and Adapting Best Practices from Collaborative Learning Sessions: “Pick a Card” Patient Education Strategy—Cedars-Sinai Medical Center, Los Angeles, California

Case Study 1: Generating Ideas Using a Snorkel Session: Patient Liberalized Diet—University of Pittsburgh Medical Center (UPMC)—Shadyside, Pittsburgh, Pennsylvania

Contact: Joyce Scott-Smith, MS, RD, Director, Food and Nutrition Services, 412-623-2193, scottsmithjl@upmc.edu

The design challenge: How might we enable the patient to be the source of control?



A Liberalized Diet Team member reviews the menu with a patient.

How they generated ideas: After the organization's TCAB team facilitated multidisciplinary sessions with grassroots staff on various aspects of transforming care at the bedside, it circulated a comprehensive list of session ideas and input to Shadyside department leaders. Food was a persistent theme: the kitchen closed too early; doctors often wrote incorrect diet orders; patients weren't getting what they wanted. These were examples of what Scott-Smith and her team saw in the session notes. The Food and Nutrition team decided they had a root problem with their menu process system and focus on modified diets. The department team decided to try out a new approach on one of the units designated for TCAB improvements. They announced that they would pursue the concept of liberalized diets for patients.

How they tackled planning: Scott-Smith organized a team that involved her department, the team supporting the TCAB project, and staff from the trial unit who delivered food to patients. This liberalized diet team completed a profile of the 24-bed unit and learned that typically six to eight patients on a given day would qualify to have their diets liberalized from traditional restrictions. They reviewed the literature for clinical evidence and examples from other organizations. They found one reference to

liberalizing diets in long-term care settings and much about how modified diets can get in the way of acute care healing. But they identified no models they could readily try. The team got busy inventing their own.

How they developed, prototyped, and tested their ideas: The team started with a bold idea—what if patients had no diet orders and they were given complete control of what they ate? They didn't experiment with this idea once they determined regulatory agencies required a written physician diet order. Instead, they evolved the idea to create a protocol that treats diet orders, except those for patients on the exception list, as liberalized unless the physician orders otherwise.

The team tested and evolved the core idea on the TCAB unit over three months, rapidly and repeatedly prototyping elements such as:

- The diet protocol to be signed by physicians
- Content and formatting of the menu
- Diet education materials
- Policies and procedures
- Scripting to be used by Food and Nutrition staff in explaining the concept of liberalized diets to patients
- Ability for physicians—or patients—to choose “no liberalized diet” (sometimes called an opt-out order)
- Unlocking the unit's food pantry, giving patients access to certain snacks when they want them
- Creation of a snack cart to circulate on the unit in the early evening and expansion of the kitchen's hours to 10 p.m.

At the start of the project, the team huddled daily to debrief, identify refinements, and plan new tests. Later, they moved to weekly huddles, plus submission of weekly written reports to the core TCAB team.

The meaning of “liberalized diet” evolved and solidified as the team's work progressed with staff, patients, and family members. It came to mean that food should help the comfort and healing of hospitalized patients, as long as no true harm will be done by loosening controls. “We wanted to push a ‘pause’ button on patients' modified diets while they're here, if possible. We still care about what they eat and have safety controls in place, but we want to focus on helping patients get strong and well,” said Scott-Smith.

How they approached implementation and spread: Once the idea and tools showed effectiveness on the first TCAB unit, the team rolled out the change on the second TCAB unit. After that, about five months into the work and with positive outcomes sustained, the liberalized diet team picked a large cardiac surgery unit with 45 beds and no orientation to the TCAB philosophy. They decided this would be their real test in terms of potential resistance and a complicated patient profile. The liberalized diet process was implemented and the results were convincing for all. Based on this, Shadyside then rolled out the new process over three months to the entire hospital.

Physicians are now introducing the idea at their other hospitals and Shadyside is focused on sustainability of the new process.

What went well: The discipline of daily or weekly huddles kept them focused and progressing, as well as utilizing the concept of small, rapid cycles of testing changes. What seemed like a simple idea started revealing itself as more complex than originally envisioned, making the project feel bigger and bigger. Using “protected” TCAB units to work out many of the details helped the team sort through complications with adequate support before moving the idea to a more challenging environment.

What was a challenge: The nature of the change prompted a need for constant and consistent two-way communications. The notion of a liberalized diet invoked curiosity, at a minimum. Sometimes it caused concern. Patients (or their loved ones) worried that the hospital no longer cared about what they ate and that discontinuing a modified diet would cause harm. Some nurses and doctors shared this concern. In response to this need to explain the idea and reassure key stakeholders, the team stationed a dietitian manager on the TCAB trial unit for several hours a day to facilitate communications.

There were three other challenges:

- While the Food and Nutrition team had an average of 450 patients to feed each day, a disproportionate amount of its attention went to the 18 patients on the TCAB unit. Some of the dietary staff felt an imbalance in their work while they tested something new on just one unit.
- The TCAB units were testing many other ideas at the same time. There was a lot of non-traditional thinking coming at the patients, families, and staff all at once. The liberalized diet team needed to persist and yet be sensitive to this.
- The team continuously learned how connected their processes were to others, such as the relationship between medication and diet or the need to explain the change during the admitting process. They learned to be ready to work through ripple effects as they surfaced.

The results: As the team kept working through the details of the idea, “we never felt we’d abandon it, but we knew we’d have to keep adapting it. Overall, it just had wisdom,” said Scott-Smith. Patient satisfaction data started improving, plus informal input and observations from patients and staff supported continuation of the idea.

The team learned a lot about Shadyside’s patients and their true needs, concerns, and hopes. For example, the team theorized that many patients would eat inappropriately if given the choice. But that didn’t really happen. Patients typically appreciated the broadened choices and still acted responsibly. This eased some of the early fears about liberalizing diets.

“We really became patient-centered through the implementation of this one idea,” said Scott-Smith. “We moved from a traditional dietary process based on our convenience to one that focuses on patient healing and education.”

The project helped eliminate some other wasteful processes—e.g., a time conflict between the snack cart hours and regular blood sugar testing revealed that the testing was an old routine no longer needed. And physicians started reaping the value of seeing their patients behave more like they would at home in terms of food choices, allowing them to better plan follow-on care.

The Food and Nutrition staff never thought they could tackle the idea of liberalized diets, and yet they succeeded. This was very satisfying. Plus, clinical staff could now be educators versus fielding complaints about the food.

Meanwhile, the team continues to apply the “liberalized” and “patient control” lens to adapt and improve their services. They are working now to liberalize patients’ caffeine use on the floors and they revised the menu again to include more vegetarian and ethnic choices, based on patient input. Scott-Smith says they’ve also learned it is okay to abandon some ideas rather than try to keep making a solution work no matter what. For example, the nightly snack cart ran into logistical challenges not easily solved. They decided to abandon the idea for now and focus on making the unit food pantries accessible to patients, with satisfying choices for them to select.

Case Study 2: Generating Ideas Using a Snorkel Session: Staff Choose a Project to Improve Peace and Quiet Time for Patients—Long Island Jewish Medical Center, New Hyde Park, New York

Contact: Barbara Popkin, BSN, MA, Senior Administrative Director for Patient Care, 718-470-7951, bpopkin@lij.edu

The design challenge: How might we transform the patient's experience while they are hospitalized?



Staff with a Peace and Quiet Time cart.

How they generated ideas: As the TCAB team got its work underway in 2004, it identified one week to hold several snorkel sessions at different hours around the clock. Invitations were sent to all hospital staff, including physicians involved in the unit's operations. Each session lasted about 45 minutes. Staff were asked to generate creative ideas to improve the patient experience. By the end of the week, the team had about 200 ideas generated by staff. It grouped the ideas into the TCAB design targets—Safe and Reliable Care, Vitality and Teamwork, Patient-Centered Care, and Value-Added Care Processes—and asked staff to select two projects. To support the theme of fun and vitality, participants received “snorkel bags” filled with items such as Post-Its, markers, a list of objectives, and stickers.

The TCAB team brought back the idea of peace and quiet time for patients from a TCAB conference and proposed the idea during the snorkel sessions. The staff selected this idea as one of the first projects.

How they tackled planning: The core TCAB team shaped the idea for initial testing. It also established a weekly huddle called the Friday wrap-up. This 30- to 45-minute noontime debrief included all staff involved in the idea testing who were available to attend. An update would follow via email to all hospital staff to generate excitement and buzz about the culture change under way. The team also told the TCAB unit staff that the ideas weren't set in stone. They committed to starting small and used the adopt, adapt or abandon approach, stopping a test if it needed more thought about how to make it work.

How they developed, prototyped, and tested their ideas: The peace and quiet time idea went through several evolutions over an eight-week period. During the first two days of testing, the unit lowered the lights for 30 minutes at 3 p.m. Starting on the third day, based on nurse input, the lights were lowered for one hour. At the first Friday wrap-up, the idea of distributing snack bags during the peace and quiet time was proposed and shaped for testing. Staff experimented and worked out snack bag logistics during the second week.

The team also tested how to best announce peace and quiet time on the unit. It experimented with overhead announcements, use of a sign saying "Quiet please, healing in progress," scripting, and a letter for specialists and other people not always stationed on the unit. "When we lowered the general noise level of the unit, people's voices felt louder. We had to work on adjusting behaviors," Popkin said. "There was a lot of 'shushing' of people, such as consulting teams coming to the unit to see patients, and that didn't feel good or professional. That's how we came to the idea of using a letter."

"Every week, issues surfaced and we planned more improvements," Popkin said. For example, the team kept refining the snack variety and the communication tools.

How they approached implementation and spread: Once the team had the major details worked out, the idea spread to a second unit, which chose a different peace and quiet time based on the nature of its operations. Then the idea spread throughout the hospital. The surgical floors adapted it further, adding a nutrition cart with a dietary technician to the mix. Then, the hospital spread the idea to nights and units began a 30-minute peace and quiet time (usually 9:30 or 10 p.m.) with snacks. "We're tucking people in for the night," Popkin said.

What went well:

- The update emails to all hospital staff following each Friday wrap-up created interest and helped with spread. "You don't want a silo. You want people to be informed and excited," Popkin said.
- The team used a "This week, we're working on ..." flip chart behind the nursing station to keep the project visible on the unit.
- Sometimes staff brought patients to the Friday wrap-up so their input and ideas were heard.

- The first TCAB unit focused on prototyping a core idea. Every unit was then able to adapt the idea to fit its particular needs.

What was a challenge: The team had to stay focused. “It’s not always about coming up with new ideas every week, but evolving the ideas you chose to work on,” Popkin said.

And while the peace and quiet time idea evolved without too many challenges, the other TCAB improvement project being tackled in parallel—moving documentation to the bedside—didn’t go so smoothly. Popkin believes their initial test plan for documentation was too complicated. Based on its commitment to stop a test if it was too big and needed rethinking, the team shelved the idea after the first day of testing. Staff felt overwhelmed. Later, as the team broke down the process into smaller pieces for improvement, the concept started to surface again and there was renewed interest. This time, the team planned ways to try very small steps at a slower pace. This set them off on a more successful path.

The results: Patients have repeatedly signaled their satisfaction with the peace and quiet hours. The unit staff find the time more relaxing as well, even though they’re still rounding on patients and running the unit. For example, patients don’t ring their call buttons as much, giving staff time to focus on other tasks. Even now, the idea is not considered final. “Every time you adopt something, you will find that you’re adapting it after time as things change,” Popkin said. The project also helped the unit create a new habit of informally and continuously generating, testing, and adapting ideas.

Case Study 3: Adapting Ideas from Site Visits: Improving the Shift Change Report—James A. Haley Veterans' Hospital, Tampa, Florida

Contact: Daniel O'Neal, APRN, BC, Evidence-Based Nursing Practice Specialist, 813-610-2079, daniel.oneal@va.gov

The design challenge: How can we get nurses into direct patient care faster during shift changes? How can we ensure they have the essential information needed to start taking care of their patients and avoid adverse events?

How they generated ideas: The hospital had been focused for some time on the quality and efficiency of shift change reports and other clinical handoffs. It wanted to improve the quality and efficiency of these handoffs by eliminating wasted time and extraneous information. When The Joint Commission identified communication handoffs as a national patient safety goal, the hospital stepped up its work. IHI sponsored site visits as part of the collaborative learning strategy in the TCAB initiative. During a February 2007 site visit to the University of Texas MD Anderson Cancer Center in Houston, the James A. Haley visitors saw how teams used an Excel tool to facilitate a focused shift change handoff. The MD Anderson team willingly shared a copy of its tool for testing back in Florida.

How they developed, prototyped, and tested their ideas: The team tested the Excel shift change handoff tool on one TCAB unit and were at the “we like it” stage within a week. “Several of our hospital rooms are large bays with four beds per room. We started with one room and one nurse, then added another nurse on a different shift for another room and then repeated the pattern,” O'Neal said.

They morphed and adapted the tool and process to their environment. For example, the Excel spreadsheet got corrupted easily and only one user could access the spreadsheet at a time. They migrated it into an Access database that can be easily saved and provides more stability and unlimited concurrent users. The patient data are only stored in temporary memory until staff overwrite it with new information, so they aren't warehousing data for the long term. The database is housed on a shared computer network drive that requires the users to have secure access.

The handoff tool requires staff to input some basic patient data for the shift change report. The team experienced less resistance to this during the tests than expected. (They also began working on how to pull data from other systems to eliminate the need for staff to input certain patient data.) “The bigger learning involved staff's reluctance to give up their report time. They missed the chance to sit down at ‘our time’ to connect with colleagues and transition in and out of shifts,” O'Neal said.

This is how the process now works at the hospital based on the testing and prototyping phase. The data entry screen (shown below) opens when a nurse clicks on an icon on any computer desktop on the unit, including on any of the wireless computers on wheels. The nurse keeps the data entry file open and can then update the data in near-

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real time, or erase the data if a new patient is now in the room. The data is saved merely by using the arrows at the bottom of the form to advance to the next patient.

The screenshot shows a software window titled "Team 2" with a blue header bar. The main area is a data entry form with a light beige background. On the left, there is a vertical list of system categories: RM, Name/Diagn, Code, Neuro, Precautions, Resp, GI, GU, and Cardio. Each category has a corresponding input field. The "RM" field contains "501". The "Name/Diagn" field contains "Lastname, Firstname", "Left hand Cellulitis *MRSA", and "Hx: COPD, DM, CAD, HTN". The "Code" field is set to "Full". The "Precautions" field is set to "Contact". The "Resp", "GI", "GU", and "Cardio" fields are empty. On the right side, there are fields for "Tubes", "Skin", "Pending", "Accu", and "IV Site". The "Tubes" field is empty. The "Skin" field is set to "Wounds". The "Pending" field is empty. The "Accu" field is set to "QID". The "IV Site" field is set to "Midline". Below these fields is a "Comments (H)" text area containing the text: "Left hand drsg changed by MD, do not change any more drsg until further notice, pos wound vac tomorrow. Goes off ward". At the bottom of the form, there is a "Record:" label followed by a set of navigation buttons: a left arrow, a right arrow, a button with the number "1", a double right arrow, and a button with a star icon.

Shift change handoff tool data entry screen.

The shift change report (see the example on the following page) is printed out just before the start of the next shift, or at any time a shift change occurs to accommodate the needs for either eight-hour or twelve-hour shifts. The report includes information for 18 patients assigned to one care team and 16 patients to another care team. The unit makes assignments by team, so three to five staff per team pick up the report pages for that team (generally about three pages in length) to use during the shift change handoff.

5 South Shift Report Team 1

RM	Name/Diagnosis	Code	Neuro	Precaution	Resp	GI	GU	Cardio	Tubes	Skin	Pending	Accu	IV Site	Comments (Hx/ Diet/ Labs/
501	Lastname, Firstname Left hand Cellulitis *MRSA Hx: COPD, DM, CAD, HTN	Full		Contact						Wounds		QID	Midline	Left hand drsg changed by MD, do not change any more drsg until further notice, pos wound vac tomorrow. Goes off ward frequently, cell # on table if you need him.open wounds to right hand also. applies ointment by self
503-1	Lastname, First name TBI,Bilateral craniotomy	Full	Unrespons		Trach C	NPO			G-Tube	PU II			H.L.	head soft, alert, reponds to tough apens eyes#6 trach with 21%humidified air, tube feeding starts at 20cc, eud, hand splints, on 2 off 2, podus boots.
504	Lastname, firstname **C-Diff Dx: Pneumonia, s/p code blue, s/p MI 060606	Full		Contact	NC				Foley			BID	PICC	Lt PICC, no blood return, but flushes good. Fall Precautions- low bed. S/p Mag and Calcium riders.medicates for pain
505	Lastname,Firstname Hypovolemia,shock HX: Esoph Ca (s/p chemo), PTSD, COPD, HTN	Full		Neutropeni									Urine	H.L. NS@100ml/h(new site). WBC 2.0,Hbg 7.6, Afebrile. BUE bandaids s/p fall healing wounds, right foot healing wound. FALL PRECAUTIONS.
506-1	Lastname, Firstname Dehydration, orthostatic,hypotension HX. CHF.Aflutter,Afib, urinary retention,CAD,	Full			NC	Vomititi	Retentio	Pace	Ma				H.L.	self caths, bruising right leg, s/p mva with back pain also old back injury, uses motorized w/c broken, ns 100cc then 1/2ns 125cc commode do orthostatics, no teeth diabetic diet controlled

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Sample printed shift change report.

The shift change report itself is conducted at the bedside and includes the nurse going off duty and the patient, whenever feasible. The nurse whose shift is beginning is introduced to patient. Both nurses and the patient review what care has been provided to the patient, what care has yet to be done, and what care the patient expects to be done. The oncoming nurse gets a chance to review the situation and ask questions. After all of the oncoming nurse's patients are visited, the nurse going off duty will (outside the patients' room) give any updates on information that may have changed since the shift change report was created, or that might be privileged information ("daughter and wife are have different opinions..."). Oncoming staff also huddle at the start of the shift, especially to note the patients that are at high risk for harm from falls.

The shift change report is over very quickly in this manner and the quality of the information exchange is improved.

How they approached implementation and spread: Creating a stable software system took almost six months, slowing down implementation. Units and shifts needed to adapt the idea to their patient population and operational routines. The success of the spread to a unit has depended on elements such as the attention level of the leaders, tone of the unit, motivation and interest levels, and presence of idea champions per shift. One unit did a big conversion overnight, with deep involvement of front-line staff and easy reference tools to help staff quickly learn the new process. On the flip side, two other units tried it and rejected it a few times. Now there is more help for these units to work through the change process. By January 2008, the shift change report tool was in use in four medical-surgical units, and tailored for use in one critical care unit and at least one spinal cord injury unit.

What went well: The team discovered other benefits from the new process, for example, staff can better cover each other's patients and make the care safer. They've worked through the major kinks and can now turn their attention to improving other handoff scenarios, along with spreading this process throughout the VA system. "We initially had an emphasis on saving time and reducing the amount of unneeded information, but now we shifted to a stronger focus on safety and accuracy in communication as priorities in the handoff process," O'Neal said.

What was a challenge: The process works beautifully when everything is ideal, but it has to fit within life on a unit and that isn't always perfect. For example:

- The morning shift workload can be overwhelming (e.g., all 34 patients seem to need stretchers or wheelchairs to get to diagnostic studies, all have to eat and all have to go to the bathroom....all by 7 a.m.!) This can compromise the staff's ability to follow the process. If the nurse going off duty is frantically busy and the shift change report is rushed, it might be too brief to allow questions from the oncoming nurse.
- Conducting the handoff report at the patient bedside presents challenges. "We are trying to adopt the patient-centered philosophy of 'nothing about me without me,' but patients may be out of their rooms at shift change getting ancillary tests or visiting with family. Or it may be the middle of the night and they're sleeping," O'Neal said. "We've also seen that doing more work at the bedside is requiring staff to learn how

to reconnect with patients. They're used to connecting briefly with the patient and then leaving to complete their tasks elsewhere outside the patient's view."

- Computer system upgrades seem to delete the shortcut icon on the computer desktops. Staff usually are too busy to go through the steps to re-install the desktop shortcut, so the team is working on how to quickly retrieve the icon on any computer desktop in the units.

The results: The units have been meeting their goals to reduce time spent in shift change report and remove extraneous information. Shift change reports used to take 30 minutes and are now taking 15 minutes if all aspects of the process work well. Nurses have a chance to involve patients in the handoff when it's feasible and they are more consistently meeting The Joint Commission national patient safety goal requirement for handoffs by including an "ask and answer questions" component.

Case Study 4: Adapting Strategies from Other Industries and Generating Ideas from a Snorkel: Engaging Front-Line Staff to Reduce Hunting and Gathering—Prairie Lakes Healthcare System, Watertown, South Dakota

Contact: Jill Fuller, RN, PhD, Chief Nursing Officer, 605-882-7670, fullerj@prairielakes.com

The design challenge: How can we decrease clinician time spent documenting patient care and hunting for supplies needed in the patient's room?

How they generated ideas: The hospital started work on an electronic medical record (EMR) before joining the TCAB initiative, continuously refining and improving the system in place. The bedside documentation team completed an external literature review in 2002, turning up very little back about how to structure an EMR system. A definition of an electronic medical record was agreed upon and the TCAB team generated ideas by mapping the entire patient care documentation system. Then, the team asked staff to sort what was really needed and what was waste. They discovered several different consent forms, for example, and many templates that could be streamlined. This inventory, along with a lot of staff input, helped to prioritize needs. If the activity required to maintain a particular document consumed resources but created no real value to the customer (e.g., the health care team or patient), it was considered wasteful and targeted for redesign. Staff were encouraged to challenge assumptions underlying the current patient care documentation practices.

In terms of supplies at the bedside, the hospital used the principles of lean thinking already adopted in other industries to reduce waste.

Two key ideas emerged:

- Install “patient servers”—cabinets opening from the patient's room or the hallway that have a locked medication drawer and supply cabinet.
- Create specialty supply kits that can be quickly retrieved for use in a patient's room.

The idea for servers came from two aims:

- Place medications at the bedside to reduce hunting and gathering activities related to medication administration.
- Design a safer, distraction-free medication preparation environment by moving this activity out of the busy central nurses' station to the relatively quiet patient room.

The team also wanted to place supplies in easy-to-access areas, but the primary driver was related to medications and resistance by nursing to adopt automated medication dispensing systems. The team felt such systems were not nurse friendly but, rather, a pharmacy inventory control and medication security system. Inventory control was now adequately addressed through the hospital's house-wide information system. Placing supplies at the bedside was another idea the team generated by comparing the set-up of a typical intensive care unit (ICU) room to a medical-surgical room. ICU rooms have

easy access to supplies and equipment. The team asked why this couldn't also be the case on a medical-surgical unit.

The use of bedside servers is not new to the health care industry. Site visits to another community hospital just 100 miles from Prairie Lakes Hospital helped the team generate ideas of how to proceed and develop their own unique features for their setting.

The idea for specialty supply kits came from staff asking, "How might we reduce hunting and gathering on the medical-surgical unit?" To keep this snorkel question active, the nurse manager posted a form and asked all staff to write down what they were constantly hunting and gathering. As the team examined staff responses, it became obvious that supplies related to special procedures were a source of multiple trips to get everything together, which resulted in prototyping the "grab and go" supply bins.

For the bedside supplies, planning involved working through server construction, medication distribution, and inventory issues. Nurses were asked to list the top ten things they hunted for when in a patient's room. This information provided a starting place for what to stock at the bedside.

How they developed, prototyped, and tested their ideas: To implement an efficient electronic record, the team knew it had to redesign documentation practices to avoid "garbage in, garbage out" in the new system. Some of the system prototypes were fairly easy to implement and required minimal development and testing. Others were more complex. Automation of the Medication Administration Record (MAR), for example, involved a simple prototype and minimal testing. Eliminating the paper care plan report and hardwiring standardized patient goals into the electronic record involved a moderately complex prototype, but minimal testing. Electronic support of daily interdisciplinary care conferences involved a complex prototype and major testing.

All prototypes were broadly tested in multiple units rather than pilot tested in one unit and then spread to others. Staff did all of the testing. Prairie Lakes is a small hospital with a flat organizational structure and a network of self-managed teams where systems are changed freely in order to accomplish the work.

For the bedside supplies idea, the team worked with facilities to reconfigure a room, Pharmacy to figure out medication stocking and Materials Management to work out supply levels and a stocking routine.

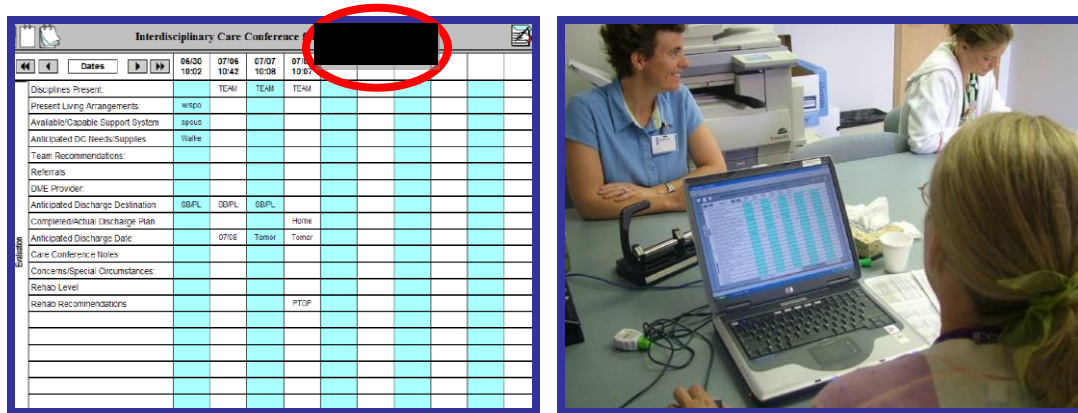
Multiple test cycles helped staff identify and implement visual cues to know when the servers should be restocked, to determine the right inventory levels, and to refine what needed to be in the specialty kits retrieved for in-room procedures such as urology, wound care and chest tubes. The team didn't use a lot of structure and documentation about tests—staff just kept working through kinks as they put the ideas into place.

How they approached implementation and spread: The team's approach to implementation was a straightforward "just do it." Even now, if someone has an idea to

Transforming Care at the Bedside

How-to Guide: Engaging Front-Line Staff in Innovation and Quality Improvement

change the user-defined data elements of the patient record system, unit directors evaluate the recommendation. If there are no issues, they make the change in the system. There is no committee process or other type of hierarchical approval needed to make changes, although system change authority is limited to directors who have training in building flowcharts and other aspects of application design.



Flow sheet with question topics used to guide interdisciplinary care conference documentation.

The patient servers are now installed in 40 rooms at about \$4,000 cost per room. Restocking three times a week has turned out to be the right frequency.



View of patient servers from the hallway.



Hospital room closet before.



Closet retrofitted as patient server.



Urology kit
Wound vac
Chest tube insertion
Sterile procedures (masks, gowns, drapes)
Aspiration/Injection tray

Porta-cath
Central line

Special procedure “grab and go” supply bins.

What went well: Unit staff were heavily involved and really owned the work.

What was a challenge: It was more difficult working across departments and getting their ownership. There were worries that the bedside supplies idea would add to their workload. To address this, the team asked them to at least give it a try and also helped identify and reduce the waste in the pharmacy technician’s job to free up that role for stocking the room-based patient servers.

Sometimes, renegade supplies show up in the patient servers—items not on the standardized list for stocking. The unit manager makes regular rounds to spot-check the supplies and puts unapproved items on a cart for display and discussion at the nursing station. If a renegade item is showing up regularly, they discuss why and whether it needs to be added as a stock item.

The results: Nurse time spent in direct patient care is now at 60 percent and productivity is good. By placing medications at the bedside, the multiple distractions—an average of seven—that the nurse experienced during medication preparation at a central location were also eliminated. Now medications are prepared at the bedside without distraction. The electronic MAR displayed on a wireless, portable laptop provides accessible information at the bedside. Staff are spending less time on unneeded task-oriented planning, and they are walking and hunting less for common supplies.

Case Study 5: Getting and Adapting Best Practices from Collaborative Learning Sessions: “Pick a Card” Patient Education Strategy—Cedars-Sinai Medical Center, Los Angeles, California

Contact: Robert Vos, MS, RN, CNAA-BC, Service Line Manager, Pulmonary and GI, 310-423-6045, robert.vos@cshs.org

The design challenge: How can we be more patient-centered in our teaching of patients during their hospital stay and as they prepare to transition out of the hospital?

How they generated ideas: Representatives from all of the participating TCAB hospitals converged regularly for collaborative learning sessions. These sessions allowed teams to gather process improvement and intervention ideas to try as part of the goal to transform care at the bedside. During one of these sessions, Annette Bartley, head of modernization at Conwy & Denbighshire NHS Trust and an IHI Fellow, shared diabetic teaching cards being used in the outpatient setting in the United Kingdom. The cards were so engaging and different, Vos wanted to give them a try back in his hospital.

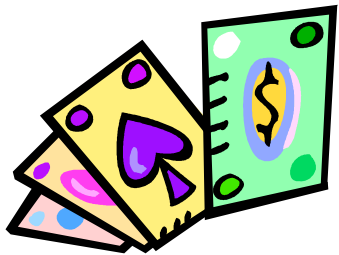
How they developed, prototyped, and tested their ideas: Vos decided to give the cards a try first with congestive heart failure (CHF) patients, who have the highest rate of readmission. “We had been using a variety of literature to teach patients about their condition, but we wanted to see if the cards would make the teaching more focused and engaging,” Vos said.

He asked the CHF nurses, who function like case managers, to make a list of all the questions their patients asked over a two-week period. They used these questions and the UK team’s cards to mock up a Cedars-Sinai version, then began testing the cards on one patient at a time so they could quickly learn and revise.

The team went through many revisions based on testing the cards with patients. For example, they discovered that the cards included information about too many different medications on one card, so they separated this information onto several cards. They also had the content reviewed by internal experts to ensure clinical integrity. The experts raised concerns about whether some of the language was too complex for the average patient, so the team tested the cards with this in mind. Throughout the testing process, the team was learning about the best way to produce and store the cards as well.

How they approached implementation and spread: The team has implemented the cards for CHF patients and is on the third version. Currently, there are 46 cards organized into six color-coded sections.

Sample Cards from the Deck (*not to scale*)

Congestive Heart Failure (CHF) Deck of Cards 	Each card is categorized by color. <u>The categories are:</u>  Orange = Disease Process  Yellow = Medication Management  Purple = Diet  Blue = Medical Procedures  Green = Lifestyle Changes  Red = Emergencies
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Why do I need Potassium? K Potassium Atomic Number: 19 Atomic Mass: 39.10	Potassium plays a role in muscle contractions, nerve impulses, and proper functioning of the heart muscle and kidneys. Several medications that you are taking can affect the potassium in your blood. Therefore, blood tests are taken to measure your potassium level. Too much potassium is called hyperkalemia. Signs of too-high potassium may include anxiety, irritability, stomach cramps, diarrhea, overall weakness, and muscle spasms. Your pulse may be slow and weak. Too little potassium is called hypokalemia. Signs of too-low potassium may include sluggish thinking, very dry skin, depression, swollen abdomen, loss of appetite, edema, nervousness, irregular heart beat, muscle weakness, and headaches. Your pulse may be fast, then slow.
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CEDARS-SINAI MEDICAL CENTER.

Institute for Healthcare Improvement. *Template with Cedars-Sinai Medical Centers Congestive Heart Failure patient teaching cards.* Available at: http://www.ihl.org/ihl/files/TCAB/Transitions_Home/CHF_Cards_July_2007revision.doc.

United Kingdom National Health Service. *Diabetic patient agenda-setting teaching cards.* Available at: <http://www.design-council.org.uk/en/Case-Studies/All-Case-Studies/RED---Diabetes-/>.

The nurse retrieves a set of cards to use in patient teaching and starts by asking the patient to pick the cards he/she wants to discuss. This keeps the education patient-focused. For example, patients may feel reluctant to ask certain personal questions about sex or other lifestyle impacts in the traditional teaching conversation. The cards

give them the ability to bring up more subjects or at least walk away with some reference information.

The nurse will then enhance the education by picking topics he/she wants to make sure are addressed. The cards are used throughout the patient's stay and are then given to the patient for ongoing reference.

The cards are created in a basic Word file with clip art or other medical art images. Cedars-Sinai prints them on basic cardstock for about 62 cents per deck. There is a continuous copy order for 200 decks so the unit always has enough on hand, but not so many that they will have waste if they decide to revise them.

What went well: The team just took off with the idea. It was a relatively simple and quick idea to test and put into place.

What was a challenge: "Sometimes a nurse isn't playing a full deck," Vos said, "meaning that some of the cards can get lost. We didn't put them on a ring so it's easy for the patient to fan out the cards and pick topics they want to discuss. We may still give that a try. Meanwhile, we have sufficient stock on hand that a nurse can replace a patient's deck if needed for very low cost."

It was a bit challenging when the internal patient education committee expressed concerns that some of the cards "talked over" the patients. The team got through this by asking the committee, "Why don't we just try it and see what happens?" This helped everyone keep focused on rapid cycle testing.

The results: "It's too early to see an impact on readmission rates and we don't know if we'll be able to measure a direct impact," Vos said. "But patients like the cards. Feedback suggests the idea works for creating a more patient-centered educational experience. We're now working on cards for pulmonary conditions such as asthma and then gastroenterology topics."

Section Four

Section four includes practical tips from TCAB participants, sample templates, and other useful resources.

- **Planning Templates**
 - Strategic Alignment Assessment Template
 - Aim Statements for Pilot Unit(s) Template
 - Aim Statements for Spreading Changes to All Medical-Surgical Unit(s) Template
 - Action Planning Form Template
- **Snorkeling Tools**
 - Three-Hour Session Agenda
 - 45-Minute Session Agenda
 - Recommended Supply List for Snorkel Session
- **Example of a TCAB Site Visit Agenda**
- **Tips from the Front Line**

Strategic Alignment Assessment Template

Conduct a strategic assessment to prioritize the goals for Transforming Care at the Bedside over the next year (CEO, CNO, and the TCAB unit leaders should meet to discuss).

TCAB aims for projects on medical and surgical units	Which aims are explicitly aligned with this year's Strategic Plan for your hospital?	Have you achieved the <u>best known level of performance</u> for the TCAB aims (for at least 6 consecutive months)?	What are your priority projects for TCAB for the coming year?
Reduce Deaths	Yes [] No []	Zero Codes Yes [] No []	Yes [] No []
Prevent Harm from High-Hazard Drug Errors	Yes [] No []	Reduce patient harm from high-hazard drugs by at least 50% per year Yes [] No []	Yes [] No []
Prevent Pressure Ulcers	Yes [] No []	Zero hospital-acquired pressures ulcers Yes [] No []	Yes [] No []
Prevent Patient Injury from Falls	Yes [] No []	Incidents of patient injury from falls (moderate or higher) are reduced to 1 (or less) per 10,000 patient days Yes [] No []	Yes [] No []
Increase Staff Vitality and Reduce Turnover	Yes [] No []	Increase staff vitality and reduce annual voluntary turnover by 50% Yes [] No []	Yes [] No []
Increase Patient Satisfaction	Yes [] No []	95% of patients will definitely recommend the hospital Yes [] No []	Yes [] No []
Reduce Readmissions	Yes [] No []	Readmissions within 30 days are reduced to 5% or less Yes [] No []	Yes [] No []
Increase Nurses' Time in Direct Care	Yes [] No []	Nurses spend 60% or more of their time in direct patient care Yes [] No []	Yes [] No []

Aim Statements for Pilot Unit(s) Template

Based on the selection of priority projects for TCAB, create specific TCAB aims for the medical and surgical pilot unit(s).

Aim Statements for Pilot Unit(s)

1. Pilot Unit(s) _____

Aim: _____

2. Pilot Unit(s) _____

Aim: _____

3. Pilot Unit(s) _____

Aim: _____

4. Pilot Unit(s) _____

Aim: _____

Aim Statements for Spreading Changes to All Medical-Surgical Unit(s) Template

Based on the successful interventions implemented on the TCAB pilot unit(s), create specific TCAB aims for spread of these interventions to additional medical and surgical unit(s).

Aim Statements for Spreading Changes to All Medical-Surgical Units (“Spread Aims”)

1. Pilot Unit(s) _____

Aim: _____

2. Pilot Unit(s) _____

Aim: _____

3. Pilot Unit(s) _____

Aim: _____

4. Pilot Unit(s) _____

Aim: _____

Action Planning Form Template

Pilot Unit(s): _____

Aim: _____

Outcome Measure: _____ Process Measures: _____

Current Outcome Measure Performance: _____ Gap Between Current Performance and Aim: _____

Six-Month Goal: _____ (recommend reducing the gap by 50% every six months)

Ideas/Changes to Be Tested: _____

Testing and Implementation Plan	Day-to-Day Leader	Who needs to be involved?	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25

Sample Facilitation Plan for Three-Hour Snorkel Session

(Source: Peter Coughlan, PhD, Transformation Practice Lead, IDEO)

8:00 AM Set the Context and Background

- “Suspend your realities, paradigms, and worries back at your work and let’s envision a future state.”
- Review what the brainstorming and idea generation will be focused on and why we are transforming medical-surgical care.
- Engage the participants in a discussion. Why are we doing this? What do you know about current and future state of medical-surgical care?

8:10 AM Observation or Storytelling

30 minutes if you are not building in an observation period as well; 20 minutes for round robin at tables; and 10 minutes for group sharing of one or two examples. If the group is small, you can do this as an entire group.

Observation: If you will spend time during the event conducting observations, budget at least 30 minutes to one hour for this component.

Give participants these directions:

Do not interact with the care team or patients during this time but simply record what you see—what you see that is good and what you think could be better. If you are observing and an obvious safety issue exists, of course, you should intervene; otherwise you are just observing with your eyes and ears.

Or....

Storytelling: In lieu of an observation period, you can have people share their observations, if this was done in advance, or ask each person to tell a personal story about the good and what could be much better. Draw on personal experience about the design challenge or theme such as safety, patient-centeredness, or overall medical-surgical care.

Give participants these directions:

At your tables, go around the table and let each person tell a story about what you observed on “transitions home” (or any other design theme). Each story should be no more than 2 minutes long about examples of positive discharge experiences or examples of times when the “transition to home” was not optimal. You can use examples from a personal experience, experience of a friend or family member, or work-related experience.

At the end of the storytelling time, ask each table to report out on one or two stories from the table to the whole group.

8:40 AM The Design Challenge

We will now work together to design ideal *transitions home for patients (or another design challenge)*.

Pose the design challenges in the form of a question:

“How might we...?”

- ...help multidisciplinary teams proactively assess patients’ needs for discharge?
- ...help patients and family members “pull” information needed for care at home?
- ...help (*fill in other ideas*)?

Give participants these directions:

At your table, develop several “How might we...” scenarios from the previous stories. You may develop a range of ideas that are very broad to very specific. Try to make it actionable—not too broad and not too specific, but somewhere in the middle. For example: If the story describes how your mother went home with medications that were all different looking than what she’d previously taken (generic versus brand) and she was confused as to what to start or stop taking once at home, you might pose the question, “*How might we make sure every patient fully understands their medication changes before they go home?*” This is what you will write on the Post-It note.

Consolidate the “How might we...” scenarios. Place themes on the top of a flip chart, probably no more than 5 or 6 themes. Use an affinity exercise to cluster the individual “How might we...” ideas into themes or categories for which you will later select and brainstorm solutions.

9:10 AM Set Up Brainstorming Session Based on the “How Might We...” Themes

Select two or three themes that attracted the group’s energy. Initially, you want to go where the energy is; later you can select areas that might feel more difficult once you’ve developed some skills and practice.

Example: How might we make sure patients know their medications before going home?

Have these brainstorming rules on a flip chart and review with the group:

1. Encourage wild ideas
2. Go for quantity—everyone generate 5 ideas; we want more than 500 ideas
3. Defer judgment
4. Be visual—draw pictures
5. One conversation at a time
6. Build on ideas of others
7. Stayed focused on the topic (“How might we...” scenarios)

You may need to “plant” wild ideas!!! Push harder—use all senses and stretch participants to create new ideas; borrow ideas from other industries and analogous settings such as sports teams, pediatrics, and retail. Ask where else people do similar things.

9:50 AM Multi-Voting

Put flip charts with Post-It notes on the wall side-by-side.

Give these instructions to participants:

Use 7 colored sticker dots per person to vote:

1. What are your personal favorites?

2. What are the wildest ideas?
3. What idea would you most like to try in your facility?
4. What idea do you think will have the biggest impact toward achieving the “How might we...” scenario?

Participants can distribute their dots however they want—all on one idea, each on a separate idea, or anything in between.

Report out on favorite ideas (where there are the most dots) to prepare for designing some actionable tests of change.

10:20 AM Testing New Ideas

Give these instructions to participants:

Many of the ideas you generated today will be integrated into prototypes for testing around high-performance teams in your pilot units. In some cases, it is not so important whether the actual idea works, but perhaps what the idea stimulates in testing. As you will all find out, the front-line staff are great at coming up with innovative ideas (they are closer to the stories); leaders are farther away.

Using the PDSA worksheet, take one of the new ideas and set up a test; ideally you will select two to three tests to run next week so several ideas can be developed at once by different staff. One patient, one hour, one shift, etc. Testing is for learning what works and what doesn't work.

11:00 AM Wrap-Up and Adjourn

Sample 45-Minute Snorkel Session Agenda

8:00 AM Introduction

Quickly review design targets and the focused topic for the session (e.g., idealized design for a perfect admission experience).

8:05 AM Storytelling

Ask for one or two participant stories describing when everything was perfect for a patient and family specific to the topic, and then one or two participant stories describing when things did not go well for a patient and family specific to the topic.

8:15 AM Set the Challenge: How Do We Create the Perfect Experience for Every Patient Every Time?

Ask participants to call out ideas and capture these on individual Post-It notes.

8:25 AM Harvesting

Agree on how to prioritize the ideas into a harvesting matrix (e.g., one quadrant could be “easy to hard to implement” and the other quadrant could be “low to high cost”).

Have the group subjectively place each idea into a quadrant on the matrix.

Review items in the most attractive quadrant (e.g., easy to do and low cost).

Have the group select the idea it wants to work on first.

8:35 AM Planning

Review the framework for the PDSA process and discuss next steps for this particular idea.

Explain that you will keep all of the ideas and refer back to the list often so the group can reprioritize as it progresses.

8:45 AM Adjourn

Recommended Supply List for Snorkel Sessions

- Display equipment (DVD or VCR) if you will show a short warm-up program. Two recommendations are:
 - The 5-minute IHI TCAB Deep Dive video clip (Available at: <http://www.ihi.org/IHI/Topics/MedicalSurgicalCare/MedicalSurgicalCareGeneral/EmergingContent/DeepDiveVideoClip.htm>)
 - The 20-minute video about IDEO tackling an assignment to create a new shopping cart. *ABC Nightline: The Deep Dive*. July 13, 1999. (For ordering information, see: <http://www.ideo.com/media.>)
- Lots of light-colored Post-It notes and medium markers (black or blue Sharpies)
- Sheets of colored sticker dots, cut into strips of 7 or 8 dots for voting—precut or 1 scissor per table (best to do ahead)
- Multiple flip charts (one for each small group)
- Masking tape
- Hand-held microphones (if needed for size of group)
- Plan-Do-Study-Act (PDSA) Worksheet (Available online: <http://www.ihi.org/IHI/Topics/Improvement/ImprovementMethods/Tools/Plan-Do-Study-Act+%28PDSA%29+Worksheet.htm>)
- TCAB design themes (or specific to your project if it is not TCAB-focused)
- Examples of changes from other TCAB units (or specific to your project if it is not TCAB-focused)

Example of a TCAB Site Visit Agenda to Prairie Lakes Healthcare System in South Dakota

Transforming Information Flow

Objectives:

By participating in the site visit, individuals will be able to:

- Identify 2-3 specific change ideas to reduce waste in your care processes, which will increase value-added time for clinicians
- Identify 2-3 specific change ideas to reduce documentation work
- Discuss changes specific to improving workforce vitality
- Describe the methodology Prairie Lakes used for reducing waste in documentation, which could be applied in your their setting

Agenda

8:00 – 8:30 Full Breakfast (MOB Conference Room)

- Welcome: Jill Fuller, CNO, Prairie Lakes Healthcare System
- Faculty from the IHI

8:30 – 9:10 Transition to an Electronic Record: Lessons Learned

- Jill Fuller

9:10 – 9:30 Introduction to the Living Case Study

- Case Study Stop “8” – Interdisciplinary Care Conference
- Shelly Turbak, Medical-Surgical Pediatrics Department Director

9:30 – 9:45 Break and Transition to Lobby to Meet Tour Guides

9:45 – 12:00 Living Case Study

A series of planned “bedside” observations of documentation and information use designed to illustrate how Prairie Lakes has transformed the information environment of the interdisciplinary patient care team to add value to the patient experience, decrease waste, and improve flow on the medical-surgical unit.

12:00 – 1:00 Lunch (West Conference Room)

1:00 – 1:45 Documentation System Design: Linking the Care Delivery Model

- Point of Care Documentation – Tammy Langager, RN, and Deb Bludorn, RN
- Admission and Discharge – Melissa Jurgens, RN
- Resource Nurse – Cindy Ruedebusch, RN
- Order Processing – LeeAnn Currey, LPN
- Interdisciplinary Care Conference – Shelly Turbak, RN

1:45 – 2:00 Break

2:00 – 3:00 Case Study and Lessons Learned

A group discussion of observations from the Living Case Study with a panel of Prairie Lakes staff, who will share their lessons learned and respond to questions from participants.

3:00 – 3:30 Summary and Adjourn

Tips from the Front Line

The TCAB participants contributing tips to this section are as follows:

- Peg Bradke, RN, MA, Director, Heart Care Service, St. Luke's Hospital, Cedar Rapids, Iowa, an affiliate of the Iowa Health System
- Carmen Kinrade, Director, Nursing Operations, St. Luke's Hospital, Cedar Rapids, Iowa, an affiliate of the Iowa Health System
- Susan (Sue) Christie Martin, RN, MSN, Director, Center for Quality and Innovation, University of Pittsburgh Medical Center–Shadyside, Pittsburgh, Pennsylvania
- Charles (Chuck) Meek, RN, RN, NVLY Patient Safety Director, Kaiser Foundation Hospitals, Roseville, California
- Stacy Morast, RN, BSN, CAN, Nurse Manager, The University of Kansas Hospital, Kansas City, Kansas
- Shelly Turbak, RN, Director, Medical, Surgical and Pediatrics, Prairie Lakes Healthcare System, Watertown, South Dakota
- Mary Viney, RN, MSN, CNAA, Vice President, Nursing Systems, Seton Healthcare Network, Austin, Texas

Keeping Staff Engaged and Rejuvenated Past the Initial Excitement

Peg Bradke and Carmen Kinrade:

- Use regular oversight meetings (e.g., weekly or biweekly) to keep up the pace, keep the team on task, and keep results visible.
- Organizing the work around focused topics such as a single diagnosis can help a team maintain energy as well.

Sue Martin:

- Help teams break the work into smaller segments to avoid the overwhelming feeling that you've just taken on life's work.
- Pay attention. Understand when change fatigue is happening on a topic.
- Be on the lookout for "renegade" groups from other initiatives over-tapping your team without appropriate coordination. This can make staff feel bombarded and zap their enthusiasm.
- Use additional snorkel sessions to generate new ideas on specific topics and keep up the energy.

Chuck Meek:

- Assign champions to each of the design themes.
- Champions should be passionate about design themes and about reaching the design targets.
- Celebrate successes.

Stacy Morast:

- Use new snorkel sessions to gather ideas on specific topics. We've held new sessions every 6 to 8 months and incorporate some fun creativity exercises.
- Pay attention to a bubbling up of talk such as, "We're not getting anywhere." This tells you it's time to renew the energy and focus.

- Change the core team members after a certain time period and try to involve other people, not just nurses.
- Find an idea that is very visual and noticeable so staff see and experience improvements.
- Leadership is critical. Leaders have to stay involved past the initial push.

Shelly Turbak:

- Focus on short-term projects, not just the long-term goal, so there's a continuous sense of accomplishment and quicker pace.
- Relinquish some control to staff so they can work on their ideas and help set the pace.
- Recognize change fatigue among staff. Know when to sit back a bit, acknowledge that people are feeling wiped out. Give people time to think and recharge. Staff will disengage if they don't feel heard on this point.
- Focus on developing a culture where staff are expected to participate, like to participate, and know that change will be constant for the sake of continuously making things better.

Mary Viney:

- Make sure managers stay interested and present, rounding frequently to identify ideas that haven't been tested. Ask questions such as, "What's frustrating and wasting your time?" "If you could change anything on the unit, what would it be?"
- Make sure senior leaders also stay interested, asking managers and their teams about their latest improvement efforts and backing up changes as needed.
- Let staff teach each other and tell stories about their improvement ideas; expose them to leadership meetings for recognition and professional stimulation.

Testing in a Busy Clinical Environment

Peg Bradke and Carmen Kinrade:

- It's easy to be diverted by other priorities. Establishing a work plan and reviewing it regularly will keep everyone on task. Assign clear accountabilities and dedicated resources, if possible, to a particular group of ideas for development.
- Try to do quick huddles on the unit to inform everyone about a test, not just the people involved, and then try to huddle again with everyone at the end of shift for a quick debrief on how it went. This keeps everyone engaged and involved in what we're doing.

Sue Martin:

- Say no to old-school leadership training. Study up on the TCAB transformational leadership methods. Embrace these and you'll be able to engage staff and rapidly test ideas.

Chuck Meek:

- TCAB initiatives should be aligned with the hospital's strategic goals thereby freeing up time for front-line managers to keep staff engaged.
- Keep it simple.

Stacy Morast

- Keep tests very small-scale to prevent them from being overwhelming.

- Keep track of tests (e.g., we may have 10 to 15 changes in test mode at one time) to avoid confusion. If you lose track of tests, slow down.

Shelly Turbak:

- Devise very small-scale tests so you get started rather than spend your time planning to get started.
- Managers should off-load other work so they can be hands-on motivators and coordinators of tests. (As an example, Shelly's organization has removed some of the regulatory duties typically handled by clinical managers and she has eliminated time previously spent completing formal performance evaluations with each staff member by increasing her informal face-to-face feedback time during her unit rounds.)

Mary Viney:

- Don't make tests bigger than they need to be. Really use the "one nurse, one patient, one shift" approach so tests aren't overwhelming.
- Be prepared to help staff, especially when they're learning the Plan-Do-Study-Act process. Once they know the process, they'll be more willing to test ideas.
- Plan a little time to huddle after a test to debrief and go through the full PDSA cycle.
- In terms of documenting and communicating about tests, three ideas to try: (1) if the team finds using PDSA worksheets hard to sustain for every test, at least use it to document testing new ideas; (2) post a flip chart to track the status of tests and keep the work visible; and (3) designate someone to take notes during test debriefs and report back to others.

Dealing with "This Won't Work" Thinking

Peg Bradke and Carmen Kinrade:

- Involve your whole team or as many of the staff as possible in outside sessions versus attending these ourselves and bringing the information back to the team.
- Show the evidence behind the ideas and invest in conversations to understand concerns and troubleshoot how these can be addressed.

Sue Martin:

- Try getting agreement to just try an idea once on a very small-scale. This often is enough to reduce fear and get involvement in continued shaping of the idea or coming up with new ones.

Chuck Meek:

- Adopt an "anything is possible" philosophy. Squelch the negative ideas that might surface during team meetings. Focus on the positive! Don't say no!

Stacy Morast:

- Accept that you'll always have some of this, but try to get staff with such thinking involved.
- Explain what the improvement goal is, where the ideas came from, and how you're trying ideas to learn what works.
- Post all of the ideas generated and highlight the ones being tackled.
- Make sure you're communicating a lot about what's going on and remember to connect with groups like the night shift.

- Develop a simple, visual idea or suggestion system on the unit. I use clear glass fishbowls on the unit. Staff drop in slips of paper listing a problem and their idea about solving it. I look for these every day and we try to work on them.

Shelly Turbak:

- Be ready to determine whether it's a performance issue, if you've tried all of the other ways to get someone involved. Be willing to have frank conversations and declare majority rule for sake of improvement.

Mary Viney:

- Select staff with can-do thinking for initial tests so ideas get tried, then branch out to others.
- Listen to really understand staff concerns, then work to get agreement about the goal and need to improve. Regard people who are complaining as those who usually have better ideas.
- Ask why an idea won't work and use this as the hypothesis for the test. Maybe the person will be right and prove it won't work, but then can contribute other suggestions about how to make it work.

Informing and Involving Patients

Peg Bradke and Carmen Kinrade:

- We have used focus groups, follow-up phone calls to patients, and inclusion of a family member on the project team with great success.

Sue Martin:

- Just do it! We often think we know what patients want and we don't. Don't waste time guessing. Involve patients in usability design to ensure a new process really will work for them.

Chuck Meek:

- Listen to your patients.
- Experience the care they receive through their eyes.
- Allow them to design tests of change and share the results.

Stacy Morast:

- Involve them in tests as much as you can.
- Instead of relying on one or two patient representatives on a regular team, consider asking all units to invite a patient or family member to your larger sessions (e.g., we do this for the larger acute care monthly sessions). This way, you may get more reliable involvement and they feel better represented rather than being the only patient or family guest in the room.

Shelly Turbak:

- Patients are usually receptive to helping with improvement ideas. Just be sure to get their input and have them help rate ideas.

Mary Viney:

- Make this a straightforward process of telling patients what you're testing, asking whether they're willing to participate, and then getting their feedback on how it worked.
- It can feel a little uncomfortable to staff to admit to patients that we need to make something better. Model how to communicate this appropriately to patients (e.g.,

have a senior nurse comfortable with that level of dialogue demonstrate such conversations with other staff watching to learn).

Managing the Development of Ideas

Peg Bradke and Carmen Kinrade:

- As a participant in the second wave of TCAB hospitals, we've benefited from the work of the first wave. Thus, we've been able to focus on adopting ideas such as quiet time, bedside documentation, and white boards without a lot of new ideas or testing. We have an overall plan and are balancing implementation of existing ideas with a narrower focus on just a couple of topics needing idea development.

Sue Martin:

- Stay focused on your metrics (e.g., ensure ideas are truly patient-centric versus primarily staff-centric).
- Even in ideas and metrics that are patient-centric, find the appeal for staff to help identify the direct impact on their work.

Chuck Meek:

- Use the adapt, adopt, or abandon approach.
- The PDSA planning worksheet is helpful in tracking tests of change.

Stacy Morast:

- Keep prioritizing the ideas and always come back to the aim and action plan. How will these ideas make improvement in a system-level measure [e.g., reducing mortality]? We sort ideas based on criteria such as what we need to do right now, the tone on the unit, who's interested in owning it, or what's the easiest to try.

Shelly Turbak:

- Assign a core group with the duty of tracking ideas, comparing them back to the established measures and ensuring there's a balanced set of ideas in motion.

Mary Viney:

- Bizarre ideas that surface during snorkel sessions, for example, can face immediate editing. Look for the nugget within the idea that could work. Maybe it's too far-reaching or expensive, but ask people to find the essence of the idea to carry forward.
- Give the idea back to the original idea generator if you can and help them with testing. Allowing them to retain ownership helps keep the original spirit of the idea true.

Tracking the Evolution of Multiple Ideas

Sue Martin:

- Use your leadership and quality oversight functions to have a global view of improvement work underway. Look for overlaps and connections to ensure coordination.

Chuck Meek:

- Create a TCAB design target dashboard. Share the dashboard with senior leadership and the team. Share best practices.

Stacy Morast:

- We use a huge TCAB binder with all of the documentation for the ideas we've tested. We've completed at least 80 tests of change and can refer to the binder for background as needed. We used to maintain a spreadsheet but this became overwhelming.

Mary Viney:

- Consider using a spreadsheet containing the status on ideas, perhaps organized by design theme, that is regularly updated and distributed to ensure progress and share ideas with other parts of the organization.

Handling Communications

Peg Bradke and Carmen Kinrade:

- We use a combination of email and newsletter updates with presentations in individual department meetings. Our staff are expected to have at least 80 percent attendance in staff meetings (reflected in Performance Appraisals), which are offered at different times/days four times per month to provide flexible options. So, these staff meetings are key to communicating about the improvement work.

Sue Martin:

- Use patient stories to bring data and methods to life in terms of the impact.

Chuck Meek:

- Communicate through different venues such as verbalizing success stories, lessons learned newsletters, storyboards, and the TCAB community and spread unit learning sessions.

Stacy Morast:

- We use a variety of methods, including 7 a.m. and 7 p.m. safety huddles, a TCAB communication board, emails, memos, newsletter, staff meetings, and weekly meetings. We just started including an explanation about our improvement work in a welcome letter that patients receive.

Shelly Turbak:

- Allow each unit to find their own best practices based on the nature of their team. You can give suggestions but let them own the communications process.

Mary Viney:

- Use a variety of methods—face-to-face, newsletters, emails, etc. Seton uses a lot of face-to-face, organizing monthly two-hour and quarterly all-day sessions for all TCAB units to share, problem-solve, and continue skill building.

Celebrating Results

Peg Bradke and Carmen Kinrade:

- We have a strong culture of recognition, so it happens in multiple ways. Examples include on-the-spot thanks (maybe with candy or another little give-away) when staff use a new practice, storytelling and results highlighted in regular publications, and successes highlighted in hospital-wide forums hosted by our CEO three times a year.

Sue Martin:

- Send people to conferences related to the work (e.g., sending front-line staff to off-site TCAB sessions).
- Use contributing staff to help spread improvements to other units.

Chuck Meek:

- Schedule frequent TCAB “open house” celebrations allowing TCAB staff to share their work with the entire facility using poster boards and telling stories.

Stacy Morast:

- We look for a variety of ways to say thanks and highlight results. We have a success section on our TCAB board, we share stories that highlight the impact of a change, we create individualized messaging and recognition for specific improvements, and we make sure our senior leaders have the information to do the same.

Shelly Turbak:

- Plan for celebration days (with food when possible) when milestones are achieved.

Mary Viney:

- Allow staff to present their ideas and results to different groups.
- Food!
- Use leader walk-arounds to ask about results and thank people for their efforts.
- Consider offering unit prizes for achieving certain results (e.g., Seton units have won items such as digital cameras and PDAs to help with their improvement work).
- Publish results in organizational newsletters and ask units to host open houses to share their work.

Involving All Staff, Not Just a Few

Peg Bradke and Carmen Kinrade:

- Our hospital has established standards of behavior that are defined through our “Standards of Excellence.” These are incorporated into yearly performance appraisals. This culture support engagement, which benefits our improvement work. We place more weight on how you do your job, not just technical competence. Thus, we have some stragglers or unenthusiastic staff, but not very many. The culture expects and supports involvement.

Chuck Meek:

- Look for staff champions in the area you are working on and recruit.
- Advertise—post “help wanted” signage.

Stacy Morast:

- Accept that a core team may jump-start the effort, but then recruit others to lead the tests.
- Publicize the names of involved staff so you’re spreading the word of their involvement to others. Advertise to the world and help staff feel important in contributing to the work.

Shelly Turbak:

- Empower staff. Creativity comes out under these conditions and staff get comfortable generating and trying ideas.
- Ask what staff think—often.

Mary Viney:

- Engage people on the off-shifts. Keep them updated through emails, ask them to test ideas, use a communication buddy system that pairs staff from different shifts to keep each other informed.
- Spread the work past the initial core group. Leaders should be persistent in being out and about in their areas, soliciting ideas and involvement. Make it fun if you can (e.g., one unit leader wheeled a coffee cart around to solicit ideas while handing out beverages).