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Improving Patient Safety Culture through Teamwork and Communication: TeamSTEPPS®

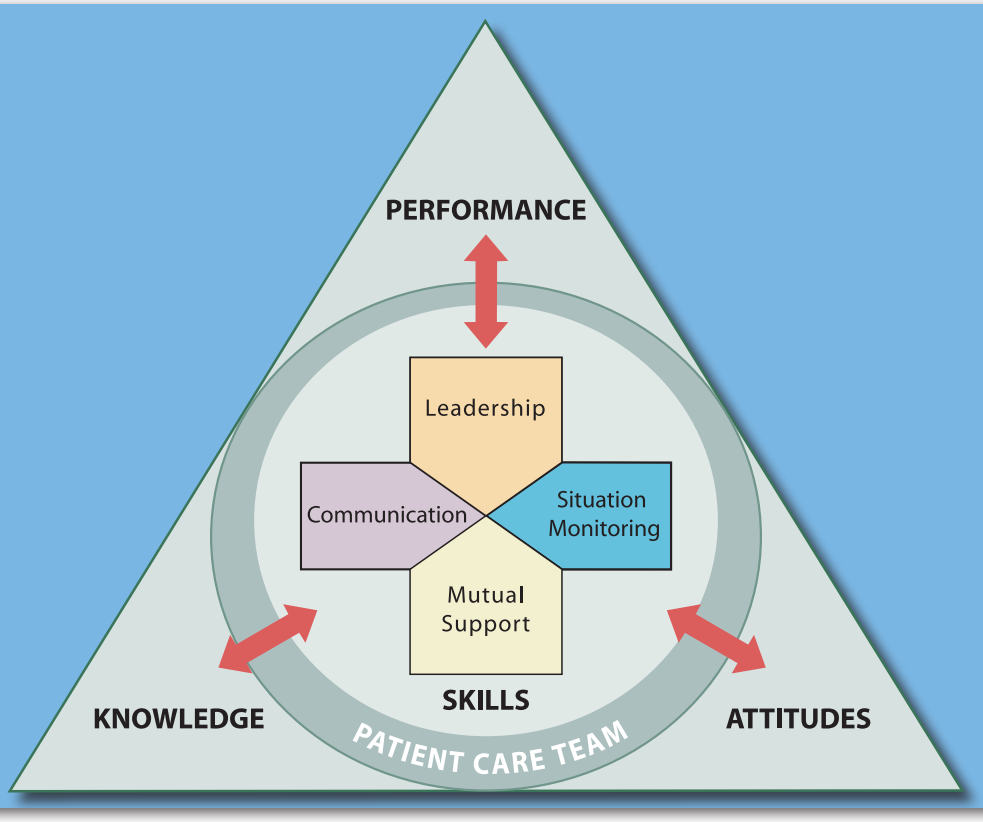

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Table of Contents

Executive Summary

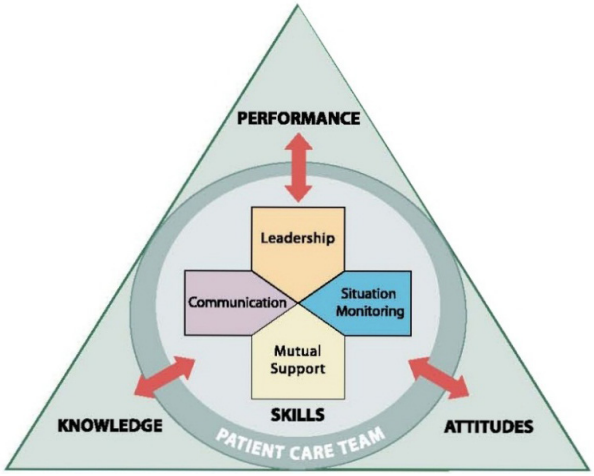
Human factors research has shown that even highly skilled, motivated professionals are vulnerable to error due to human limitations. Human error in health care plays a significant role in patient safety and quality. Health care involves complex work systems and processes, and almost every hospital and health care system deals with medical errors and seeks strategies to prevent them. Health care teams that communicate effectively and have mutual support reduce the potential for error, resulting in enhanced patient safety and improved clinical performance. However, teamwork is not innate; it must be learned.

In 2005, the Agency for Healthcare Research and Quality collaborated with the U.S. Department of Defense to develop TeamSTEPPS®—Team Strategies and Tools to Enhance Performance and Patient Safety. This evidence-based patient safety toolkit addresses leading causes of medical errors, and helps organizations improve the quality, safety and efficiency of health care delivery. TeamSTEPPS is specifically designed as a resource for health care providers to improve patient safety through effective communication and teamwork skills.

> *Patient safety culture can be described as "the product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's health and safety management".*[1]

TeamSTEPPS is based on a framework of four core competencies: communication, leadership, situation monitoring and mutual support. (See Figure 1.) Many hospitals and care systems are using the TeamSTEPPS framework to improve their culture of patient safety. TeamSTEPPS training has driven measurable quality improvement in various delivery areas.

Figure 1. TeamSTEPPS® Framework and Competencies



Source: Agency for Healthcare Research and Quality, 2014.

There are three phases to TeamSTEPPS implementation. For the intervention to be effective, a hospital or care system should complete key actions through the phases of 1) assessment; 2) planning, training and implementation; and 3) sustainment.[2]

Phase One: Assessment

- Determine the organization's readiness by conducting a training needs analysis
- Establish a multidisciplinary change team at the organizational level
- Identify challenges and opportunities for improvement
- Develop goals for the intervention

Phase Two: Planning, Training and Implementation

- Define the TeamSTEPPS intervention and develop a plan for its effectiveness
- Draft an implementation plan and communication plan to prepare the organization
- Systematically implement the TeamSTEPPS intervention through training

Phase Three: Sustainment

- » Establish a sustainment plan to practice TeamSTEPPS principles
- » Engage leadership to emphasize new skills and practices with regular feedback
- » Celebrate wins to bolster engagement in teamwork
- » Measure the intervention's effectiveness
- » Update the plan

This guide outlines TeamSTEPPS design, methodology and measurement. Case studies in the guide highlight the work of several health care systems that are using TeamSTEPPS to create and sustain a culture of safety and provide high-quality care to patients.

Introduction

Quality and patient safety, though embedded in the mission of most hospitals, need to be part of organizational culture. Hospitals and care systems that have a robust safety culture are characterized by communications founded on mutual trust and by shared perceptions of the importance of safety. [3] However, a shared perception does not always translate to effective communication in a clinical setting.

The Institute of Medicine report "Health Professions Education: A Bridge to Quality" identified that physicians and other health care professionals lack adequate training in providing high-quality health care to patients when it comes to communicating effectively.[4] At VA hospitals, communication failure was a primary contributing factor in almost 80 percent of more than 6,000 root cause analyses of adverse events and close calls.[5] The Joint Commission annual reports on quality and patient safety have identified inadequate communication as the leading root cause of sentinel events.[6] Increased, effective team communication improves quality of working relationships, job satisfaction and patient safety.

Teams that communicate effectively and have mutual support reduce the potential for error, resulting in enhanced patient safety and improved clinical performance. However, teamwork is not innate; it must be learned. Improving a hospital's or care system's culture is a challenge. One of the few interventions that has proved effective is TeamSTEPPS.

The TeamSTEPPS initiative was developed by the U.S. Department of Defense Patient Safety Program in collaboration with the Agency for Healthcare Research and Quality. The TeamSTEPPS curriculum was released by AHRQ to the public in 2006, and in 2007 the National Implementation Program was launched. The curriculum has been used by many health care organizations as an effective way to improve patient safety culture.

TeamSTEPPS—Team Strategies and Tools to Enhance Performance and Patient Safety—capitalizes on the Department of Defense's expertise in medical and nonmedical team performance and AHRQ's research in the fields of patient safety and health care quality. TeamSTEPPS training is the result of multiyear research and teaches clinical and nonclinical providers to communicate more effectively and become empowered and engaged.

The TeamSTEPPS toolkit underwent extensive field testing in the military health system and with several civilian organizations. Concepts for TeamSTEPPS derive from high-reliability organizations such as military operations, aviation, community emergency response systems and nuclear power industries. All of these industries focus on mitigating risk, accident avoidance and accident recovery, which are crucial and applicable to health care.

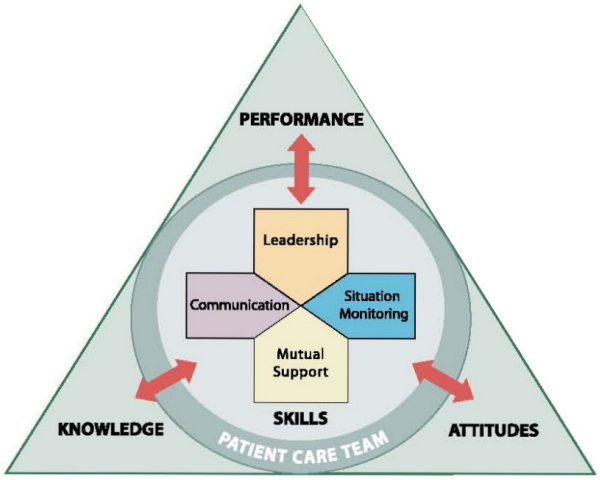
Teamwork training as it relates to patient safety is recognized by health care organizations as an important initiative. For example, the National Committee for Quality Assurance Patient-Centered Medical Home Recognition requires teamwork training. As it becomes evident that team skills must be learned, many health care organizations are finding it imperative to improve teamwork and communication skills and incorporate those skills into standard operations.

TeamSTEPPS Design and Methodology

TeamSTEPPS is based on a framework of four core teamwork competencies:

1. **Communication** – effectively exchange information among team members, regardless of how it is communicated
2. **Leadership** – direct and coordinate, assign tasks, motivate team members and facilitate optimal performance
3. **Situation monitoring** – develop common understandings of team environment, apply strategies to monitor team members' performance, maintain a shared mental model
4. **Mutual support** – anticipate other team members' needs through accurate knowledge, shift workload to achieve balance during periods of high workload or stress

Figure 1. TeamSTEPPS® Framework and Competencies



Source: Agency for Healthcare Research and Quality, 2014.

The TeamSTEPPS curriculum delivers team-related knowledge, as well as specific tools and strategies to support the core competencies, to organizations through a train-the-trainer model. This model is designed to help health care organizations develop and deploy a customized plan to train staff. The curriculum consists of two components:

The Essentials Course highlights the key principles and concepts of TeamSTEPPS. This course is a shorter, targeted version of the curriculum and is focused for staff.

The Core Curriculum (or master training course) is delivered to individuals who will become instructors or master trainers. They return to their hospitals to train and coach staff in targeted work units.

The train-the-trainer model helps keep the training relevant, department specific, applicable and sustainable.

Health care organizations can use one of two approaches to implement TeamSTEPPS. With the first approach, organizations implement TeamSTEPPS as a method to conduct a specific quality improvement initiative. For example, a hospital may start with a high-risk department such as the emergency department, operating room, or labor and delivery. Staff implement tools to improve a process and then, if successful, expand to other processes, team members or departments. Using a small test of change, an organization can assess the implementation to identify what works and where there is opportunity for improvement. This approach is more manageable for an organization looking to initially test TeamSTEPPS, and it establishes results that can encourage buy-in for implementation on a grander scale.

The second approach encompasses a full system training. With this approach, the organization sends staff members to a TeamSTEPPS Essentials course, and they bring back TeamSTEPPS expertise to the organization. After the coursework, trainers can begin implementing TeamSTEPPS by department or facility. Many organizations have used this approach and incorporated TeamSTEPPS into new employee orientation or onboarding. Hospitals and care systems typically use this approach when looking to make a full-system cultural change.

TeamSTEPPS provides specific tools to support teamwork competencies, such as briefs, huddles, debriefs, two-challenge rule, CUS, SBAR, and check-back. Brief descriptions of select teamwork tools are outlined in Figure 2. Simulation-based training also has proved to be a powerful strategy in team-based health care. More information about specific tools is available on the AHRQ website.

Figure 2. Teamwork Tools to Enhance Patient Safety

	Tool	Brief Description
Communication	SBAR	» A standardized technique for communicating critical information that requires immediate attention and action concerning a patient's condition. » SBAR stands for **S**ituation, **B**ackground, **A**ssessment and **R**ecommendation/**R**equest.
	Call-out	» A tactic used to communicate important or critical information. It informs all team members simultaneously during emergent situations and helps team members anticipate next steps.
	Check-back	» A strategy for closed-loop communication to ensure that information conveyed by the sender is understood by the receiver as intended.
	Handoff	» The transfer of information during transitions in care across the continuum. It provides an opportunity to ask questions, clarify and confirm. » A specific tool for this is "I PASS THE BATON" which is designed to enhance the information exchange.
Leadership	Brief	» A short session prior to the start of a procedure or event to share the plan, discuss team formation, assign roles and responsibilities, establish expectations and climate, and anticipate outcomes and likely contingencies.
	Huddle	» Ad hoc meeting to re-establish situational awareness, reinforce plans already in place, and assess the need to adjust the plan.
	Debrief	» Informal information exchange session designed to improve team performance and effectiveness through lessons learned and reinforcement of positive behaviors.
Situation Monitoring	STEP	» A tool for monitoring situations in the delivery of health care and useful in situation monitoring of the patient. » STEP stands for **S**tatus of the patient, **T**eam members, **E**nvironment, **P**rogress toward goal.
	Cross-monitoring	A harm error reduction strategy that involves: » Monitoring the actions of other team members » Providing a safety net within the team » Ensuring that mistakes or oversights are caught quickly and easily » "Watching each other's back"
	I'M SAFE checklist	» A checklist used during situation monitoring by each team member to assess his or her own safety status. » I'M SAFE stands for **I**llness, **M**edication, **S**tress, **A**lcohol and Drugs, **F**atigue, **E**ating and Elimination.

Mutual Support	Two-challenge rule	» Empowers all team members to "stop the line" if they sense or discover an essential safety breach.
	CUS	» An assertive statement used when a team member would like to "stop the line." » I am **C**oncerned! » I am **U**ncomfortable! » This is a **S**afety Issue!
	DESC script	» An approach for managing and resolving conflict. » DESC stands for **D**escribe, **E**xpress, **S**uggest, **C**onsequences.

Source: TeamSTEPPS Curriculum, 2014.

The TeamSTEPPS curriculum and instructional guides are robust and contain evidence-based modules that provide insight into the core concepts of teamwork. These guides can be easily customized and adapted for interactive learning. The curriculum helps care teams overcome barriers with easy-to-apply tools and strategies to achieve desired outcomes. Examples of barriers, tools, strategies and outcomes are highlighted in Figure 3.

Figure 3. Barriers, Tools, Strategies and Outcomes to Team Performance

Source: TeamSTEPPS Curriculum, 2014.

TeamSTEPPS training provides health care teams with the knowledge and tools to adapt to changing situations systematically. With TeamSTEPPS training, teams develop a shared understanding of their care plans or another complex process. Having this shared mental model ideally builds mutual trust and appreciation, thus creating effective teamwork. Teams also develop a positive attitude toward teamwork, its benefits and its effect on patient safety. Higher-performing teams will maximize the use of information, skills and resources for optimal outcomes.

Sidney Kimball Medical College at Thomas Jefferson University Philadelphia

The Department of Obstetrics and Gynecology was facing process barriers when it came to processing pap-smear results, getting timely provider verification and communicating results to patients. These barriers were resulting in late colposcopies or further testing for patients with abnormal pap-smear results. This presented a patient safety and quality issue. The department faced the following issues: lack of time, lack of information sharing, varying communication styles and lack of follow-up with co-workers. The department applied TeamSTEPPS tools such as cross-monitoring, check-back, handoffs and task assistance and re-examined the process flow of verifying pap-smear results and standardized communication between providers and communication to patients. The intervention resulted in 100 percent verification of pap smears with no extra work for the medical assistants. In addition, due to the increased efficiency, 100 percent of patients with abnormal pap smears received the required colposcopy, which was dramatically greater than the 50 percent baseline measurement.

Ronald Reagan UCLA Medical Center Los Angeles

UCLA's interdisciplinary TeamSTEPPS change team identified specific and relevant skills to be emphasized to their Code Blue Teams. They used in situ simulation and practiced three-minute mock codes in which they developed their communication skills using the TeamSTEPPS tools and strategies. In situ simulation is simulation that is physically integrated into the clinical environment and provides a method to improve reliability and safety in high-risk areas. Using SBAR, CUS, closed-loop communication and huddles, the Code Blue Team was able to overcome significant communication barriers. As a result, the unit experienced increased team engagement and an increase of about 10 percent in survival to discharge for adults in the hospital with code blue.

Duke University Hospital Durham, North Carolina

Duke University Hospital Neuroscience Intensive Care Unit experienced an increase in central line-associated blood stream infections (CLABSI) rates. A lack of communication between the multidisciplinary team members was identified as a key factor to these infection rates. TeamSTEPPS interventions were implemented in the department including an emphasis on tools such as SBAR, DESC, role play and real-life scenarios. Training was ongoing with monthly coaching and training calls for staff and quarterly presentations to patient safety and quality committees. After the implementation, a decrease in CLABSI by 50 percent was appreciated over the fiscal year. The National Database of Nursing Quality Indicators RN satisfaction report scores increased as well.

Phases of the TeamSTEPPS Delivery System

TeamSTEPPS has three continuous phases, developed and based on organizational experience and research on health care quality, patient safety and culture change. For TeamSTEPPS to have a positive impact, a hospital or care system should thoroughly assess its readiness, carefully plan for training and implementation, and develop a sustainment plan.[7]

Phase One: Assessment

An organization first must determine its readiness for undertaking a TeamSTEPPS-based initiative. This requires a training needs analysis. The hospital or care system will need to create a change team that includes leaders and staff members with the expertise, authority, credibility and motivation needed to drive a successful initiative. This team conducts a site assessment to identify teamwork deficiencies, so training programs can be developed to address them. The team also should define recurring problems in patient safety and understand how existing processes and procedures contribute to these problems.

During this phase, the health care organization identifies challenges as well as opportunities for improvement, and then develops goals for the intervention, including process goals, team outcome goals and clinical outcome goals. It is important to identify specific areas of improvement when implementing TeamSTEPPS.

When collecting data for this step, existing data can be used, including:

- root cause analysis data;
- near-miss events;
- failure modes and effects analysis;
- culture surveys; and
- HCAHPS patient satisfaction data.

Phase Two: Planning, Training and Implementation

The TeamSTEPPS curriculum is designed to be tailored to the organization. Hospitals and care systems first need to define the TeamSTEPPS intervention, develop a plan for determining its effectiveness and draft an implementation plan. In addition, the health care organization should develop a communication plan to help prepare for implementation.

The organization needs to consider whether it will take a phase-in approach that targets specific units or departments or implement on a grander scale. TeamSTEPPS materials are adaptable, so this step is key for successful implementation. TeamSTEPPS master trainers can help identify the appropriate facility and instructors to customize content for different departments or staff.

Getting buy-in from senior leaders also is key for TeamSTEPPS to be sustainable. A customizable leadership brief is available on the TeamSTEPPS website.

Only after all these steps are completed should a health care organization begin TeamSTEPPS training.

To be effective, TeamSTEPPS implementation needs to be covered at multiple levels in the organization. For example, the organizational level develops the vision, sets expectations, encourages staff, and recognizes and rewards actions. The departmental level addresses resources and barriers and aligns the work to the vision. The unit level includes the change team and assesses, tests and adapts the tools as needed to embed them into the safety culture. [8]

Phase Three: Sustainment

TeamSTEPPS training and implementation change how teams work together on an ongoing basis, and this change is intended to be sustainable. So focus is not only on training teams but also on providing sufficient time for teams to continue practicing the teamwork tools and strategies in their daily work.

A sustainment plan should provide opportunities to practice TeamSTEPPS principles. The hospital or care system must ensure that leaders emphasize new skills and practices and that regular feedback and coaching are built into processes. Feedback can come from the organization's designated TeamSTEPPS change team.

Hospital and care system leaders should play an active role in emphasizing the importance of maintaining a culture of safety with the support of TeamSTEPPS principles. To be sustainable, trainings should not be a one-time occurrence but instead be built into an organization's or department's ongoing staff training.

Celebrating wins will bolster engagement in teamwork. Organizations can recognize specific clinical or operational results, increased team and staff engagement and individual department success. In addition, it is important to measure results and teamwork and update the TeamSTEPPS plan as needed.

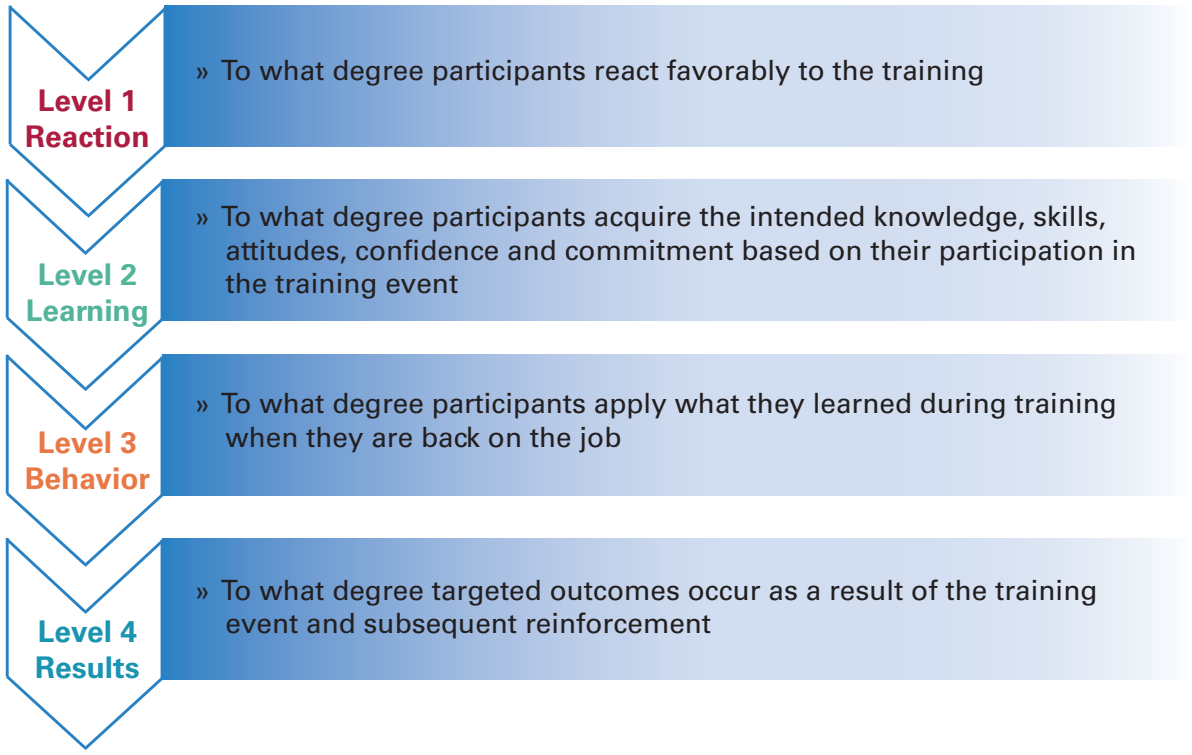
Measuring Results and Teamwork By measuring the impact of TeamSTEPPS implementation, health care organizations can assess if their plan is producing expected outcomes and working effectively in a specific unit. If TeamSTEPPS is not working, the organization needs to identify the reasons.

Measurement is important across all phases of the implementation process. Benefits include:

- identifying quality improvement needs;
- assessing training needs and creating implementation plans;
- evaluating the effectiveness of TeamSTEPPS training; and
- measuring staff engagement, patient perceptions and organizational culture.

Measuring a change in patient safety culture can be challenging. The Kirkpatrick Model, shown in Figure 4, defines multiple levels for evaluating the impact of training programs.[9]

Figure 4. The Kirkpatrick Model



Source: Adapted from Kirkpatrick Partners, 2015.

With this widely used and highly regarded practical approach to training evaluations, organizations examine four different outcomes of training: reaction, learning, behavior and results.[10] TeamSTEPPS provides specific customizable tools and measurements for focusing on each level of the model. These tools can be found in the TeamSTEPPS Instructor Manual.

Executive leadership might focus on the results portion of the Kirkpatrick model. This type of evaluation provides an assessment of the organizational benefits produced from the training. Knowing that not all measurements are a direct result of TeamSTEPPS training, organizations should select measures that align with the teamwork issue being addressed. Doing so will help ensure the results can be linked to the training intervention.

Results measures include:

Patient outcome measures, including complication rates, infection rates, medication errors, and patient experience measures such as HCAHPS scores.

Clinical process measures, including length of patient wait times, time to intubate, medication administration delays, compliance with preventive screenings, number of misdiagnoses, number of structured handoffs used and staff perceptions of safety as measured by the AHRQ Surveys on Patient Safety Culture.[11] Turnover rates or unit vacancy rates can also be used.

Conclusion

Even highly skilled, motivated professionals are vulnerable to error due to human limitations. Breakdowns in communication and lack of teamwork can negatively affect the quality of care provided to patients.

TeamSTEPPS gives hospitals and care systems the knowledge, resources and tools to improve quality of care, increase patient safety, and increase employee engagement. Many hospitals and care systems are using TeamSTEPPS to improve their teamwork, communication and culture of safety. TeamSTEPPS training has driven measurable quality improvement in several delivery areas. The case studies highlighted in this guide provide examples.

TeamSTEPPS strategies can be embedded in a health care organization's processes, orientation of new staff, annual competencies, and organizational policies.[12] Hospitals and care systems should thoroughly assess organizational processes and carefully develop implementation and sustainment plans for TeamSTEPPS to improve quality, safety and efficiency of health care delivery.

ValleyCare — Pleasanton, California
St. Charles Health System — Bend, Oregon

Background and Implementation

ValleyCare is a community, not-for-profit, acute care health system. Team training initiatives began at ValleyCare in 2009 with the introduction of in situ simulation and the overall goal of improving patient safety. Simulation revealed promising results as well as critical opportunities to improve communication, role delineation and team dynamics. The team infused the TeamSTEPPS framework with in situ simulation for their integrated team training model.

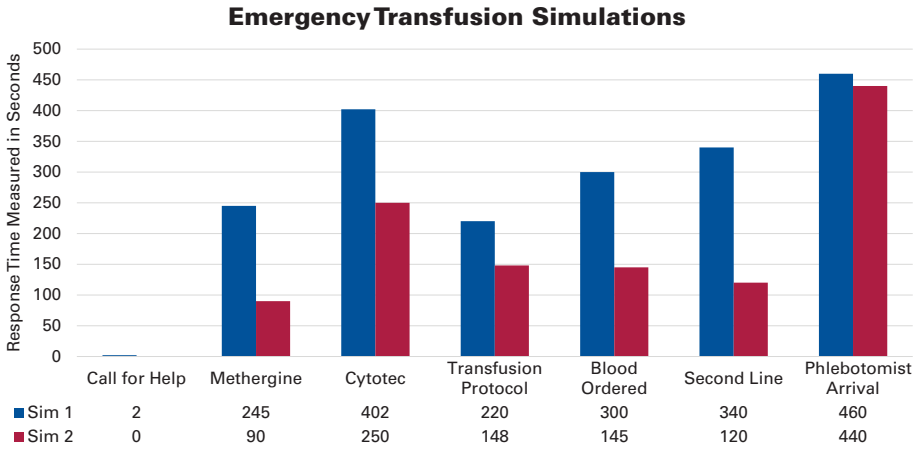
An interdisciplinary team from ValleyCare attended TeamSTEPPS master training at the University of Washington in 2010. From this training, the health care system's master trainer group modified course material to develop a two-hour Essentials Course to meet the organization's specific needs. The initial wave of mandatory training was directed toward nurses, physicians and support staff who cared for patients in the perinatal setting. Staff and physicians were very responsive to the concepts and quickly applied TeamSTEPPS tools to their daily clinical practice. Integration of TeamSTEPPS concepts and tools was further influenced through ongoing in situ simulation. The measured success in the perinatal setting influenced the hospitalwide expansion of the program over the following two-year period. Sustainment of the program has been maintained through ongoing initial training sessions for new employees, refresher education, and ongoing integrated TeamSTEPPS and in situ simulation.

St. Charles Health System is a multihospital system in central Oregon, comprised of tertiary, community, and critical access facilities. Together with ValleyCare, St. Charles Health System implemented TeamSTEPPS. The integration of TeamSTEPPS and in situ simulation methodology has proved to be a valuable implementation model. Training sessions and metrics are easily modified to meet the needs of the individual setting. Implementation and sustainment efforts at both health care systems are maintained.

Results

ValleyCare Health System and St. Charles Health System collaborated to examine the impact of their TeamSTEPPS implementation. The results illustrated here reflect the findings at both organizations.

Metrics including clinical response time measurement and responses from the TeamSTEPPS assessment questionnaires—including the Team Assessment Questionnaire, Teamwork Perceptions Questionnaire (TeamSTEPPS 2.0), and Teamwork Attitudes Questionnaire (TeamSTEPPS 2.0)—and AHRQ Surveys on Patient Safety Culture have been used to establish baseline measurements, monitor implementation progress and identify opportunities for improvement.



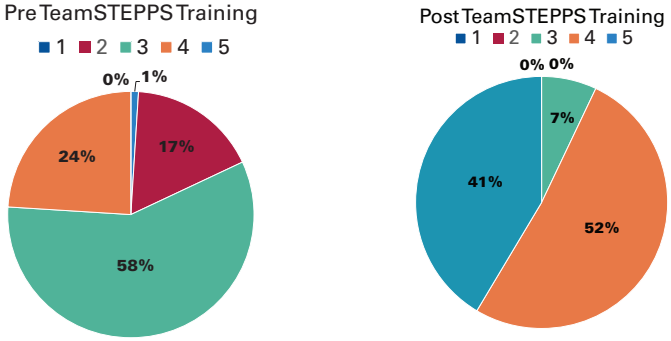
Source: ValleyCare, 2015.

The Emergency Transfusion Simulations graph displays clinical response time measurement for critical elements of a simulated hemorrhagic response. The participating team was measured pretraining (Simulation 1—the left, blue bar) and six months posttraining (Simulation 2—the right, red bar).

"The team is a safety net for patients."

Likert Scale: 1 - Strongly disagree, 2 - Disagree, 3 - Neither, 4 - Agree, 5 - Strongly Agree

n = 70



Source: ValleyCare, 2015.

The pie charts depict pretraining and posttraining (six-month resurvey) responses to the statement "The team is a safety net for patients," from the 51-question TeamSTEPPS Team Assessment Questionnaire. Before TeamSTEPPS training, 24 percent of staff agreed that "the team is a safety net for patients," and 1 percent "strongly" agreed. After TeamSTEPPS training, 52 percent of staff agreed that "the team is a safety net for patients," and 41 percent "strongly" agreed.

Lessons Learned

- An integrated model including TeamSTEPPS and in situ simulation is imperative to bring lessons from the page to clinical practice.
- Resistance to change and skepticism about the efficacy of a new program should be expected and embraced. Simulation is a valuable tool to overcome resistance and promote staff empowerment and buy-in.
- Challenges vary based on the implementation setting. Individualizing training programs with the audience in mind will markedly improve success and initial engagement.
- While physician participation enhances training and facilitates early adoption, it can be challenging outside of employed physician models. Training without physicians is possible and should not be delayed in their absence.
- Leadership support is essential to achieving adoption and sustainment success.
- The training team can take primary responsibility for new implementation efforts and sustainment, accomplished by leveraging key leaders and physician champions throughout the organization.
- Debriefing, a powerful TeamSTEPPS tool, is a primary catalyst for improving quality of care and facilitating continued process improvement. It is also vital for staff engagement, providing focus and also ownership of process improvement initiatives.

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North Shore-LIJ Health System
New York State

Background

North Shore-LIJ is a large health care system in New York state comprised of 19 hospitals, three skilled nursing facilities and more than 400 ambulatory and physician practices. Seeking to optimize the effectiveness and sustainability of system quality initiatives, leadership concluded that creating a culture of safety throughout the health system was a prerequisite to achieving patient safety goals. In 2007, the health system selected TeamSTEPPS as a strategy for organizational transformation to a culture of safety and became one of the earliest adopters of TeamSTEPPS. North Shore-LIJ now serves as a regional training center supporting national implementation of TeamSTEPPS.

Implementation

North Shore-LIJ selected TeamSTEPPS due to its versatility and fit with the system's vision. The health system found that TeamSTEPPS could be adapted to the organization's needs to transform culture and achieve improvements, and the curriculum's simplicity increased its applicability. TeamSTEPPS implementation began at the system's designated pilot hospital in September 2007 and was completed in 2008. Senior leadership recognized its effectiveness and allocated resources to implement TeamSTEPPS throughout North Shore-LIJ. All health care team members who have direct or indirect involvement in patient care are required to be trained in teamwork using the TeamSTEPPS curriculum.

The relevance and permanence of TeamSTEPPS to the organization's vision and mission were communicated to all employees during training by highlighting its connection to the organization's Collaborative Care Model. Safety is one of North Shore-LIJ's seven core organizational values. TeamSTEPPS was highlighted as a process used to instill the core value of safety in daily practice. The TeamSTEPPS framework operates as a supporting process within the model.

From the beginning, TeamSTEPPS was designed to be a permanent strategy at North Shore-LIJ, hardwired into practice. Hospitals in the health system share their successes; disseminate best practices; share annual poster presentations; and encourage enthusiasm, pride, and staff engagement. In addition, TeamSTEPPS competencies are reviewed annually and are part of the organization's orientation for new team members.

Since first implementing TeamSTEPPS in 2007, North Shore-LIJ has trained more than 40,000 staff members across its network of hospitals, ambulatory care facilities, emergency medical services, home care services, and long-term care settings.

Results

Since implementation, systemwide results from the AHRQ Surveys on Patient Safety Culture show improvement. The impact on quality is demonstrated by the improvement in care, decrease in mortality, lowered incidence of patient harm and reduced infection rates. In addition, the health care system has reduced medical malpractice expenses by approximately 2.5 percent.

Lessons Learned

- Engage executive leadership to drive and monitor change; their involvement is key for successful implementation.
- TeamSTEPPS implementation should be systematic, structured and rapid; training should follow the sequence of implementation.
- The train-the-trainer model has worked well for North Shore-LIJ because training is customized by department, which creates increased engagement and effectiveness.
- Physicians should be part of the entire process.
- TeamSTEPPS should not be seen as a short-term initiative; embed TeamSTEPPS strategies into organizational processes.

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MetroHealth
Cleveland, Ohio

Background

MetroHealth is a large health care organization in northeast Ohio that includes a 700-bed medical center and 17 community health centers. Being an essential hospital system, cost savings and efficiency are priorities. To consistently achieve these goals, the health care organization's leaders explored ways to enhance patient safety culture and engage and empower staff. MetroHealth's TeamSTEPPS champion, along with a diverse team of clinical and nonclinical staff, identified TeamSTEPPS as the best initiative to accomplish these goals. By implementing specific TeamSTEPPS tools, strategies and concepts, MetroHealth has experienced a lasting positive impact on patient safety, outcomes, satisfaction, as well as a boost in staff morale and retention.

The change team looked into the health system's patient and staff survey data, risk management reports and quantifying malpractice data, and identified the need for change within the organization. The health system's CEO fully supported the proposed TeamSTEPPS program and the need for fundamental culture change. The CEO and administrative staff resolved to implement TeamSTEPPS systemwide, including the clinical and nonclinical departments. Thus, MetroHealth's change team began its quest to help staff feel empowered to work together, overcome challenges, make tasks more manageable, create a sense of camaraderie, and improve overall communication and teamwork.

Implementation

To begin implementing TeamSTEPPS, MetroHealth identified a change team to get buy-in from all departments and individual staff members. In organizing this team, administrators selected key staff who were influential, passionate and respected by peers; aware of the organizational culture and politics; able to access information and resources; and representative of various disciplines and areas throughout the hospital system. The goal was to have the right people at the table from the start. As a result, teamwork was incorporated into MetroHealth's mission statement and core values, demonstrating a true commitment to a change in culture.

The change team moved forward and fully embraced the TeamSTEPPS train-the-trainer model. MetroHealth's implementation of TeamSTEPPS has many layers, including master trainers who educate and prepare instructors from individual departments. These instructors then develop their own curriculum, which they teach to their staff. In this way, each department takes ownership of the entire process, ensures that the education is relevant and demonstrates the application of TeamSTEPPS tools and strategies.

MetroHealth started implementation with its high-risk areas: emergency department, trauma unit (level 1), burn unit, SICU, operating room, PACU, labor and delivery, NICU, and post-partum unit. MetroHealth's approach has been to implement slowly, as each department is ready. Considerable planning and preparation are needed to educate an entire department and ensure staff members begin using the new skills. For example, in its labor and delivery, NICU and postpartum units, the whole process from initial introduction of TeamSTEPPS to the staff to the last instructional class, involving approximately 350 people total, took nine months.

The train-the-trainer model has proved to be very effective as the master trainers and instructors customize content to the learners, selecting simulations, role plays and scenarios that resonate with each department. As a result, the learners can readily understand the application and utility of the tools and strategies presented. Since early 2014, MetroHealth has made significant progress and implemented TeamSTEPPS with approximately one-third of its staff. The master trainers continue to work with the MICU, internal medicine department, pediatrics, ambulatory clinics, finance and information systems.

Results

All staff members feel more engaged, and the culture is safer for everyone to speak up about problems or concerns, as well as contribute to the resolution of these issues. Three examples highlight how MetroHealth departments have employed TeamSTEPPS concepts.

- The central sterilization and processing department completely revised its process of communicating with the operating room and surgeons and preparing their surgical trays. As a result, the department has experienced a significant improvement in the quality and accuracy of the trays, achieving a consistent rate of 98 percent. These improvements were formally celebrated by leadership, demonstrating recognition and support for the staff's efforts.
- The surgical intensive care unit identified opportunities for improving communication among patient caregivers. The staff had identified incidents of misunderstanding regarding treatment plans and coordination of care. As a result, a new clinical rounding process was implemented, employing TeamSTEPPS concepts and tools. Since the beginning of the new rounds, clinical staff surveyed have reported an increase in patient safety ratings and improvement in communication.
- The emergency department took on the task of managing patients suspected of having Ebola or another highly contagious illness. Using TeamSTEPPS strategies and complex simulation, ED staff developed a patient management protocol that was evaluated by the Centers for Disease Control. As a result, MetroHealth is now one of 55 Ebola treatment centers in the United States.

Lessons Learned

- Begin the TeamSTEPPS implementation process with organizational department leaders. Doing so ensures department members are fully embracing change in the current culture, fosters engagement, and guarantees allotment of staff time and needed resources for the implementation.
- Work with each department as it implements TeamSTEPPS and do not impose a strict time line. Allow each department the opportunity to work at its own pace, processing the idea of TeamSTEPPS and identifying instructors who will develop the unit's curriculum.
- Avoid a one-size-fits-all approach to the education. Allow TeamSTEPPS instructors time to customize the coursework so it is relevant and applicable to their department and staff. Individualized scenarios, role play, and simulation work best.
- After staff members in a department are trained, support them in employing the TeamSTEPPS tools, strategies and concepts to address issues within their department. Monitor these projects and provide feedback to everyone within the department, which will ensure sustainability of TeamSTEPPS and the new culture.

- To achieve staff involvement and buy-in, make sure trainings are not conducted unless there is leadership and physician involvement. This ensures that the program is interdisciplinary and "owned" by everyone.
- TeamSTEPPS concepts are relevant to all teams within an organization, both clinical and nonclinical. In the clinical realm, the focus is primarily on patient care and safety. In the nonclinical arena, the goals are efficiency, effectiveness and the success of the department's projects.

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TeamSTEPPS Resources

Agency for Healthcare Research and Quality – TeamSTEPPS®
http://www.teamstepps.ahrq.gov/

TeamSTEPPS® National Implementation
http://teamsteppsportal.org/

Additional Resources

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