



A How-To Guide for Improvement for the AHA/HRET HEN Partnership for Patients

IMPLEMENTATION GUIDE Part I



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The AHA/HRET HEN would like to acknowledge our partner, Cynosure Health, for their work in developing the Implementation Guides Part I and Part II.

Introduction

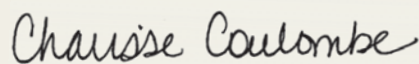
The focus of this project is to accelerate healthcare improvement across the United States, as we labor to achieve the goals of the Centers for Medicare and Medicaid Services (CMS) Hospital Engagement Network – to reduce harm by 40 percent and readmissions by 20 percent. In order to do so, health care leadership must be actively engaged in the quality improvement efforts. This guide serves as a resource for hospital leaders, quality improvement professionals, and front-line staff to build their knowledge about patient safety and clinical quality, and to support an infrastructure and culture for continuous improvement within the health care system. Promoting engagement and sharing and implementing best practices are key parts of this initiative to effectively improve patient safety and quality of care. The dramatic reduction of patient harm and reduction of unnecessary readmissions will improve the health and well-being of patients and communities for years to come.

Working together with hospital leaders, physicians, nurses, and patient advocates; and in close coordination with state hospital associations; we aim to make hospital care safer, more reliable, and less costly for our patients, their families and our communities. Achieving the Partnership for Patients' objectives would result in approximately 1.8 million fewer injuries to patients in the hospital, save more than 60,000 lives over three years, and allow more than 1.6 million patients to recover from illness without suffering a preventable complication requiring re-hospitalization. As of July 2014, we have made tremendous progress towards this goal by improving care in ten clinical areas that have resulted in harm events being prevented for more than 160,000 patients – with an estimated cost savings of over \$1 billion. AHA/HRET is proud of this initiative, and appreciates the opportunity to continue working collaboratively with our colleagues as we strive to achieve these bold goals and make care safer for the patients we serve.

We encourage you to use this Implementation Guide in conjunction with the topic-specific change packages to reduce patient harm and readmissions, and to continue to drive improvements with your teams in all aspects of care today and in the future.



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*Working together
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Section I: The National Quality Strategy

TRIPLE AIM/AFFORDABLE CARE ACT

President Obama signed the Affordable Care Act (ACA) in March 2010. The ACA mandated comprehensive healthcare insurance reforms that have been implemented over the past four years or will be implemented in the future. The Affordable Care Act strives to lower unnecessary healthcare expenditures so as to extend and sustain Medicare benefits and to enhance the quality of care for beneficiaries such as seniors and persons with disabilities. The Affordable Care Act facilitates the Centers for Medicare and Medicaid Services' (CMS) efforts to tie reimbursement to quality standards, by investing in patient safety and encouraging additional incentives for healthcare professionals who provide high quality evidence-based care. (U.S. Department of Health and Human Services, 2011)

CMS AND THE NATIONAL QUALITY STRATEGY

The Affordable Care Act launched the development of a National Quality Strategy (NQS) to guide the federal government in all aspects of health care and implement a standardized approach to the identification and promotion of national health priorities. The NQS was first published in 2011 and was focused on the three-part goal of better care, healthy people/healthy communities, and affordable care. Six priorities were developed within these three broad aims for federal agencies to promote.

The NQS was built on the foundation provided by an earlier private-public collaboration, the National Priorities Partnership, which included input from over 300 organizations and individuals representing every sector of healthcare. The Agency for Healthcare Research and Quality (AHRQ) is the current steward of the NQS, and provides annual revisions and updates that indicate how the strategy is evolving. Its most recent report, published in 2013, displayed a systematic and quantitative analysis of progress in this important arena (<http://www.ahrq.gov/workingforquality/nqs/nqs2013annlrpt.htm>).

National Aims

The Institute for Healthcare Improvement's Triple Aims were adapted to develop the NQS national aims. They are:

- **Better Care:** Improve the overall quality of care by making health care more patient-centered, reliable, accessible, and safe.
- **Healthy People/Healthy Communities:** Improve the health of the U.S. population by supporting proven interventions to address behavioral, social, and environmental determinants of health.
- **Affordable Care:** Reduce the cost of quality health care for individuals, families, employers, and the government.

Affordable Care Act Timeline

(See [Appendix I](#))

Stakeholders in Healthcare Quality

(See [Appendix II](#))

The NQS explicitly acknowledges that serious gaps in the quality of health care have been identified, especially in underserved populations, and that the health care system is not operating in an optimal manner to provide the best care possible for every American. Achieving these national aims requires addressing these gaps and promoting a higher standard of health care for all.

CMS: PAYMENT ISSUES FOR HOSPITALS

Introduction

The utilization of clinical process and outcomes data has undergone a transition in the past several decades. Reimbursements by insurance providers were initially based solely on volume, not on hospital performance. Reimbursements by insurance providers were based solely on volume, not on hospital performance or patient outcomes. If a patient was admitted for surgery and subsequently developed a surgical site/urinary tract infection or a fall with injury, the expenses incurred by the patient's extended length of stay, care, and treatment were all reimbursed. Hospitals were paid to provide care for undesirable and often preventable events, i.e. 'rewarded' for what is now considered substandard care. Those days are coming to an end.

Pay-for-Reporting

Medicare and most other U.S. insurers had traditionally been volume-based purchasers. They reimbursed facilities based upon the number of healthcare services provided, regardless of the quality of care. However, more than a decade ago, Medicare started laying the groundwork to transition to value-based purchasing of healthcare services. In order to assess the value

of care, Medicare began voluntarily collecting data from participating hospitals on selected measures of quality. Data collected noted if patients received certain tests or treatments for heart attacks, heart failure, or pneumonia. In 2004, Medicare made data reporting mandatory, and imposed financial penalties when facilities failed to comply. This approach became known as 'Pay-for-Reporting'. The era of transparency was born in 2005 when this quality data became publicly available on the Hospital Compare website at <http://www.hospitalcompare.hhs.gov>

Pay-for-Performance/Value

Under the Hospital Value-Based Purchasing (VBP) Program required by the Affordable Care Act, Medicare has shifted from paying for just reporting to paying for performance and value.

In the first year of the hospital VBP Program (October 2012 – October 2013), Medicare based payment on measures in two domains, which were already being tracked under the Pay-for-Reporting system. The first domain covered clinical processes of care, such as whether patients who had heart attacks, heart failure, pneumonia, or designated surgeries had received recommended care. The second domain related to patient experience e.g. how patients felt about the communications skills and the responsiveness of hospital staff. Medicare compared hospitals' current scores with their earlier scores to assess the degree of improvement, and began comparing performance data among multiple institutions to identify best practices. This two-pronged approach was designed to balance the concerns of and challenges faced by various types of facilities. High-performing hospitals sought to be rewarded for their innovations and effectiveness, and "safety-net" hospitals serving high-need populations with fewer resources wanted their sometimes more modest performance improvements recognized.

All hospitals contribute equally to the VBP program funding, but hospitals that do not meet designated benchmarks will receive less reimbursement via incentive payments. To maximize payments, hospitals will have to determine how to make meaningful and effective improvements in their processes and procedures.

Pay for Value 2014 Status:

The goal of Hospital Value-Based Purchasing is to monitor how hospitals are performing on important indicators for patient safety, care, quality, and well-being, and to promote improved performance.

In Fiscal Year 2014, 1.25 percent of a hospital's Medicare base-operating DRG payment went into a Value-Based-Purchasing pool. Depending upon how well they measured up on important health-care quality indicators as compared to their peers during the performance period, hospitals would break even, receive a bonus, or, for lower-than-average performance, be reimbursed less than what they contributed to the FY 2014 pool.

For FY 2014, approximately half of the hospitals participating in the program – over 1,300 hospitals – broke even over the course of the year; that is, their payment change was between –0.2 percent and +0.2 percent. Across the U.S., 630 hospitals – just under 25 percent – received a bonus, an increase in Medicare payment above +0.2 percent. Just over 25 percent of hospitals (778) received an overall decrease in Medicare payments, i.e. were reimbursed less than –0.2 percent.

Pay for Value: Moving into the future:

The Hospital Value-Based Purchasing Program refines the measures it uses to evaluate performance annually. It was initially focused solely on process measures, but has now included outcome measures such as 30-day mortality measures for patients admitted with heart attacks, heart failure or pneumonia. The Hospital Value-Based Purchasing Program continues to evolve and will add an efficiency measure in FY 2015.

CMS has identified the Value Based Purchasing measures for FY 2015 and FY 2016. Certain process measures will eventually be 'retired' and others (such as influenza immunization) shall be added. It is evident that the focus on outcome measures will be driving future reimbursements. More detailed information regarding measures is available at http://www.cms.gov/Outreach-and-Education/Outreach/NPC/Downloads/HospVBP_FY15_NPC_Final_03052013_508.pdf

Partnership for Patients

One of the first major initiatives launched by United States Department of Health and Human Services (HHS) as part of the National Quality Strategy was the Partnership for Patients (PfP), a nationwide public-private partnership established to provide support to clinicians, hospitals and communities to reduce readmissions during patient transitions to other settings and improve the quality of care in the hospital (HHS).

The CMS Innovation Center has designated \$500 million for the PfP. In December 2011, CMS awarded \$218 million, via two-year contracts extendable by one year at CMS' discretion, to 26 state, regional and national hospital system organizations to serve as Hospital Engagement Networks (HENs). The HEN organizations were chosen based on a selective competitive acquisition process, and are believed to be those best suited to help the PfP achieve its goals. The 26 HENs are listed in Table 1.

The two goals of the PfP are to:

1. Reduce patient harm by 40 percent.
2. Reduce preventable readmissions by 20 percent.

As outlined in the 1999 landmark Institute of Medicine study, "To Err is Human," approximately one in every 20 patients acquires an infection in the hospital and an average of one in seven Medicare beneficiaries is harmed during his or her hospital stay. Nearly one in five Medicare patients, including approximately 2.6 million seniors and people with disabilities, is readmitted within 30 days of hospital discharge. If the PfP goals are achieved, the benefit to patients, families and the entire health care system will be significant (CMS PfP Fact Sheet). CMS estimates that this effort could result in:

- 1.8 million fewer injuries to patients;
- 1.6 million patients recovering from illness without suffering a preventable complication requiring re-hospitalization;
- 60,000 lives saved; and
- Savings to Medicare of \$50 billion over the next ten years.

TABLE 1

List of Partnership for Patients Hospital Engagement Networks

The Health Research & Educational Trust, an affiliate of the American Hospital Association (AHA)

Ascension Health

Carolinas HealthCare System

Dallas-Fort Worth Hospital Council Foundation

Dignity Health (formerly Catholic Healthcare West)

Essential Hospital Engagement Network (EHEN)

Georgia Hospital Association Research and Education Foundation

Healthcare Association of New York State

Hospital & Healthsystem Association of Pennsylvania

Intermountain Healthcare

Iowa Healthcare Collaborative

Joint Commission Resources, Inc.

Lifepoint Hospitals, Inc.

Michigan Health & Hospital Association

Minnesota Hospital Association

Nevada Hospital Association (NHA)

New Jersey Hospital Association

North Carolina Hospital Association (NCHA)

Ohio Children's Hospital Solutions for Patient Safety

Ohio Hospital Association

Premier

Tennessee Hospital Association

Texas Center for Quality & Patient Safety

UHC (formerly University Health System Consortium)

VHA

Washington State Hospital Association (WSHA)

HEN REQUIREMENTS

HENs are tasked with identifying best practices that reduce healthcare-acquired conditions, improve care transitions and disseminate these practices to hospitals and health care providers. HENs coach hospitals that are implementing new quality improvement initiatives, facilitate peer education among hospitals within their networks and share information about successful improvement strategies, challenges faced and lessons learned.

HENs are conducting intensive programs to share critical knowledge and skills with member hospitals that will support their individual quality improvement initiatives and ultimately improve the safety and quality of patient care. HENs also offer hospitals and other providers technical assistance and help establishing and implementing measurement systems designed to track and monitor progress toward meeting quality improvement goals. For participating hospitals and their employees, organizational strategies such as ‘engaging leadership’ and ‘changing the culture’ are included. The National Content Developer (NCD), another PfP contract awardee, develops and disseminates training materials for the HENs.

The HEN program determines the capacity of large improvement networks to bring about rapid improvements in quality of patient care. These improvement efforts are focused on the following 10 core clinical topic areas that significantly impact patient safety and quality of care.

- Adverse drug events (ADE) including ADEs from anticoagulants, narcotics and sedatives and insulin
- Catheter associated urinary tract infections (CAUTI)
- Central line-associated bloodstream infections (CLABSI)
- Injuries from falls and immobility
- Obstetrical adverse events, including early elective deliveries (EED), pre-eclampsia and hemorrhage
- Pressure ulcers (PU)
- Preventable readmissions
- Surgical site infections (SSI)
- Venous thromboembolism (VTE)
- Ventilator-associated events (VAE)

The Leading Edge Advance Practice Topics (LEAPT), added in January 2014, provide additional patient safety areas that can enhance progress to support the PfP goals.

- Severe Sepsis and Septic Shock
- Clostridium Difficile (c-diff)
- Hospital Acquired Acute Renal Failure
- Airway Safety
- Iatrogenic Delirium
- Procedural Harm
- Undue Exposure to Radiation
- Failure to Rescue
- Results beyond 40/20 AIMs
- Hospital Culture of Safety
- Cost Savings Calculations for Hospital Acquired Conditions

Data Tracking and Reporting for the HENs

Measurement and data collection are essential for tracking hospitals’ progress in addressing these quality improvement areas. Following guidelines provided by CMS, HENs are required to identify appropriate metrics for each topic area. Member hospitals are strongly encouraged to focus on all 11 core areas and optional topics, and, in doing so, to measure both outcomes and processes for improvement, as well as to utilize metrics that align and benchmark with existing network measurement activities. To support hospitals’ data submission efforts, each HEN has established a secure, web-based data collection and management portal. These portals provide HENs with access to their participating hospitals’ data and enable them to evaluate progress and mentor hospitals that need improvement. CMS has stated that any data collected through the PfP initiative will not be used to evaluate hospital performance for existing quality programs such as the hospital’s value-based purchasing program and the hospital’s readmissions reduction program.

The HENs provide reports to CMS describing their quality improvement activities and outcomes, and spotlight hospital progress on improvement measures within each area event area (AEA). At the end of each contract year, the HENs submit an annual report to CMS that details the successes, failures, unintended consequences and areas of improvement in each of the AEAs.

THE AHA/HRET HEN

Hospitals engaged in the PfP share the goal of achieving safe, high-quality care and have made a commitment to both develop and utilize tools and processes that will improve positive outcomes and safety for patients.

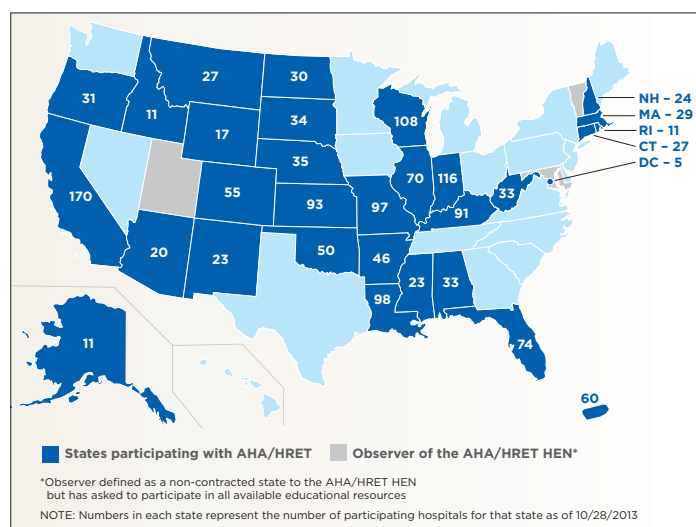
The PfP pledge specifically states (CMS):

“As the providers of hospital-based care to patients in need, we pledge to work to attain the goals of this initiative and commit to building on work already underway to achieve safe, high quality care by utilizing tools and processes that improve safety for patients.

- Make achieving the goals of harm reduction and improved care transitions to reduce readmissions a priority of our Board of Directors, senior leaders, clinicians and staff;
- Support clinicians and staff working for and with us and engage patients and families in order to make care safer, improve communication and increase coordination by implementing proven systems and processes; and
- Learn from and share with others our experiences with making care safer and more coordinated.”

To achieve these goals, most hospitals will require assistance in identifying new strategies, implementing best practices, evaluating the impact of change and spread and sustaining improvements. CMS established HENs across the U.S. to address these needs.

AHA/HRET HEN STATE PARTICIPANTS



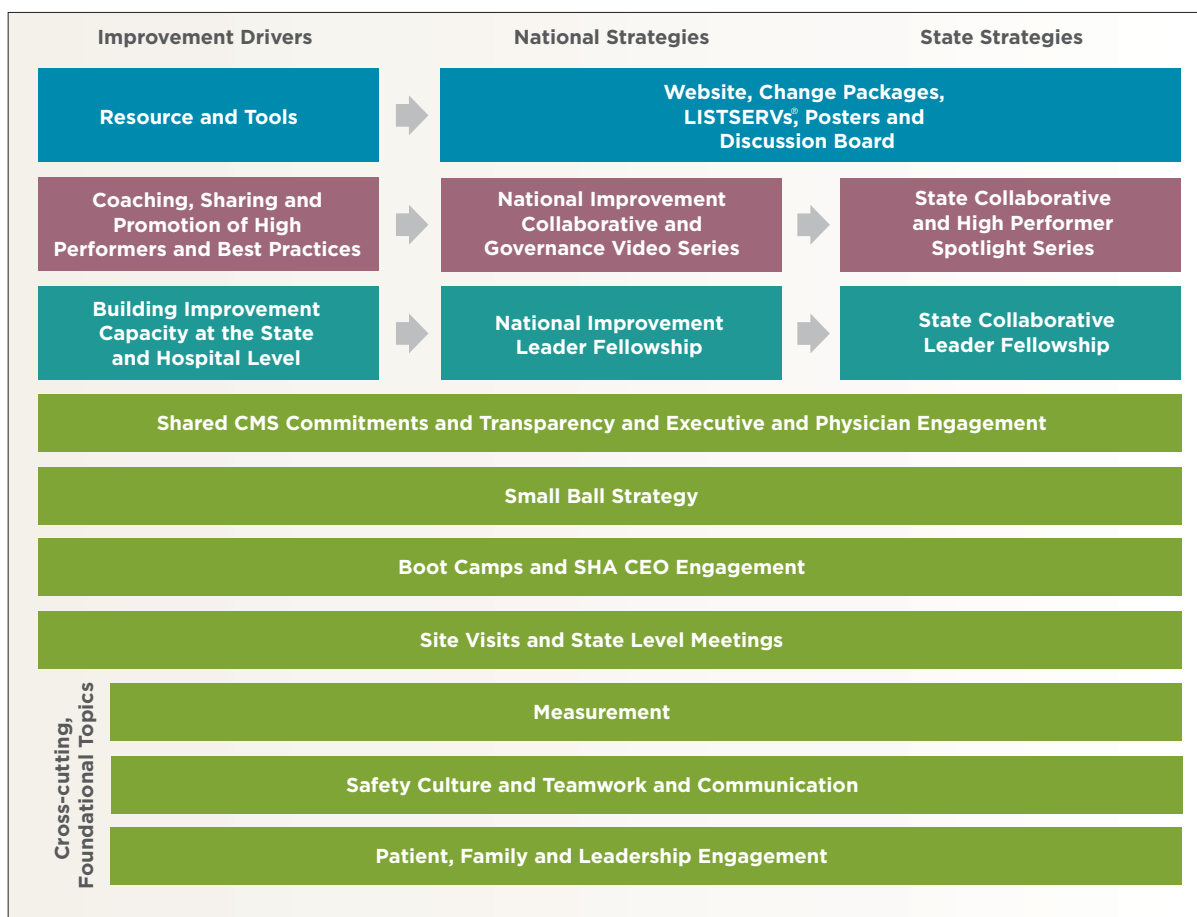
One of the 26 HEN contracts was awarded to AHA/ HRET. The AHA/HRET HEN is the largest HEN, supporting nearly 1,500 hospitals recruited by hospital association partners in 31 U.S. states and territories, including:

- Alabama Hospital Association (AL)
- Alaska State Hospital and Nursing Home Association (AK)
- Arizona Hospital and Healthcare Association (AZ)
- Arkansas Hospital Association (AR)
- California Hospital Association (CA)
- Colorado Hospital Association (CO)
- Connecticut Hospital Association (CT)
- District of Columbia Hospital Association (DC)
- Florida Hospital Association (FL)
- Idaho Hospital Association (ID)
- Illinois Hospital Association (IL)
- Indiana Hospital Association (IN)
- Kansas Hospital Association (KS)
- Kentucky Hospital Association (KY)
- Louisiana Hospital Association (LA)
- Massachusetts Hospital Association (MA)
- Mississippi Hospital Association (MS)
- Missouri Hospital Association (MO)
- Montana – MHA: An Association of Montana Health Care Providers (MT)
- Nebraska Hospital Association (NE)
- New Hampshire Hospital Association (NH)
- New Mexico Hospital Association (NM)
- North Dakota Hospital Association (ND)
- Oklahoma Hospital Association (OK)
- Oregon Association of Hospitals and Health Systems (OR)
- Puerto Rico Hospital Association (PR)
- Hospital Association of Rhode Island (RI)
- South Dakota Association of Healthcare Organizations (SD)
- West Virginia Hospital Association (WV)
- Wisconsin Hospital Association (WI)
- Wyoming Hospital Association (WY)

AHA/HRET HEN Support Structure

To assist hospitals in achieving the PfP goals, the AHA/HRET HEN works closely with state hospital associations (SHA) and other partners. The AHA/HRET HEN team consists of senior leaders, program managers and staff with expertise in areas such as quality and safety improvement, clinical care, organizational culture and change management.

AHA/HRET HEN OVERALL APPROACH TO ACHIEVING 40/20 GOALS



COMPONENTS OF THE AHA/HRET HEN APPROACH



AHA/HRET HEN TEAM

The AHA/HRET HEN team provides the essential operational and programmatic support for all aspects of the HEN. The team is led by Maulik Joshi, DrPH, President, HRET, and Senior Vice President for Research, AHA and Charisse Coulombe, Vice President, Clinical Quality. Other senior leaders and designated program managers provide support to each of the specific SHA leads and coordinate the remaining educational and learning activities for the HEN. The AHA/HRET HEN data team developed and maintains the Comprehensive Data System (CDS), the HEN's secure, web-enabled data collection and reporting system.

SHA HEN Teams

The 31 SHA teams serve as the primary link to the individual participating hospitals. In addition to the participants, three states are observing the HEN activities. The nearly 1,500 participating hospitals represent a breadth of organizational demographics in the U.S. healthcare system. They range from small critical access centers to large academic teaching facilities; include specialty institutions such as children's, psychiatric, rehabilitation and long-term acute care (LTAC) hospitals; and are located in frontier and rural as well as inner-city urban communities. SHA team members bring a unique understanding of the challenges facing their specific hospitals and can identify the interventions and support needed to rapidly implement innovative best practices at their diverse institutions.

Cynosure Health

Cynosure Health is an AHA/HRET HEN partner and provides Improvement Advisors (IAs) and Physician Advisors to support the AHA/HRET HEN and the state hospital association teams in facilitating continuous progress toward achievement of the P4P goals. The advisors are experts in quality improvement and change management who have served as designated content experts for the development of the HEN curriculum and the change packages covering each of the core clinical topics. These IAs also mentor the HEN state leads who are developing their statewide strategy to build and expand improvement capacity among their hospitals, adopting evidence-based practices to achieve the desired results in reducing inpatient harm and readmissions and reporting their measurement data.

Institute for Healthcare Improvement

The Institute for Healthcare Improvement (IHI) provides expertise in motivating and building the will for change, identifying and testing new models of care and facilitating adoption of best practices and effective innovations. IHI provides faculty for the AHA/HRET HEN Improvement Leader Fellowship program (discussed below).

Educational Programs and Learning Collaboratives

The AHA/HRET HEN has developed intensive educational programs and other learning activities to assist hospitals in reducing healthcare-acquired conditions and preventable readmissions. The HEN also offers multiple opportunities for SHA leadership and hospital teams to connect, engage in peer-to-peer learning, and, via collaboration, expand their capacity to engage in and lead quality improvement activities. Examples of the resources and programs offered by the AHA/HRET HEN include:

AHA/HRET HEN Improvement Leader Fellowship Program

The Improvement Leader Fellowship (ILF) program was launched in spring 2012, and designed for SHA leads and quality improvement champions from individual hospitals. The aim of the ILF program is to build a cadre of front-line improvement leaders who will drive their hospitals' quality improvement initiatives. The program consists of face-to-face meetings and webinars that provide instruction in the science of improvement, quality measurement, cultural change, and teamwork. The ILF program strives to develop leaders who will be armed with the best practices to engage teams, overcome challenges, and spread sustainable improvement strategies at their institutions. To provide resources to as many Fellows as possible, the ILF program offers online webinars and face-to-face meetings around the U.S.

AHA/HRET HEN National Improvement Collaborative Sessions

The National Improvement Collaborative training sessions present information ranging from overviews of the core clinical topics to detailed strategies for improvement in each area. Content is provided by quality improvement leaders and subject matter experts from across the country, as well as by individual hospital teams sharing stories of their quality journeys with their peers. The large group, small group, and one-on-one sessions offer unparalleled, timely access to new evidence-based best practices and peer-to-peer learning opportunities.

Affinity Groups

AHA/HRET HEN affinity groups provide a forum for organizations with similar attributes and functions to convene and develop a stronger sense of connection, discuss common challenges and solutions, and exchange information about specific and productive HEN interventions in their settings. The affinity groups are: 1) behavioral health/psychiatric; 2) pediatrics/children's; 3) rural and critical access; and 4) rehabilitation and long-term acute care (LTAC) hospitals. The affinity groups are supported through group-specific LISTSERVs®, webinars and networking sessions at the ILF and National Improvement Collaborative meetings.

AHA/HRET HEN Website

The AHA/HRET HEN website (www.hret-hen.org) provides access to detailed resources on each of the core clinical topics as well as the LEAPT topics. These resources are available to the participants, as well as to the interested public, and can promote the enlistment and engagement of additional potential stakeholders, including patients and families.

Materials from the webinars and conferences are posted on the website and include presentations and audio and video recordings when available. Other sections of the website provide information on upcoming events and registration, and provide links to HRET web pages on reducing disparities, health services research, 'Hospitals in Pursuit of Excellence,' and "On the CUSP: Stop HAI" (AHRQ, 2011). Many of these timely resources are also available to the public and can assist hospitals and health care providers to improve quality and reduce harm.

The website also includes a password-protected, AHA/HRET HEN participant only section, along with a link to access the HRET's password-protected, secure Comprehensive Data System.

Topic-Specific LISTSERVs®

The AHA/HRET HEN launched seven hospital acquired conditions (HACs), topic-specific LISTSERVs® in early May (2012) and four affinity-specific LISTSERVs in July (2012). With the expanded scope of work in the 2014 option year, the LISTSERVs® were modified to group additional optional (LEAPT) topics amongst key core topics.

The topic and affinity groups LISTSERVs® are closed and moderated LISTSERVs®, open to all participating AHA/HRET HEN hospitals and associated SHA staff. To join a LISTSERV or interest, hospital and SHA staff must log-in to the private side of the AHA/HRET HEN website (www.hret-hen.org). Once on the private side of the website, users click on an associated link to fill-out information related to which LISTSERVs® they would like to join. For more information related to this process or the LISTSERVs® please email the AHA/HRET HEN inbox (HEN@aha.org).

These moderated LISTSERVs® provide an online community in which hospital teams can share information, best practices, practical strategies, lessons learned, and related tools in a collaborative forum which supports peer-to-peer learning and networking.

- Adverse Drug Events (ADE)
- Early Elective Delivery (EED)/Obstetric Harm
- ICU Harm (Iatrogenic delirium, sepsis, acute renal failure, failure to rescue)
- Infections (clostridium difficile, CAUTI, CLABSI, SSI and VAP/VAE)
- Other Harm (Falls, HAPU, VTE)
- Procedural Harm (procedural harm, airway safety, undue exposure to radiation)
- Readmissions

SHA Resources

Each SHA offers a variety of educational programs, training sessions, networking opportunities and other activities to complement and build on the national programs offered by HRET. The approach, timing and content of these activities vary from state to state, but include SHA websites, webinars, coaching calls, regional meetings, on-site visits, one-on-one training and assistance with data collection and submission.

Section II: Quality and Patient Safety

HISTORY AND EVOLUTION OF QUALITY

Quality improvement is not a new phenomenon, but it has evolved from an afterthought into a critical component of health care. In the past, many health care institutions implemented new ideas and systems informally (“Here, do this.”), based on anecdotal observations and experiences from leaders, staff, and patients. Leaders might then wonder why the intended changes were not effective, or why staff were non-compliant or created work-arounds for new policies and procedures. Unfortunately, the healthcare industry has been slow to adopt evidence-based practices with proven effectiveness. Quality improvement research began several generations ago with the emerging Science of Improvement. However, according to Bemmel, for research findings to become established healthcare practice takes an average of 17.6 years. (Bemmel JH, 2000) It was not until the late 1990s, after the publication of Institute of Medicine’s (IOM) pivotal report *To Err is Human: Building a Safer Health System*, that improving patient safety became a driving force in the delivery of health care.

Drivers of the Quality Improvement Effort

The foundations of today’s quality improvement methods trace back to the early 20th century and the efforts of that era’s innovative thinkers. Walter A. Shewhart, Joseph Juran, and W. Edwards Deming are often referred to as the three founders of the quality improvement movement and today’s Model for Improvement. (Best M, 2006)

Shewhart is best known as the Father of Statistical Quality Control. (ASQ, 2014) To reduce variation through statistical quality control, he advocated the use of control charts (e.g. the Shewhart chart) to identify and document common cause and special cause variations. (Shewart WA, 1931) [See “Statistical Process Control” in the Implementation Guide, Part II] Shewhart continued to refine his work and its applications to improve quality. He established the three-step cyclic concept of specification, production and inspection. (Shewart WA, 1939) Shewhart said of the cycle: “It may be helpful to think of the three steps in the mass production process as steps in the scientific method. In this sense, specification, production, and inspection correspond respectively to hypothesizing, carrying out an experiment and test [sic] the hypotheses. The three steps constitute a dynamic scientific process of acquiring knowledge.” (Moen RD, 2010) This process evolved into the cycle known as the PDSA (Plan-Do-Study-Act) model.

Shewhart’s work had great influence on Juran and Deming. Joseph Juran, often referred to as the Father of Quality, also contributed significantly to the science of improvement. Juran identified the “Pareto Principle,” today referred to as “Juran’s Pareto Principle.” (The Juran Institute, 2014) The Pareto Principle states that 80 percent of a problem is caused by 20 percent of the defects. Juran developed a concept he referred to as “the vital few and the useful many.” That is, if improvement efforts focused on the problematic 20 percent the impact on improvement would be greater for the effort expended. (Best M, 2006) Juran is also credited with adding the human dimensions to quality management, i.e. the promotion of engagement and emotional intelligence for healthcare leaders. Juran’s Quality Trilogy is made up of: Quality Planning, Quality Control, and Quality Improvement. Quality Planning determines customers’ needs and develops products to meet those needs. Quality Control proves that a process can produce the desired outcome. Quality Improvement develops and optimizes the process via testing and refining. (Best M, 2006)

The Model for Improvement used today is primarily based on W. Edward Deming’s work. Early in his career, Deming was mentored by Shewhart, who taught him how to apply statistics to measure and control process variation. Deming refined Shewhart’s cycle into the Plan-Do-Study-Act model, also known as the PDSA Cycle or Deming Cycle. (The Deming Institute, 2014) Deming viewed an organization as a system. Deming believed management was responsible for 80-85 percent of quality (or lack thereof), and that improvements could be best implemented by redesigning systems of healthcare delivery. (Best M, 2005) Deming’s System of Profound Knowledge (SoPK) provided a framework that could be adopted by any leader or organization seeking to improve quality and shrink costs. SoPK encompasses four interconnected key elements: appreciation for a system, knowledge of variation, theory of knowledge, and understanding psychology and human behavior. Systems that applied the science of improvement and proven principles of effective management could increase quality, customer loyalty, worker satisfaction, and profitability; and reduce waste, costs, and variation. (IHI, 2014) (The Deming Institute, 2014)

THE FOCUS ON PATIENT SAFETY AND PREVENTING HARM

Background

The 1999 Institute of Medicine (IOM) report, *To Err is Human* (Kohn LT, 2000), was a landmark publication that highlighted the fact that nearly 100,000 patients die unnecessarily every year as a result of medical errors. Medical errors, also called “adverse events,” include missed and delayed diagnoses, mistakes during treatment, medication mistakes, delayed reporting of results, miscommunications during transfers and transitions in care, inadequate postoperative care, and mistaken identity. Patient safety also encompasses the concept of “reliability.” Reliability in health care is defined as “patients getting the intended tests, medications, information and procedures at the appropriate time and in accordance with their values and preferences.”

One of the IOM report’s main conclusions is that the majority of medical errors do not result from individual negligence or the negligent actions of a particular group. More commonly, errors are caused by faulty systems, processes, and conditions that lead to mistakes or fail to prevent them. Injury and death often occur because the complexity of services and technology in today’s health care environment have become overwhelming as compared to past practices of care delivery. Traditional care delivery methods, however well-intentioned, are frequently inadequate today to ensure quality and reliability.

To Err is Human lays out a comprehensive strategy by which the government, health care providers and consumers can contribute to the reduction of medical errors. This strategy involves four main components:

- Establishing a national focus to research and expand the knowledge base regarding safety, to develop tools and protocols to enhance safety and to educate health care leaders and practitioners about system-wide and individual safe practices.
- Identifying and learning from errors by developing a nationwide public mandatory reporting system and by encouraging health care organizations and practitioners to develop and participate voluntarily in local reporting systems.
- Enhancing performance standards and accountability for improvements in safety through the involvement of oversight organizations, professional groups and group purchasers of health care.
- Implementing safety systems at all levels of health care organizations to ensure safe delivery practices.

As a follow up to the 1999 report, the IOM released *Crossing the Quality Chasm* in 2001 (Institute of Medicine, 2001) which more broadly addressed how the health system can be reinvented to foster innovation and improve the delivery of care. To achieve this goal, the IOM presented a comprehensive strategy and action plan for the coming decade. The report focused on six specific aims for improvement. These aims were built around the core need for health care to be:

- Safe: avoiding injuries to patients from the very care that is intended to help them.
- Effective: providing health care services based on scientific research and evidence to all who could benefit, and refraining from providing services to those not likely to benefit.
- Patient-centered: providing care that is respectful of and responsive to individual patient preferences, needs and values; and ensuring that patients’ values guide all clinical decisions.
- Timely: reducing wait times and sometimes harmful delays, for both those who receive and those who provide care.
- Efficient: avoiding waste; including waste of equipment, supplies, ideas and energy.
- Equitable: providing care that does not vary in quality, discriminate or promote disparities.

[See Appendix IX: Healthcare Disparities](#)

THE ROLE OF LEADERSHIP AND GOVERNANCE IN QUALITY AND PATIENT SAFETY

Role of Leadership

Dynamic leadership is a key component of the rapidly growing movement to improve patient safety. Successfully leading an organization that is committed to providing safer care requires overcoming common pitfalls in understanding errors, such as ignoring the underlying systems factors and blaming individuals. Leaders at all levels of the organization, from the governing board, to the C-suite, to physician leaders, to unit supervisors, must address the systemic challenges within their organizations and units and open the door to individual and organizational learning.

The Institute for Healthcare Improvement (IHI) (Botwinick L, 2006) describes eight steps health care leaders should implement to promote increased patient safety and high reliability of care in their organizations:

- Identify and address the organization’s strategic priorities, culture and infrastructure (Governing Board, C-suite)
- Engage key stakeholders (gain buy-in and enlist champions) (C-suite)

- Communicate and build awareness at all levels of the organization (C-suite, Unit Supervisors)
- Establish, oversee and communicate system-level AIMS or Goals for Improvement (Governing Board, C-suite, Unit Supervisors)
- Align system-wide activities and incentives (Governing Board, C-suite)
- Track/measure performance over time and strengthen data analyses (C-suite, Unit Supervisors)
- Support staff and patients/families impacted by medical errors (Governing Board, C-suite, Unit Supervisors)
- Redesign systems and improve reliability as guided by performance assessment and data analyses (Governing Board, C-suite)

Leadership plays a key role in establishing the culture of the organization. Culture can be described as “the way we do things,” and is determined by behavioral norms, organizational values and unstated assumptions. Leadership is the key to changing culture, and this change is largely driven by leaders’ behavior. (Krause 2006) Unsurprisingly, the cultural attributes of a health care organization that are predictive of safety and quality performance are also predictive of other key human resource aspects such as organizational performance, productivity, absenteeism, staff satisfaction, and staff turnover.

Role of Governance

Traditionally, hospital governing boards have focused primarily on the financial aspects of hospital performance. Over the past decade, the Institute of Healthcare Improvement, the National Quality Forum, and the Agency for Healthcare Research and Quality have supported efforts to engage boards in quality and patient safety as well. As advocacy for better quality of care and patient safety has increased, governing boards have been called upon to enhance their oversight of the adoption of best clinical practices, and to advance their establishment of quality goals at the highest levels and their expectations that leaders (among the medical staff AND the C-suite) will be accountable for achieving positive quality of care, patient safety, and patient experience outcomes.

Despite the strides made in raising awareness of the vital role of governing boards, and the improvements in board’s skills and competence in the areas of quality of care and patient safety, many hospital boards efforts lag behind national benchmarks. In a recent survey of 773 non-profit U.S. hospital board chairs (Jha, 2010), 91 percent of high-performing hospitals regularly reviewed a quality of care dashboard, whereas only 62 percent of

the low-performing hospitals did so. Financial performance was always on the agenda in 93 percent of the hospitals, but a mere 63 percent of the board chairs reported the same for quality performance. Only 44 percent of chairs identified quality performance as one of the top two most important criteria for evaluating a CEO’s performance.

Hospital leaders, in partnership with the governing board, are instrumental in setting the strategic priorities of an organization with a focus on quality and patient safety.

Elevating board competence and engagement can be promoted by ensuring that board members receive routine and regular education regarding evidence-based best practices, strategies to eliminate patient harm, and methods to establish and support a safety-focused culture and patient-family centered care. (*See: Engaging the Board of Directors*)

Many resources and materials are available for board education efforts. The American Hospital Association – Health Research & Educational Trust recently published “Eliminating Harm, Improving Patient Care: A Trustee Guide” and a series of educational video modules to support and enhance board members’ knowledge and skills in leading quality improvement in their organizations. State hospital associations have implemented voluntary certification or certification programs for board and directors of non-profit hospitals. As of 2010, twelve (12) state hospital associations had implemented such a program: Alabama, Georgia, Iowa, Massachusetts, Minnesota, Nebraska, New Jersey, South Carolina, Tennessee, Texas, Washington and West Virginia (www.americangovernance.com/)

Eliminating Harm, Improving Patient Care:

A TRUSTEE GUIDE

Ten video modules address:

- The Role of the Board in Quality Improvement and Eliminating Patient Harm
- Be Effective in Improving Quality and Eliminating Patient Harm
- Alignment of Safety and Quality with Financial Performance
- Collect and Review Meaningful Data
- The Importance of Measuring Harm Across the Board
- A Clear Organizational Approach and Process for Improving Quality
- Clinician Engagement is Crucial
- The Importance of a Strong Quality Culture
- Patient, Family and Community Engagement
- Board Diversity to Improve Quality and Eliminate Disparities

http://www.hret-hen.org/index.php?option=com_phocadownload&view=category&id=346&Itemid=352

CULTURE OF SAFETY

The concept of a “Culture of Safety” originated from beyond the health care industry; from fields such as aerospace engineering which carried out intrinsically complex and hazardous functions and demanded high reliability. These high-reliability organizations expected a commitment to safety at all employee levels, from front-line engineers to managers and executives. These organizations established a “Culture of Safety” that encompassed the following key features (AHRQ):

- The acknowledgment of the high-risk nature of the organization’s activities and the determination to achieve consistently safe operations.
- A blame-free environment in which individuals are able to report errors or near-misses without fear of reprimand or punishment.
- The encouragement of collaboration across ranks and disciplines to seek solutions to safety problems.
- The organizational commitment of resources to address safety concerns.

Similarly, implementing a “Culture of Safety” within health care is necessary to prevent or reduce errors and improve overall health care quality. Research studies have documented that considerable variation exists in perceptions of safety culture across health care organizations and employee classifications. Study findings included staff complaining of the lack of a blame-free environment and providers, at all levels, noting problems with commitments by the organization toward establishing a culture of safety. The underlying reasons for the underdevelopment of a health care safety culture are complex and include poor communication and team function, lack of accountability, and absent or minimal leadership commitment and support. Two additional findings identified were (a) that safety cultures varied among different units and business areas within hospitals, and (b) that gaps in perceptions of safety existed between front line caregivers and senior leaders. Leaders tended to have a more favorable impression of the safety climate than the organizations’ employees.

Safety culture can be assessed by surveys of providers at all levels of an organization. Validated surveys publicly available include the Agency for Healthcare Research and Quality’s (AHRQ) Patient Safety Culture Survey and the Safety Attitudes Questionnaire. These surveys ask providers to rate the safety culture in their units and in the organization as a whole.

Just Culture

The culture of individual blame that has been traditional and is still prevalent in health care undoubtedly impairs the advancement of a safety culture. One obstacle to adopting the new model is the belief that “no blame” may be an appropriate perspective from which to address some errors, but other errors do seem blameworthy and demand accountability. In an effort to reconcile the twin needs of a ‘no-blame’ approach and of appropriate accountability, the concept of a “Just Culture” was introduced by David Marx. A ‘Just Culture’ focuses on identifying and addressing systems issues that lead well-intentioned individuals to engage in unsafe behaviors, while maintaining individual accountability by establishing zero tolerance for reckless or negligent behavior. The Just Culture distinguishes between human error (e.g. slips), at-risk behavior (e.g. taking shortcuts), and reckless behavior (e.g., ignoring required safety steps).

In a ‘Just Culture,’ the response to an error or near-miss is determined by the type of behavior associated with the error and not by the severity of the event. For example, an unfortunate patient outcome despite adherence to a prescribed protocol might result in a review and revision of the protocol; whereas ‘reckless’ behavior, such as refusing to verify patient identification prior to medication administration or prior to a procedure, could merit disciplinary action, even if the patient was not harmed.

In order to improve safety culture, underlying problem areas must be identified and solutions developed to target each specific problem. Many organizations measure safety culture at the institutional level, but significant variations in safety culture may exist among an organization’s departments. For example, the perception and implementation of safety culture may be high in one unit within a hospital and low in another, or may be high among management and low among front-line staff. These variations contribute to the mixed success record of interventions intended to improve safety climate and reduce errors. Many of the determinants of a successful safety culture are dependent on local unit engagement and interdisciplinary relationships; thus, efforts to change and improve safety culture must often occur at a microsystem level.

“Culture” in health care is defined as:

- Shared values regarding the organization’s priorities.
- Shared beliefs about how the organization operates.
- How these beliefs influence unit and organizational structures and systems.

In a culture of “blame,” employees tend to cover up errors, so information flow and opportunities for intervention and improvement decrease and “quick fixes” abound. A “Just Culture,” on the other hand, includes the following characteristics:

- Openness
- Learning, not blaming (but NOT blame-free)
- Accountability for individuals and their teams
- Accountability for the system, and for the organization and clients
- Outcomes do not determine actions, but guide improvements.

PROCESS DESIGN

As noted, almost 80 percent of medical errors are system-derived. Dedicated health care providers and staff cannot overcome the complexities inherent in today’s systems of health care and prevent errors and harm to patients by simply working harder. Mistakes can best be prevented by re-designing the health system at all levels to make it safer – in other words, to make it harder for employees to do something wrong and easier for them to ‘do things right.’ Of course, health care professionals must still be diligent and vigilant and assume responsibility for their actions. But if an error occurs, an objective analysis of the event and its contributing system is more likely to result in interventions that improve system safety and prevent a repeat of the mistake.

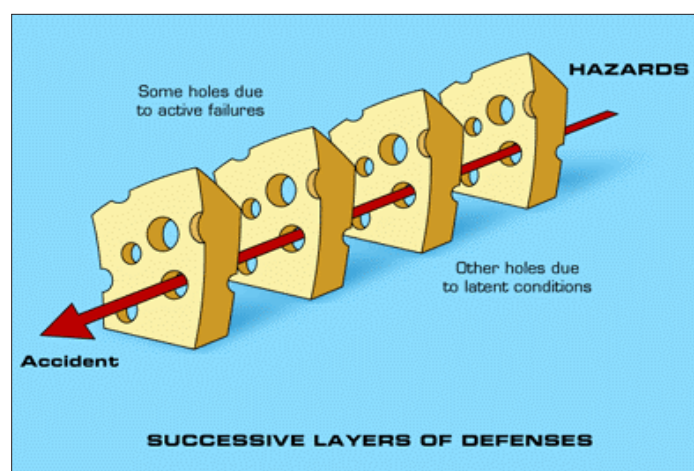
Human Factors

Health care professionals are human beings, and, therefore, are fallible. Fortunately, our typical omissions, missteps and mistakes rarely result in serious consequences. In health care, however, errors can be catastrophic, leading to infection, injury, or death. When faced with higher-risk situations, such as those in health care delivery, we heighten our focus and vigilance to reduce the chances of making mistakes.

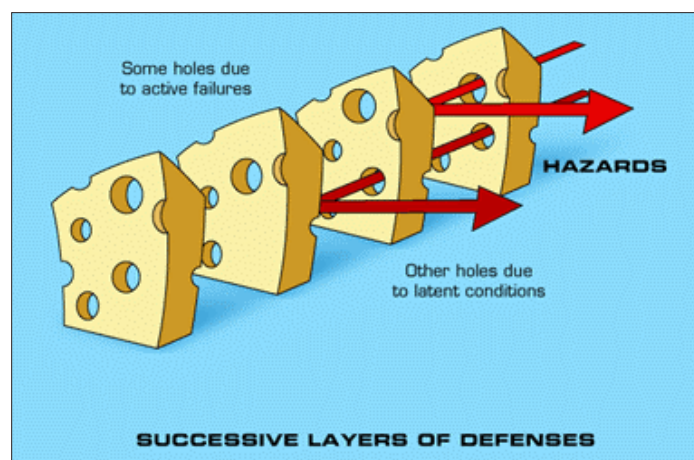
These individual efforts are critical for patient safety, but are not the only factors in preventing negative outcomes. The contribution of systemic fallibility is outlined by the Swiss Cheese Model of Organizational Accidents (Reason 1990). The Swiss Cheese

Model hypothesizes that in any system there are many layers of defense against errors. Examples of layers of defense in a health care process or system include the double-checking of drugs before their intravenous (IV) administration, pre-operative check-lists, and surgical site marking prior to operations. Unfortunately, each layer of defense, like Swiss cheese, has tiny ‘holes’ in it; holes which may be caused by poor design, inadequate training, limited resources, etc. These holes are known as ‘latent conditions.’

If latent conditions become aligned over successive layers of defenses, a window of opportunity for a patient safety incident to occur is created, as demonstrated in the diagram below.



Latent conditions also increase the likelihood that health care professionals will make ‘active errors,’ i.e. errors that occur while delivering patient care. When a combination of latent conditions and active errors causes all layers of defense to be breached, a patient safety incident occurs, as depicted by the red arrow in the image below (Department of Family Medicine, Duke University, 2005).



When patient safety incidents occur, it is uncommon for any single action or ‘failure’ to be wholly responsible. It is far more likely that a series of seemingly minor events all occurred consecutively and/or concurrently, so on that one day, at that one time, all the ‘holes’ lined up and a serious event resulted. Upon investigation, it usually becomes clear that multiple failures occurred, leading to the inevitable, unwelcome outcome.

For health professionals working inside a complex system, this realization may be disturbing. In their past experience, under similar conditions, these employees may have made small errors or slips that did not lead to a negative outcome. Because health care professionals rarely intend to harm patients or perform substandard work, the question arises as to why latent conditions or “holes” develop in the system. One possible answer: many processes and procedures in health care are complex and time-consuming for busy staff, thus creating the temptation to take shortcuts or create ‘work-arounds’ that lead to such “holes.” A mechanism for mitigating the temptation to create “work-arounds” is to create systems that prevent them in the first place through human factors engineering.

Human factors engineering is the design of facilities, equipment, and processes to promote safety, while keeping human characteristics, such as fallibility, in mind. To succeed, human factors engineers must:

- Understand and respect human limitations, and design jobs for safety.
- Avoid reliance on memory by providing reminders.
- Use constraints, forcing functions, and natural mappings,* or designs.
- Simplify and standardize procedures whenever possible.
- Promote effective team functioning.
- Encourage reporting of errors and near-misses and use these reports as opportunities to prevent future errors.
- Include the patient in the design of safe processes.
- Anticipate the unplanned.
- Plan for failure, and design for recovery.

Human factors engineering is readily illustrated by automotive safety features. For example, if you forget to put on your seatbelt, an audible alert reminds you to buckle up. If you park your car, open the door and hear a persistent alert, your car is reminding you to turn off your lights or remove your keys.

- *Natural mapping is a “user-centered design” strategy, wherein devices are designed so that they can be used for their intended purpose in a user-friendly, reliable, and safe manner. Examples include designing a steering wheel to turn to the right when that is the intended direction for the vehicle, and placing the controls for a stovetop in the same configuration as the burners. Health care examples include setting up crash cart contents by arranging the drugs and their code algorithms according to the recommended sequence of administration.
- Another strategy to prevent user error is the use of constraints or forcing functions. These design elements will push the user to the next appropriate action or decision. A constraint makes it difficult to do the wrong thing, and a forcing function makes it impossible.
- An example of a constraint is a computer pop-up warning that appears when a physician orders a duplicate medication for a patient. To clear the pop-up, the physician has to actively review and reconsider the order.
- A forcing function example: a car’s engine cannot be started unless the driver’s foot is on the brake and the car is in Park, thus preventing the risk of starting a car in gear and having the vehicle lunge forward or backward unintentionally (IOM, 2000). Examples of health care forcing functions include using tubing connectors designed to prevent caregivers from accidentally connecting an enteral tube feeding to an intravenous access site, or implementing a hard-stop policy to prevent early elective infant deliveries in the absence of a justified medical or obstetrical condition.

TEAMS AND TEAMWORK

Growing recognition of the value of teamwork has led to the application of teamwork training principles, originally developed in aviation, to a variety of health care settings. While there is no single standardized teamwork training program for health care, all such programs stress several key concepts.

Teamwork training attempts to minimize the potential for errors by coaching each team member to respond appropriately in acute situations to promote adherence to safety processes and procedures. Team members are trained to crosscheck each other's actions, offer assistance when needed, and identify and address errors in a nonjudgmental fashion. Teamwork training develops effective communication skills and promotes a collaborative environment among team members, creating an atmosphere in which all personnel feel comfortable speaking up or intervening when they suspect a problem. Team members are mentored in debriefing and providing feedback, especially after an incident or error occurs.

Teamwork training also emphasizes the contribution of human factors such as fatigue and perceptual errors to safety mishaps, as well as the impact of organizational management styles and cultures on team function (D, 2001).

TeamSTEPPS

One specific teamwork training program in health care is TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety) – a program collaboratively developed by the U.S. Department of Defense (DoD) and the Agency for Healthcare Research & Quality (AHRQ). This program has been implemented in multiple health care environments, and trains health care providers in effective communication skills to increase safety and reduce the incidence of harm to patients. Additional information about TeamSTEPPS can be found in [Appendix IV](#).

Communication

In addition to teamwork, effective communication is essential for the delivery of high quality, safe patient care. Communication failures are an extremely common cause of inadvertent patient harm. The complexity of modern medical care, coupled with the inherent limitations of human performance, make it critically important that clinicians maintain standardized communication skills and share a common “critical language” to alert team members to unsafe situations in an environment in which individuals

can comfortably speak up and express concerns. Other high reliability industries, such as aviation and nuclear energy, have demonstrated that the adoption of standardized tools and behaviors is a very effective strategy to enhance teamwork and reduce risk.

Unfortunately, effective communication is frequently situation- or personality-dependent; communication failures are the leading cause of inadvertent patient harm (Teamwork Communication Working Group, 2001). Analysis of sentinel events reported to the Joint Commission in 2010-2012, revealed that the primary root cause of these events in over 60 percent of cases was communication failure (TJC, 2012). The clinicians providing care in these cases had very divergent perceptions of expected outcomes, and these differences undermined the care provided. Communication and teamwork training aims to create a common mental model for practitioners and “gets everyone on the same page or in the same movie.” The mantra of “everyone in the same movie, and no surprises” is easy to teach and has been proven successful in improving patient outcomes (Teamwork Communication Working Group, 2001).

Communication failures can be due to many factors. For example, doctors and nurses are trained to communicate quite differently. Nurses are coached to be very broad and narrative in their descriptions of clinical situations (“to paint the big picture”), whereas physicians learn to be very concise and get to the “headlines” quickly. The result is that nurses may consult with physicians and provide a general overview of their patient concerns, whereas the doctors may want nursing staff to “come to the point” and directly express their needs. Effective communication can become stifled. The Situation, Background, Assessment and Recommendation (SBAR) process discussed below is very effective in bridging these differences in communication styles and helping to “get everyone in the same movie.”

Hierarchy, or power distance, also inhibits team members from communicating effectively. Authoritarian leaders, who establish and reinforce large gradients in authority, promote miscommunication and unnecessary risks. Successful team leaders and managers aim to flatten hierarchies, facilitate open communication among employees, and help team members feel safe to speak up and participate.

A large and ever-present cultural barrier to improving patient safety is the deeply embedded belief that quality of care and error-free clinical performance are due to health care professionals being well-trained and diligent when caring for patients. In this paradigm, the inevitable human mistakes are viewed as episodes of personal failure, and frequently “brushed under the table” with their systemic causes remaining unaddressed. Human factors science informs us that the inherent limitations of human memory, the effects of stress and fatigue, the risks associated with distractions and interruptions, and our limited ability to multitask ensure that even skilled, experienced providers will sometimes make mistakes. Effective communication that supports and facilitates a well-understood plan-of-care greatly reduces the chances of such errors occurring and injuring patients (Leonard M, 2004).

Structured Communication

For situations in which specific and complex information must be communicated and responded to in a timely manner and the consequences of omitting critical information are dire, structured communication can ensure that the right information is shared at the right time with the right people.

Some specific structured communication techniques that patient care teams can adopt include:

Briefings: Briefings quickly set the tone for team interaction, identify any risk points and plan for contingencies; ensuring that care providers have a shared mental model of what is going to happen during a process.

Debriefings: Debriefings are concise exchanges that occur after events have been completed to identify what happened, what was learned, and what can be improved in the future.

SBAR: SBAR is the acronym for Situation, Background, Assessment and Recommendation. The communication process for SBAR is as follows: the Situation is conveyed by the initiating individual and establishes the topic of discussion; the Background provides any information needed to make an informed decision for the patient, such as a list of current medications or a report of recent vital signs; in the Assessment, the individual initiating the SBAR reports the patient’s situation and status; and, finally, the Recommendation allows the individual initiating the SBAR to offer suggestions or recommendations for action.

SBAR

S**Situation**

**Briefly describe the situation.
Give a succinct overview.**

B**Background**

**Briefly state pertinent history.
What got us to this point?**

A**Assessment**

**Summarize the facts.
What do you think is going on?**

R**Recommendation**

**What are you asking for?
What needs to happen next?**

SBAR EXAMPLE

Situation: “Dr. Smith, Mr. Doe fell in the bathroom, landing on his left hip.”

Background: “Mr. Doe is a 63-year-old male with a history of hypertension and atrial fibrillation. He is on captopril 50mg twice a day and atenolol 80mg every morning. He was admitted 2 days ago for tachycardia/atrial fibrillation and chest pain, and to rule/out acute myocardial infarction. He declined his meds this morning.”

Assessment: “He is awake and alert, without loss of consciousness. Just prior to the fall, he complained of dizziness. His heart rate is irregular at 165-185 bpm, blood pressure is 184/88, and oxygen saturation is 94 on room air. He is complaining of severe pain to his left hip, and is unable to weight bear on his left leg. Distal pulses and sensation are good bilaterally.”

Recommendation: “We would like a stat EKG to assess his irregular heart rate and an x-ray of his left hip to assess for fracture. We will call you to see him as soon as they are ready.”

Common Language: Using a common vocabulary, which is agreed upon and understood by all providers in a particular setting to describe critical issues or observations, can be helpful to ensure consistency and comprehensiveness in communication. By committing to using a common language, organizations can ensure consistent communication about critical issues among all types of providers and within many different types of situations.

Assertive Language: Assertive language identifies specific words that can trigger specific actions. For example, the Concern-Uncomfortable-Safety (CUS) approach escalates communication from an expression of concern through a command to stop. The escalation of concern consists of, “I’m concerned (C),” “I’m uncomfortable (U),” “this is unsafe,” or “I’m scared” to mean “This is a potential serious problem. Stop and listen to me (S).” The two-challenge rule, in which a concern is expressed at least two times to ensure it has been heard, is also a type of assertive language.



Critical Language: Critical language is described in non-health care industries as “stopping the line,” i.e. halting further action. It is important to have a standard, agreed-upon phrase among healthcare teams to call a time-out when a situation becomes critical, especially if the individuals expressing the concerns have been hesitant, uncomfortable, or have not communicated their concerns effectively.

Critical Language Examples

“May I clarify?”

“Let’s hold for a minute and make sure we are all on the same page”

“I am concerned”

Closed Communication Loops: Closed communication loops improve the reliability of communications by having the receiver of a communication restate what was said by the sender to confirm understanding. One specific type of closed loop communication is to “repeat back,” which is composed of four distinct actions:

- The sender concisely states information to the receiver.
- The receiver then repeats back what he or she heard/understood.
- The sender acknowledges that the “repeat back” was correct or makes a correction.
- The process continues until a common understanding is verified.

Another example is “Read Back,” which is a Joint Commission requirement to support safety with telephoned orders. A typical “read back” scenario:

- 1) The prescriber concisely states information to the nurse/pharmacist.
- 2) The nurse/pharmacist then *writes down* the order and **reads back** what was heard.
- 3) The prescriber acknowledges that the read back was correct or makes a correction.
- 4) The process continues until a shared understanding is verified.

**“Repeat Back” and “Read Back”
are examples of
CLOSED COMMUNICATION LOOPS**

Active Listening: Active listening entails maintaining a comfortable level of eye contact, monitoring body language, listening completely without framing a response while another individual is still speaking, and repeating back information to confirm understanding.

Callouts: Callouts are clearly-spoken phrases that indicate the phase of a process. For example, callouts are often used in the operating room at the start and closing of a procedure, but may also be used at other times.

Callouts

Callouts should be spoken clearly and loudly as simple phrases so the team members can hear and understand.

Examples:



Section III: Performance Improvement

STRUCTURE, PROCESS, OUTCOME

Avedis Donabedian, MD, MPH explored aspects of quality of care in his 1966 paper, “Evaluating the Quality of Medical Care,” in which he classified characteristics of care as structure, process, or outcome. Donabedian defined structure as the relatively stable characteristics of care provision, i.e. the providers of care, the tools and resources they use, and the physical and organizational settings in which they work.

Donabedian posited that good structure is the most important means of protecting quality of care, but is not a guarantee of good quality. Good quality is less likely, however, if there is a deficiency in structure. Aspects of structure (e.g. sufficiency of resources, staffing, and availability of equipment) can and should be monitored and measured.

Process of care is what Donabedian described as a “set of activities that go on within and between practitioners and patients.” The series of events that occur during care delivery can also be used to evaluate the quality of care, but they may not have a causal relationship to the patient outcome. However, process measures are often used to assess the effectiveness of evidence-based steps linked to a desired outcome. (Donabedian, 1980)

Outcome measures allow the observation and assessment of the results of care and/or services provided.

All three components are equally important. However, Donabedian warns that a particular outcome only reflects upon the quality of care if the outcome can be attributed to the care provided.



MODEL FOR IMPROVEMENT, RAPID CYCLE IMPROVEMENT, TESTS OF CHANGE

The Model for Improvement

A fundamental truth about improvement is **that improvement requires change**. Dr. Paul Batalden, the Dartmouth Medical School professor and pediatrician, who, with Dr. Donald Berwick, co-founded the Institute for Healthcare Improvement (IHI) in 1991, has been quoted as saying, “*Every system is perfectly designed to achieve exactly the results that it achieves.*” In other words, a system that has not been changed or updated cannot be expected to provide different or improved results.

Embedded within this phrase is an underlying philosophy of modern health care improvement: each specific system results in a specific level of performance. In order to achieve an improved level of performance, the system must be changed so as to produce different and better results.

Poorly designed systems may be inefficient and unproductive and often result in poor quality outcomes. Quality Improvement (QI) initiatives can identify unnecessary, redundant, or missing processes in systems, and attempt to improve quality by simplifying or revising system procedures and layers.

Unfortunately, **whereas improvement requires change, not every change is an improvement**. System changes intended to improve quality must be tested and assessed to determine whether they produce more successful outcomes.

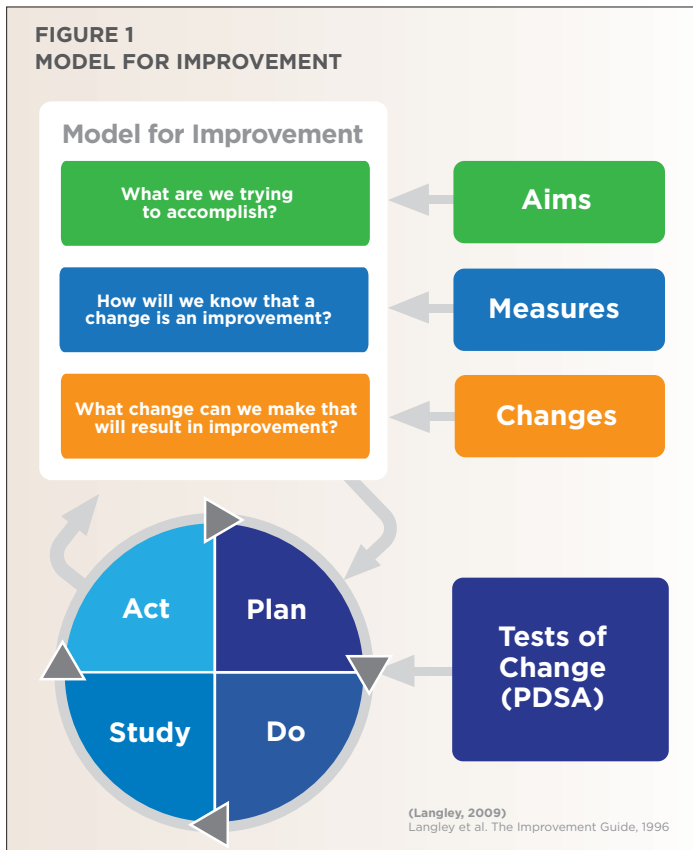
Effective change requires an understanding not only of how **one** part of a system functions, but of how all the system parts are linked together and coordinated. For example, training staff to enhance their knowledge and skills will only improve a system if the lack of such knowledge and skills was the major cause of poor performance in that system. If the system has other unaddressed problems, such as lack of resources, inadequate staffing, or ineffective management or communications structures, then even well-trained staff will not be able to accomplish their duties to the best of their abilities. The bottom line: Changes in one specific area may not lead to quality improvements if they do not significantly affect the overall quality of care the system provides.

The Model for Improvement, developed by the Associates in Process Improvement (Langley, 2009), is a process used by both health care and non-health care organizations to achieve rapid

cycle improvement. The Model asks three key questions to drive improvement efforts:

1. What are we trying to accomplish?
2. How will we know that a change is an improvement?
3. What changes can we make that will result in improvement?

The answers to these questions will inform and populate the PDSA cycle (Plan-Do-Study-Act) that guides implementation and assessment of necessary changes. The Model is depicted in Figure 1.



1. AIM Statement: What are we trying to accomplish?

The first step in a successful improvement project is to identify a specific goal, known as the “AIM statement.” The AIM statement should specify the population to be affected by the change and should be specific, measurable, and set within a timeframe. For example, an AIM statement such as, “We will reduce ventilator-associated pneumonia at Good Health Hospital” is not definitive enough to drive effective change. A better AIM statement would be, “The incidence of ventilator-associated pneumonia will be reduced by 40 percent in the ICU at Good Health Hospital by December 8, 2014.” This AIM statement specifies the deadline (by December 8, 2014), the specific population involved in the

project (ICU patients at Good Health Hospital) and the amount of improvement (a 40 percent reduction in ventilator-associated pneumonia). The AIM statement answers the questions (1) What?, (2) How much?, (3) By when?, (4) Who?, and (5) Where? Identifying a specific goal or goals at project launch can help the assigned action team(s) focus their improvement efforts.

2. Measurement: How will we know that a change is an improvement?

After the AIM statement is developed and the action team is clear about the goals of the project, the next step is to determine if the changes to be implemented will actually result in improvements. Three types of measures can be helpful: Outcome, Process and Balance

- **Outcome measures** determine whether a process worked as intended; for example, if pneumonia mortality rates went down when process X was implemented.
- **Process measures** determine whether the steps in the process have been carried out as designed; for example, by calculating the rate of compliance with the Ventilator-Associated Pneumonia evidence-based practice bundle
- **Balance measures** determine whether the changes in procedures resulted in unexpected consequences; for example, if, when new fall prevention protocols were implemented, patient fall rates decreased, but restraint use increased.
- **Structure measures** may be utilized to assess structural elements, such as education, training, certification of professionals providing care, or the adequacy of the facility, staffing, equipment or environment

Measurement during rapid cycle improvement should follow quickly after a small test of the planned change. Analysis of measured data is performed in short debriefing sessions with the parties involved in the test and can identify what “worked” and what didn’t. As a result of this review, the change process can be adopted, abandoned, or revised and implemented. Multiple testing and measurement cycles may be necessary, and can allow for ongoing refinements and expansions of the testing environment.

3. Changes: What types of changes can we make that will result in an improvement?

The third question in the Model for Improvement is used to determine which changes should be tried and tested on a small scale to see if improvement occurs. There are many kinds of changes that will lead to improvement, but these types of changes

are typically developed from a limited number of change concepts. A change concept is an approach to change that facilitates the development of ideas which can be tested in an improvement project. Examples include:

Eliminate Waste

Looking for ways of refining or eliminating any activity or service in the organization that does not add value to an external customer or advance the organizational mission and goals.

Optimize Inventory

Using resources effectively involves managing inventory of all types judiciously to avoid inefficiency or waste; understanding where inventory is stored in the system, and assessing the inventory's functions and necessity.

Change the Work Environment

Changing the work environment itself can be a high-leverage opportunity to make other systemic and local process changes more effective.

Producer/Customer Interface

Engaging customers in improvement efforts that result in recognizable and appreciated patient benefits; client/patient recommendations and input and feedback about processes for communicating and obtaining services can inspire improvement initiatives

Manage Time

An organization can gain a competitive advantage by reducing waiting times for services, lead times for orders and deliveries, and cycle times for all functions in the organization.

Improve Work Flow

Improving the flow of work processes can reduce wasted time, protect limited financial and human resources, and enhance the quality of the goods and services produced by those processes.

Focus on Variation

Reducing variation in processes and systems improves the predictability of outcomes and helps reduce the frequency of errors and poor results.

Error Proof

Redesigning systems to reduce the risk of human errors, e.g. requiring double-checks or documentation of steps in a process that involves more than one employee and is not memory-based.

Focus on the Product or Service

In addition to improving processes, ideas of change can address refining and improving products and services provided by the health care organization

Combining a change concept with knowledge about how a process works in an organization can facilitate the development of ideas for testing an improvement initiative. Additional methods of generating ideas include brainstorming with the action team, creating a flowchart of a process and identifying its weak points, exploring best practices from other institutions, and studying current research to stay abreast of advances in the quality of health care.

After the improvement team identifies a change idea within a process, a small test of change can be executed following the PDSA (Plan-Do-Study-Act) cycle (WE, 2000). PDSA cycles should be run among smaller cohorts before gradually expanding to a larger population within the system or organization if the change is deemed successful.

PDSA Cycle

The PDSA cycle is an improvement tool which promotes improvement via the implementation of subsequent cycles of tests among a broader population over a wider range of conditions.

Plan

The first step in the cycle involves identifying and planning the change to be tested. Plans should be as specific as possible and include information about:

- Where will the test take place?
- Who will participate in the test?
- What resources will be needed for the test?
- How will the test be measured for effectiveness?
- What may happen once the change is implemented?

Do

This is the actual act of carrying out the test. Tests for improvement initially should be very small and local. For example, an initial test of a new form could be performed with one nurse and one patient on one nursing unit. If the test proves successful, the new form can be tested with several nurses and several patients in several different units. Participants should be surveyed as soon as possible after the test to assess the effectiveness of the change, as well as to identify any challenges that invite process revision.

Study

During this phase of rapid cycle improvement, data can be collected during testing by observation or after testing is completed through a "huddle" or "debrief" with the staff or patients involved. The results of testing will be analyzed and will help to determine whether a change process will be abandoned, adapted, or adopted. Testing periods should not last more than a month and can usually be completed within a few days, allowing for multiple testing cycles if needed.

Act

The “Act” portion of the cycle occurs when the decision to Adapt, Abandon or Adopt is made, based on the analysis of the collected input and information. If revisions and changes are indicated, the process is revised or “adapted,” and a new testing cycle is instituted. If the trials have been unsuccessful, the change idea may be “abandoned.” The decision to “adopt” a new process usually occurs after extensive testing, i.e. when the change is ready for implementation on a broader scale.

Implementation of change can have an impact on strategic planning efforts, written policies and procedures, human resource management, and budgeting and financing, and must be built into the organization. Process changes can affect departments within the organization that may not have been engaged in the testing phase – a PDSA cycle involving those stakeholders may be necessary before permanent “adoption” of the change is finalized.

LEAN/SIX SIGMA

LEAN and Six Sigma both have their origins in manufacturing. These tools and methodologies are now being applied in health-care settings to improve results for patients. In this chapter we will explain the elements of LEAN and Six Sigma, and provide examples of how they can be used singly or together in improvement efforts.

LEAN

LEAN was developed by the manufacturing industry in Japan. The primary goals of LEAN are to identify and eliminate waste (muda) to create the highest amount of value to the customer. The seven forms of waste are: transportation, waiting, over production, defects, inventory, movement, and extra processing. Some references add the additional wastes of underutilization of personnel, resources and creativity.

An example of how waste has been eliminated in healthcare is the development of a central line kit or cart. After the kit or cart has been developed, staff no longer need to use excessive movement to gather necessary supplies prior to the insertion of a central line. All of the supplies are together and easy to access at the time they are needed.

LEAN uses a series of tools to identify and reduce waste. Two common LEAN tools are:

5S – Five S is a description of the steps that should be used to organize a work space, and is often the first LEAN effort tried. Five S consists of the following: sort (review all items, select those that are necessary, and remove those that aren’t), shine (clean and repair all needed items) set in order (organize items as needed to perform work and visually draw where each item should be

placed), standardize (establish procedures for cleaning and restocking the items), and sustain (hold the gains). For example, in a crash cart, all items are in their place so that they can be readily obtained when needed. Once used, the supplies are quickly replaced in a designated fashion, so that the cart is ready re-enter service.

Value stream mapping – This method is used to outline the current state as compared to the desired state. The value stream begins with the supplier and ends with the customer. The map details the steps that lay within a process and illustrate opportunities to eliminate waste or steps that do not add value. Value stream maps provide a snapshot of information flows as well as supply flows. If a health care delivery system such as surgical services or meal delivery is mapped out, and all of the steps within that service are explicitly identified, can any transportation, waiting, over production, defects, inventory, movement or extra processing waste be recognized and eliminated?

In addition to these tools LEAN methodology utilizes other key principles. *Kaizen* is translated as “take apart, make good.” It calls on organizations to continuously improve and strive for innovation as well as acknowledge that perfection is never attainable. *Genchi* or *Genbutsu* call on organizations to go to the source of the work to identify improvement strategies.

Terms associated with LEAN include: ‘standard work’ which is achieved by defining the methods of what and how work should be done, and consistently applying them; and ‘pull,’ which refers to the notion that customers should pull the services and products that they need, rather than having an organization ‘push’ the services and products it believes the customer wants. For more information about associated terms visit the LEAN/Six Sigma glossary referenced in the list of websites at the end of this section.

Six Sigma

Six Sigma also has its roots in manufacturing and was developed by the Motorola Company in 1985. Six Sigma is a process capability measure which identifies the number of defects in a final product. If a product is being produced with Six Sigma Performance, it will be free of defects 99.9997 percent of the time. Whereas the main focus of LEAN is to improve efficiency by eliminating waste, the main focus of Six Sigma is the improve effectiveness. This can be achieved by eliminating defects through a methodology that helps identify and reduce performance variations caused by poor design, changing needs, an inadequate measurement system, insufficient process capabilities, or poor skills or behaviors. Six Sigma uses the DMAIC performance improvement methodology: Define, Measure, Analyze, Improve, and Control.

Define – What is important to the customer? e.g. no hospital-acquired urinary tract infections. Set the goal, then select the implantation team.

Measure – How well are we doing now? Review the key elements that the evidence suggests will prevent such infections. For example, how often are catheters inserted when criteria for insertion are not met, or how quickly are catheters removed once criteria for removal are met? In Six Sigma significant rigor is demanded with process measurement, and tools such as statistical process control are routinely applied.

Analyze – Analyze the process, e.g. determine why catheters are being unnecessarily placed and or are not being removed in a timely manner.

Improve – Improve the process by identifying the root causes of dysfunction, and innovating and piloting solutions to change or eliminate them.

Control – Place controls on process improvements to monitor and ensure that solutions are sustained.

Guiding Principles

LEAN and Six Sigma are not meant to be stand-alone methodologies. Rather they are most helpful when integrated in an organizational philosophy of ‘value for the customer.’ *Shingo* or ‘the guiding principles’ begin with the belief that ‘culture enables.’ This principle calls on the organization to lead with humility and respect every individual. The second principle is ‘continuous process improvement,’ which utilizes LEAN and Six Sigma to focus on process, embrace scientific thinking, understand flow and pull value, assure quality at the source, and constantly seek perfection. ‘Alignment’ is the next principle which focuses on constancy of purpose and systems thinking. These principles promote and support the final principle which is ‘results,’ creating positive outcomes/value for the consumer.

In healthcare, there are many examples of organizations that have successfully incorporated LEAN and Six Sigma into their quality improvement strategy. Two such organizations are Theda Care Center for Healthcare Value <http://createvalue.org> in Wisconsin and The Virginia Mason Institute <http://www.virginiamasoninstitute.org> in Washington.

Special Training

Both LEAN and Six Sigma require training for effective practice. Certifications are available for both methodologies. For more information about certification programs, please visit the websites listed in the reference section of this document.

PERFORMANCE IMPROVEMENT PROJECT MANAGEMENT

Successful implementation of a performance improvement project in a healthcare institution depends on the initiation and completion of specific steps, including:

Creating the Improvement Team

The formation of an effective improvement team is a critical step in ensuring a successful performance improvement (PI) effort. The following considerations should guide the selection of team members:

1. The system or process(es) that will be addressed in the improvement project,
2. The departments, care areas, and disciplines of the caregivers involved with the system or process(es),
3. The size of the team necessary to handle the work,
4. The necessary/desirable skills and expertise of the team members,
5. The availability of potential unit champions,
6. The availability of an executive sponsor,
7. The availability of a patient-family representative/advisor.

Team Composition

Team member composition will vary based on the process to be improved, and is a more effective driver of team effectiveness than team size. Therefore, the first step in developing an improvement team is to clearly identify the target system and processes. If the improvement effort involves patients, the affected patient populations to be included and excluded should also be specified so that the team leader will know which departments/service areas and professional disciplines should be represented on the team. There is no standard for PI team composition or size; effective teams include members that represent system-wide leadership, day-to-day (local) leadership, and technical and professional expertise (IHI, 2011). Effective teams may include:

- **Team Leader:** Team leaders serve as project managers and should be experienced in team leadership, coordination and facilitation, as well as in the development and implementation of action plans and strategies. The team leader will establish the meeting schedules for the team (during a project’s planning, testing and implementation phases, its PI team may meet as often as weekly or biweekly), organize the meeting agenda and materials, support timely communication among the team members and relevant stakeholders (such as Test of Change updates and result and progress reports), and serve as the key spokesperson for the project. Team leaders may be recruited based upon their role in the organization or may be appointed by senior management.

- *Front-Line Staff*: These representatives from involved departments or service areas can help the team identify problems and issues of concern and can develop and design performance improvement changes to be tested. The staff recruited to the PI team should be individuals who are already serving as respected, informal leaders within their work areas, and who are committed to active and ongoing quality improvement.
- *Day-to-Day Leadership*: Day-to-day leaders are frequently middle managers or supervisors from involved departments or units who serve as key drivers for the implementation of tests of change and data collection. They reinforce accountability at the front-line level, and serve as liaisons between employees, the PI team and, at times, senior management. Day-to-day leadership may be the responsibility of a middle manager or supervisor.
- *Quality or Performance Improvement Expert*: The PI expert is a mentor and resource for the team in technical areas such as the science of improvement, measurement, and analysis of performance data, and can provide a practical “how-to” approach to performance improvement for less-experienced team members and staff.
- *Nursing or Ancillary Services Leader*: The nursing leader plays a critical role in the identification of performance issues and the development of potential interventions or Tests of Change. The nursing leader can serve as an ambassador to break down barriers and implement change, and can advocate for resource allocation. In many organizations, the Chief Nursing Executive (CNE) serves on all patient care-related improvement teams or delegates this function to another nursing leader.
- *Physician Champion*: Physician champions represent and personify support by the medical staff for the PI initiative and serve as liaisons to the organization’s other clinicians. Physician champions can provide insight and expertise with regards to clinical evidence, as well as input regarding process changes and redesign that involve physicians and can impact patient care.
- *Executive Sponsor*: The executive sponsor develops the overall vision for the health care organization, creates alignment among the mission, vision, and values (which include performance improvement and patient safety), and maintains the ultimate responsibility for the success of the organization’s quality improvement initiatives. The executive sponsor can support PI teams by allocating necessary resources, communicating with the senior leadership, breaking down barriers and resistance, and ensuring broad and authoritative dissemination of implementation plans.
- *Patient or Family Representative*: The patient representative serves as an advisor to the improvement team and promotes a patient-family focus in the process redesign. The patient representative

can be recruited from an organization’s Patient-Family Care Council or may be an individual interested in partnering with the hospital to improve its delivery of patient-family-focused care. Personal experience with the care process being addressed is a helpful asset.

[See Appendix V: Team Member Roles and Responsibilities](#)

Rural and critical access hospitals and smaller facilities may not have the resources to develop a large team, and may opt instead to designate only a Team Leader, a physician champion, a front-line staff member, and a patient representative. On a small team, some members may need to assume multiple roles and responsibilities.

Team Size

The size of a team can impact the team’s efficiency and effectiveness. Smaller teams may be challenged by fewer resources, but can sometimes be more efficient, and, if fewer members provide fewer perspectives on identified issues, more easily support team decision-making. Larger teams, though more inclusive, can be less efficient, and, with a broader membership, take more time to reach consensus. Once decisions are reached, however, larger teams can be more effective in implementing the action plan developed. The ideal team size has not been conclusively determined via research; the range commonly recommended for PI teams is between 5 and 10 team members. Larger teams can be broken into smaller working groups to address specific tasks and to develop actions that are presented to the larger team for input, as well as to create organizational enthusiasm.

PROJECT PLANNING

After Team Leaders have recruited their team, they should:

- Schedule the first team meeting,
- Develop the meeting agenda, ice breakers,
- Take time during the first meeting to allow the team members to become familiar with the purpose/goals of the project,
- Review individual and team roles and responsibilities,
- Facilitate understanding of the clinical evidence related to the process and coordinate the team effort to develop the AIM statement(s).
- Facilitate the development of a team charter (to establish the focus, scope, direction of the team).

The PI team should create a flowchart of every process or system being addressed that can identify potential problem areas and inform the development of the changes to be tested and the project plan. ([See Performance Improvement Basics and Tools: Flowcharting](#))

The AIM Statements

One of the key functions of the PI Team is to identify the aims of the project through the development of AIM statements that are unambiguous and include:

- **WHAT:** the system to be improved and the patient population
- **HOW MUCH:** a numerical goal, specifying the amount of improvement or the ultimate target
- **BY WHEN:** the specific time frame by which the goal will be achieved. “Within 6 months” is one example with “...by MM/DD/YY” immediately removing ambiguity.

AIM STATEMENTS must address:

- **WHAT** is going to be improved? Which population?
- By **HOW MUCH** (specific numerical goal)
- By **WHEN** (specific date)

See also: *The Model for Improvement: AIM statements*

The Project Plan

The improvement team should develop a comprehensive project plan to serve as a framework for the team as it moves from planning and local testing to broader dissemination and implementation. The components of a project plan are delineated in Table 2. The plan should include a stated purpose that provides a succinct statement of the key issue or challenge, its importance, and its impact on patient care and safety. The AIM statement or statements are included to provide the direction for the work. The PI Team or a sub-team then develops the communication plan and measurement plan. The changes tested and their impact should be continuously measured, documented, and analyzed to allow the team to monitor the project’s progress and to help the team determine the best timing for broader dissemination and implementation.

TABLE 2
Components of a Project Plan

PLAN COMPONENTS	DESCRIPTION
Problem	Outlines the system/process issue/challenge/failure and identifies why improvement is indicated.
AIM Statements	The AIM statement(s) specifically describe(s) the system needing improvement, the population impacted, the measurable results and target date. The AIM statements guide the PI strategies.
Tests of Change	Documents the change(s) to be tested, where and when the test(s) will be conducted and by whom, the predicted outcome of the change, and the measured results of the test.
Communication Plan	Provides a framework for effectively informing stakeholders of the improvement efforts, including: rationale, goals, operational and clinical impact, progress of tests and results. Identifies the “who, what, how, when” for communication with each stakeholder group, as well as “who” is responsible for the project development, coordination, dissemination and implementation.
Measurement Plan	Identifies key metrics or measures: What will be measured? How will the data be collected and displayed? When will it be collected and analyzed, and by whom? How will the data be reported, and to whom?
Spread and Sustainability (See <i>Implementation Guide, Part II, for additional information regarding Spread and Sustainability</i>)	Includes the following: <ul style="list-style-type: none">• Knowledge transfer, i.e. education and training of new and current medical and other unit staff.• Policy and procedure development or revision.• Flow diagram development and updates.• Implementation and utilization of materials, equipment, forms, and tools.• Ongoing measurement, and data analysis and reporting.• Rewards and recognition (acknowledgement and appreciation)

Project Management

After the project plan is developed, the Team Leader should facilitate the team's collaborative efforts to create a project timeline that lists the various steps and phases, the individual responsible for each assigned task and the target dates for phase and project completion. The project timeline is another tool that assists the team in remaining on track.

Throughout the span of the improvement project, the Team Leader will be responsible for scheduling team meetings and ensuring that the project plan, communication plan, and measurement plan are on track. As the Tests of Change evolve and as the team gathers information and responds with further design changes, the Team Leader and Team will likely modify some plan components and go through several internal PDSA cycles. The Team Leader will be responsible for ensuring these changes are documented, and that the applicable plans are revised and updated.

Summary

Quality and performance improvement initiatives are best implemented by designated improvement teams composed of representatives from the relevant departments, units, or groups involved in the process or system to be addressed. Project management includes identification of team leadership and membership; creation of AIM statements; development of a Project Plan; selection of Tests of Change and tools for implementation, measurement, and analysis of change efforts; and communication with relevant stakeholders including senior management, medical staff, front-line staff, and patients and families about the progress and success of the improvement project.

See Appendix VI: Sample Project Planning Template

MEASUREMENT AND REPORTING

Measurement and Reporting

Quality measures identify areas in need of improvement and monitor progress toward the desired improvement goals. This section reviews key concepts associated with quality measurement including the purpose of performance measurement, measure selection, data collection, analysis, and reporting.

Purpose of Measurement

Health care organizations measure performance for many external and internal reasons, including quality improvement, decision-making and strategic planning, accountability, public reporting, pay-for-performance, accreditation, credentialing, and research (Loeb, 2008), (Damberg 2011), (Committee on Redesigning Health Insurance Performance Measures, 2006). The methods of measurement vary dramatically depending on the purpose of the measurement, flexibility of the hypothesis, sample size, projected outcomes, and confidentiality regulations for the data being collected (Lloyd, 2012).

Types of Measures

The Institute for Healthcare Improvement (IHI) recommends the use of a balanced set of measures, defined below, for all improvement efforts.

- **Outcome Measures:** Ask “How does this system impact patients’ health, wellbeing, and values?” and “What are the system’s impacts on other stakeholders such as payers, employees, or the community?”
- **Process Measures:** Ask “Are the parts or steps in the system performing as planned?” and “Are we on track in our efforts to improve the system?”
- **Balancing Measures:** Evaluate the impact of changes within or across the system. Ask “Are changes designed to improve one part of the system causing new problems in other parts of the system?”

Measure Selection

When selecting measures, organizations should consider factors such as:

- **What measures are currently in use?** Many organizations already collect and report measures to entities such as the Joint Commission, CMS, CDC, state agencies, clinical registries, and decision-support vendors, such as Premier, Inc. Data are also collected for safety dashboards, event reporting, and similar internal quality initiatives.
- **Which measures align?** Selecting measures that align with a particular cohort's defined measures, with required measures (e.g. those of CMS, the Joint Commission, NHSN, or state projects), and/or with the organization's strategic goals is often desirable. For example, for the PfP's HEN it is important that measures align with the CMS-recommended measures to achieve the 40/20 goals.
- **Where are the greatest opportunities to improve processes and outcomes?** Consider situations in which process performance is unstable or not close to 100 percent, or in which patient outcomes are not as good as expected or are lower than the comparative benchmark.
- **Are the data to be used for improvement, judgment or both?** Measuring for improvement is focused on learning and capturing just enough data to bring the learning into daily practice. See Table 3.

- How will the data be collected? Resources needed may vary considerably depending on the target process or system to be measured and the method used to collect the data, e.g., manual, electronic, observation, or sampling. To minimize the burden of data collection it is recommended to gather "just enough" data to learn.

Examples of process and outcome measures for the clinical topics of 'Catheter-Associated Urinary Tract Infection (CAUTI),' 'Falls,' and 'Readmissions' are shown in Table 4.

TABLE 4
Process and Outcome Measures

CLINICAL TOPIC	PROCESS MEASURE EXAMPLE	OUTCOME MEASURE EXAMPLE
CAUTI	UTI Prevention Catheter Bundle Compliance	Catheter-Associated Urinary Tract Infections Rate – All Tracked Units
Falls	Fall Risk Assessment Completed within 24 Hours of Admission	Falls With or Without Injury
Readmissions	Formal Assessment of Patient's Risk of Readmission	Readmission within 30 days (All Cause)

TABLE 3
Data for Improvement vs. Judgment (IHI, 2011)

	RESEARCH	IMPROVEMENT
Purpose	Discover new knowledge	Bring learning into daily practice. Seek usefulness.
Tests	One large "blind" test	Many test cycles, sequential, observable.
Biases	Control for as many biases as possible	Stabilize the biases from test to test.
Data	Collect as much data as possible, "just in case"	Gather "just enough" data to learn and complete another cycle; sample when possible.
Duration	Can take a long time	Small tests, of significant changes, accelerates the rate of improvement.

Creating a Measurement and Data Collection Plan

After identification of the organizational goals, the AIM statement, and the desired measures for a performance improvement project, the next step should be to develop a measurement and data collection plan. This 'Plan' phase of the PDSA cycle should provide specific details on the measures to be utilized and the sources and collection methodology for the desired data. A well-defined plan, which is understood by all PI Team members, will increase the likelihood of obtaining valid and reliable data and staying within the financial resources and the anticipated timeframe of the PI initiative. Each plan should include the following components:

1. Operational definition for each measure*
 - a. Numerator and denominator
 - b. Inclusion and exclusion criteria
2. Data collection strategy
 - a. Why collect the data?
 - b. What data elements and specific types will be collected? Is a sample of data sufficient or are all applicable data necessary?
 - c. What is the timeframe for data collection? Is the measurement prospective, retrospective or both? If prospective, is a baseline available?
 - d. Where do the data reside, e.g. clinical registries, clinical records, and administrative systems such as insurance claim reports? Are there any regulatory or confidentiality issues to address?
 - e. How will the data be collected and by whom? What data collection resources and tools will be needed? How will the data be coded, edited and verified?
3. Analytical plan
 - a. How will the data be tabulated and analyzed, how often, and by whom?
 - b. What quality assurance measures will be implemented?
 - c. What statistical analyses are needed to assess progress towards outcomes, and what tools will be used for these analyses? For example, will a statistical process control chart be used?

4. Data reporting
 - a. How will data be disseminated to the PI team and relevant stakeholders?
 - b. Who will be part of the audience for these communications?
 - c. What are the best methods of presentation and dissemination?
 - d. How does this reporting link to the Communication Plan?

Data Collection

Data are essential to any quality improvement effort and provide the information necessary to evaluate the impact and effectiveness of process changes on patient outcomes and other parts of a system. The first step in every data collection plan should be to articulate the purpose of data collection. For example, "What are the questions to be answered? How will useful information be obtained? How will collected data be analyzed and used?"

Data collection can be resource-intensive, demanding both time and funds; therefore, teams need to balance the costs of data collection against the value of specific data for an improvement effort (Byrnes, 2008). Without a clear data plan, PI teams often make one of two common mistakes, which can lengthen the project timeline, increase costs, and reduce team morale and engagement:

- Collecting more or less data than necessary to evaluate progress and/or
- Not collecting the "right" (necessary) data.

A selected measure's operational definition can provide the framework for data collection. The definition delineates the criteria for inclusion in the numerator and denominator, as well as applicable exclusions. The definition will specify patient factors, location issues, recommended timeframes for study, and other details needed to obtain reliable and valid data. For example, will the study include only patients with a specific diagnosis such as heart failure or hip fracture? Does the process being addressed involve all inpatients or only those having surgery or being admitted to the Intensive Care Unit? Can the outcomes be measured immediately or is a longer period of monitoring necessary, e.g., surgical site infections occurring up to 30 days after surgery?

There is not necessarily a “right” or “wrong” way to define a measure. The definition may be based on a review of the most recent scientific and clinical evidence, national consensus, access to comparative data, health care services provided, patient populations served, and/or support available from organizational stakeholders.

Two examples of how a measure of patient ‘Falls’ could be defined are shown below.

TABLE 5
Examples of Operational Definitions for Fall Measures

FALL MEASURE	NUMERATOR AND DENOMINATOR DEFINITION
A. Patient Falls With or Without Injury	Numerator: All falls with or without injury. Includes partial falls, assisted falls, and falls with any level or type of injury. Denominator: All adult patients admitted to inpatient status. Excludes: ED patients (those admitted and discharged to home or transferred to another facility from the ED), patients admitted to observation status, pediatric patients (age 0 to <= 17 years).
B. Patient Falls With or Without Injury	Numerator: All falls with or without injury. Includes partial falls, assisted falls, and falls with any level or type of injury. Denominator: All adult and pediatric inpatient, observation and ED patients.

In both measures, the numerator definitions remain the same. In fall measure “A,” however, the denominator includes only adults admitted to the hospital as inpatients. In fall measure “B,” the denominator reflects the total “population” of patients included in the study, regardless of age, patient type, or location of care. PI teams must consider how data will be obtained and the resources that will be required for measurement. Data collection may be very easy from electronic medical records, but more difficult and time-consuming from paper medical records, observations, or interviews.

No matter what the method of data collection, the specific data elements to be collected have to be delineated. Are data collected influenced by the time of the day, the day of the week, or the

season of the year? Is there a benefit to stratifying the data by patient factors such as age or diagnosis to identify possible differences that may not be evident when data are aggregated. If wide variation in the data is observed, stratification may help to identify where and why the variation is occurring, allowing teams to prioritize and focus on specific areas for improvement efforts. Pilot studies can inform the data collection plan by identifying the scope of the problem, the source(s) from which data are best collected, the specific data elements to be collected, and the extent of and length of data collection.

Sampling

Sampling is another strategy that can reduce the burden of data collection. Sampling allows teams to draw a limited slice of data and be reasonably confident it represents the larger target “pie” (Lloyd, 2008).

Sampling approach example:

The measurement will consist of 6 weekly data collections of 25 admitted patients each. The patients can be sampled in several ways:

- 5 patients admitted per day over 5 days of the week. The patients must be consecutive, and at least one of the days must be on a weekend, or
- 25 consecutive patients admitted on random days, including at least several weekend admissions, or
- If there are fewer than 25 admissions in a week, all of the admissions for the week should be included in the sample.

How is the sample selected?

Teams may wish to assess quality measures that represent all eligible patients within a particular population (e.g. all inpatients or all patients that had hip or knee surgery). If the population is sufficiently small, every member can be sampled: a census sample. When the population is large, however, it is often preferable to use a representative sample.

There are probability and non-probability methods for sampling. When using sampling, the aim is to minimize potential bias; the sample should closely match the larger population. Effective sampling allows the assessment team to make inferences about the larger group based upon observations of a smaller subset of that group. Appropriate sampling can save time and resources and allow teams to accurately evaluate performance.

TABLE 6

Types of Samples (<http://tipqc.org/?s=methods+for+sampling&submit=Search>)

SAMPLE TYPE	DESCRIPTION
Census	If a population is sufficiently small so that every member can be sampled.
Simple Random Sampling	Affords every member of a population an equal chance of being included in the sample (a probability sampling method). Sample patients can be selected using computerized random number generators, tables of random numbers or even by drawing names/numbers out of a hat. For example, random sampling can be performed by selecting patients through the last digits of their hospital IDs or their Social Security numbers.
Stratified Random Sampling	Divides the population into groups or strata based on specified criteria such as types of patients, gender, race, etc. The proportion of cases randomly selected from within each stratum should mirror the larger population's. Patients should be selected using a random method (probability sampling).
Systematic Sampling	Also called the 'Nth name selection technique,' this method selects every Nth record from a population. This technique is as good as random sampling if the patient list does not contain a hidden order or manipulation.
Judgment or Rational Sampling	Used more frequently in quality improvement studies, this method relies on the knowledge and judgment of assessors familiar with a process. Data are selected via a non-random method (non-probability sampling) by taking small repeated samples from a process over time. Samples could be collected daily or monthly. A small number of cases (4-7) are recommended for each sampling, with a minimum of 25 data points collected (Raymond Carey, <i>Improving Healthcare with Control Charts</i> , 2003). One drawback with this method is that the sampling error is unknown.
Convenience Sampling	Involves examining easy-to-view cases to allow assessors to get a sense of the target population. It is typically inexpensive and is used in the exploratory stages of studies to obtain gross estimates.

RANDOM SAMPLE TOOL:

A resource for teams who would like a tool to easily identify a random sample such as a set of patient records to review. This website generates lists of random numbers (i.e., a set of patient records to review). The random number set can also be downloaded in an Excel format for ease of use.

Research Randomizer

<http://www.randomizer.org/form.htm>

Table 7 below provides an example of measurement plans for fall-reduction programs at “Riverside Hospital” and “Desert Hospital.” Both hospitals’ fall-reduction programs require that each patient have a fall risk assessment done within 24 hours of admission. At Riverside Hospital, the fall risk assessment is embedded within the nursing admission section of the Riverside electronic medical record (EMR). At Desert Hospital, the fall risk assessment is a paper form included in the admission package which is to be completed by nursing upon admission.

TABLE 7
Measurement Plan Examples: Fall Reduction Program

SELECTED PORTIONS OF DATA COLLECTION PLAN	RIVERSIDE HOSPITAL	DESERT HOSPITAL
Process Measure: Fall risk assessment completed within 24 hours of admission	Numerator: Fall risk assessment completed in EMR within 24 hours of admission. Denominator: All patients admitted as inpatients or for observation, includes pediatric patients.	Numerator: Fall risk assessment tool completed within 24 hours of admission Denominator: All patients admitted as inpatients or for observation, excludes pediatric patients.
Denominator Eligible Population	All patients admitted each month, anticipating an average of 420 patients.	All patients admitted each month, anticipating an average of 240 patients.
Data source	Electronic medical record	Risk assessment tool on medical record, paper form
Frequency of data collection	Monthly	Monthly
How will data be collected?	Query of EMR warehouse.	Query of ADT system and review of fall risk assessment tool in medical records.
How will data be stored for analysis?	Extract of EMR data, stored in Excel spreadsheet.	Data values entered into Excel spreadsheet following data collection template.
Sampling	No sampling, analysis includes all patients admitted within the month.	Random sample of twenty percent of the patients admitted in the past month, sample generated from ADT system list of account numbers.
Data elements to be collected	a. Patient account number b. Patient admission date c. Patient admission time d. Unit of admission e. Other care units within the first 24 hours (if patient transferred from original bed location) f. Patient age g. Date and time fall risk assessment entered into EMR System	a. Patient account number b. Patient admission date c. Patient admission time d. Unit of admission e. Other care units within the first 24 hours (if patient transferred from original bed location) f. Patient age g. Fall risk assessment completed within 24 hours (based on review of form and date completed) – Yes or No
Who is responsible for completing the fall risk assessment?	The registered nurses assigned to care for the patient within the first 24 hours of admission.	The registered nurses assigned to care for the patient within the first 24 hours of admission.
Evaluate potential differences by category (stratification):	a. Day of week b. Weekend/weekday c. Shift (2 – 12 hour shifts) d. Care unit(s) e. Patient age: Adult patients (age >= 18 years) and Pediatric patients (age <= 17 years)	a. Weekend/weekday b. Care unit(s)

Though their data collection strategies, patient populations (all patients versus adults only), and documentation sources differ; by following their data collection plans, both hospitals will be able to assess their “fall risk assessments completed within 24 hours of admission” via valid and reliable measures that are comparable across time within their individual organizations.

Displaying Data

The ability to convert raw data into useful information often depends on how the data are displayed. When selecting the method to display the data, consider the purpose and intended audience for the presentation. For quality improvement projects, data displayed in run charts can reveal if implemented changes have resulted in the expected improvements; however, data aggregated and presented in tabular formats or summary statistics will quantify the impact of the improvement, but will not highlight variations and areas lagging in progress.

Tabular or Summary Statistics

Displaying data in a summary to tabular format can be useful in quantifying the impact of changes, year over year or in smaller time frames. Financial impact and lives impacted are examples of data that can be displayed using this method. Hospitals have been creative in using this method to engage an audience at all levels by using pictures of people or other images when displaying data about lives impacted. Summarizing financial impact, i.e. cost savings to date since initiation of the improvements engages leaders and staff alike to realize the benefits beyond reducing pain and suffering. Use of summary and tabular format can also be used to share the overall progress of the improvement from inception and provide the audience with a high level overview of progress to date. Some creative and meaningful data displays are depicted in Figures 2 and 3.

SUMMARY STATISTICS CHARTS

FIGURE 2
Reducing Early Elective Deliveries

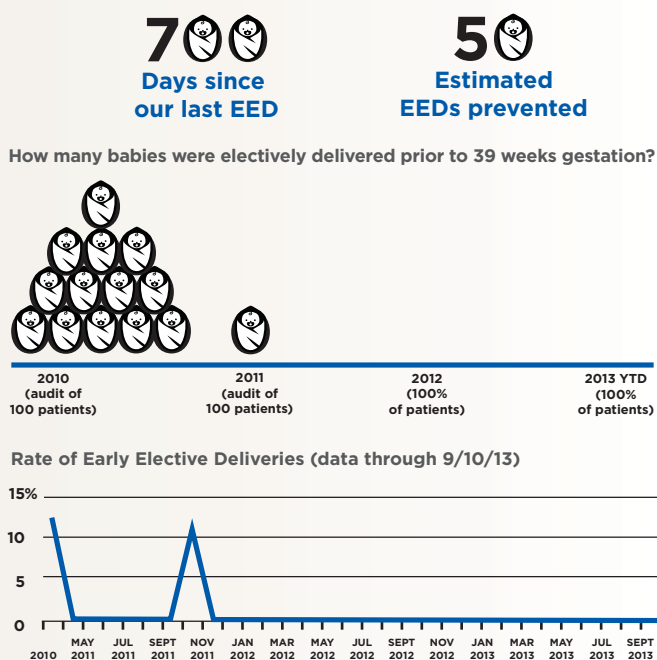


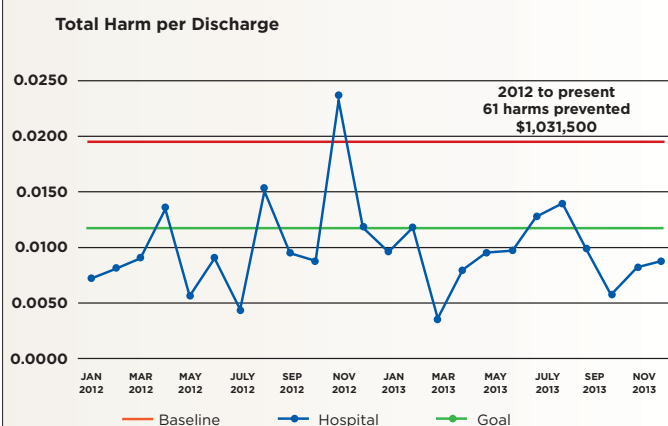
FIGURE 3
Summary Statistics Chart

Do you ever wonder if what you did made a difference in preventing injury from a fall?



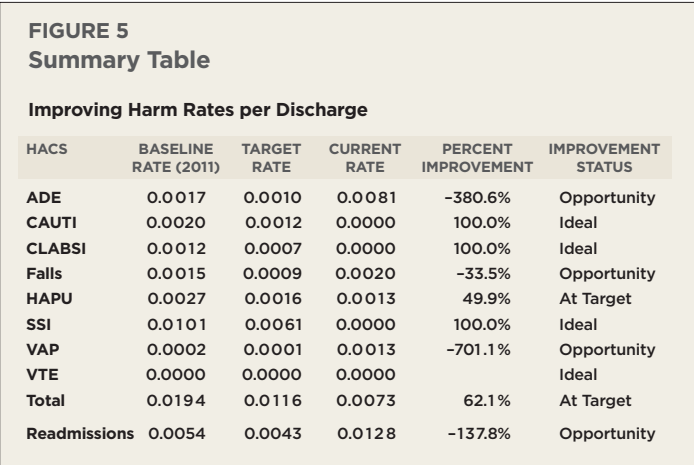
Displaying data using images rather than numbers helps the audience connect their work with the lives they touch. The images put a face on harm and will help raise awareness and build will to compel individuals to change

FIGURE 4
Run Chart with Financial Impact and Total Harms Prevented – (Falls HAB report)



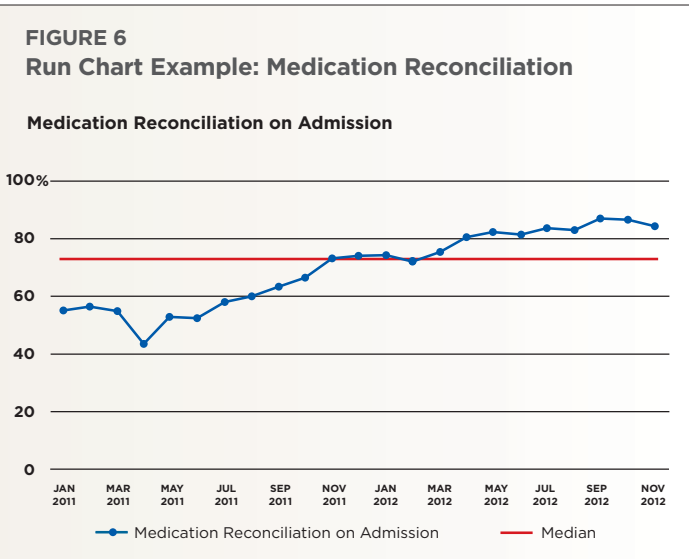
In this example, the hospital has combined a run chart with summary statistics to deliver a powerful message about progress being made in fall reduction.

This example below, “Improving Harm Rates per Discharge,” provides the audience with a high level overview of the organization’s harm reduction improvement and identifies where opportunities exist for increased focus.

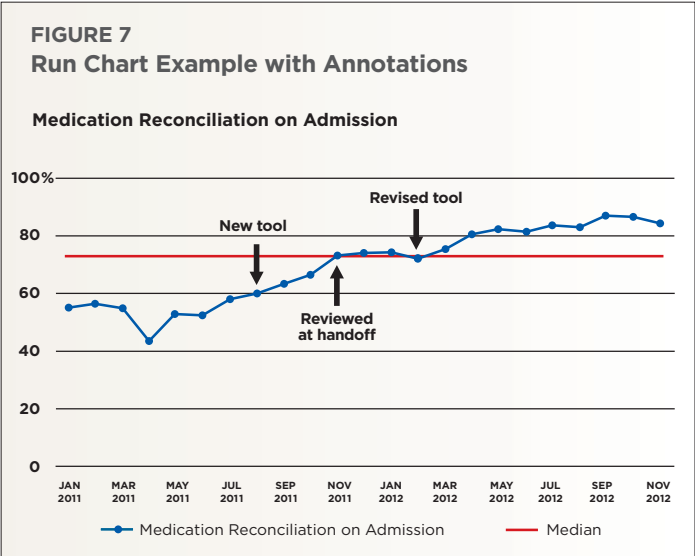


Run Charts

A run chart (a graph that shows performance results over time) provides a clear visual display of the collected data, which allows teams to determine if improvement has occurred. The horizontal x-axis shows the time scale of measurement (hours, days, weeks, months, etc.) and the vertical y-axis depicts the results. Run charts typically include a center line or median, whose value represents the middle number of the data set. Figure 6 provides an example of a basic run chart. The addition of the median (red line) allows the team to distinguish the relative improvement in this particular process.



Annotations can also be added to the run chart, identifying when specific Tests of Change were initiated, and demonstrating the effect of the changes on the results. Figure 7 provides an example of the same run chart with the addition of annotations.

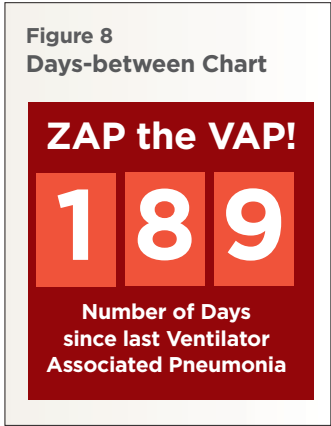


Though the improvement is obvious in the example provided above, trends and significant shifts in the data may not always be so easily detected. A series of run chart rules can be used to further analyze a run chart. A copy of the run chart rules, and a run chart Excel template are provided in the [Appendix XII](#).

Days Between

Another method to display results meaningfully is referred to as “Days-between.” ‘Days-between’ is particularly useful in areas such as ventilator-associated pneumonia (VAP) and other hospital-acquired conditions (HAC) for which the improvement goal is to have zero events, and the denominators for the measures are small. Figure 8 provides an example of a ‘days-between’ chart for ventilator-associated pneumonia chart. As the frequency of VAPs reduces, the ‘days between’ numbers rise.

Displaying results via this method provides staff with tangible and easy-to-understand information regarding the effectiveness of the improvement effort. ‘Days-between’ charts are also useful for facilities whose improvement efforts encompass smaller volumes of patients, for which measuring and reporting results as a percentage, a rate, or a ratio can be misleading due to the small number of cases in a study denominator.



Progress Reports

Hospitals can utilize progress reports to communicate their quality improvement efforts and progress to key stakeholders. The format and content can be designed to best meet the organization's needs.

The AHA/HRET has adopted a modified progress report template initially developed by the IHI. ([Appendix X](#)) This single page provides a concise summary and includes the following sections:

- **Title.** The title or header of the report lists the name of the project, the hospital name, hospital location (state), and date of the report.
- **Self-Assessment Score:** This scoring system is derived from the AHA/ HRET Project Assessment Scale ([Appendix XI](#)) for improvement projects, and enables quantitative communication of a team's progress. The scoring key is: 1 = Forming a Team to Planning, 2 = Activity with No or Little Changes (without improvement), 3 = Modest Improvement to Improvement, 4 = Significant Improvement to Sustainable Improvement, and 5 = Outstanding Sustainable Results.
- **AIM Statement:** Documentation of the project's AIM Statement, which includes the "Who," "What," "Where," "How Much," and "By When."
- **Why is This Project Important?** Communication of the significance of the project to the organization, its employees, its patients and family members, and its community. This statement can establish a sense of importance and urgency for the performance improvement.
- **Changes being Tested, Implemented or Disseminated:** This section allows teams to list the specific changes that are locally implemented (e.g. PDSA cycle activities and small Tests of Change), those fully implemented, and those disseminated across the organization.
- **Run Charts:** Graphical presentation of the collected data associated with the process and outcome measures. The charts may begin as simple run charts, but progress to control charts as additional data points become available.
- **Lessons Learned:** A summary of what the Tests of Change taught the team, i.e. what worked and what didn't.
- **Recommendations and Next Steps:** A brief summary of recommendations to keep the project moving forward, along with the next steps planned for testing.
- **Team Members:** A listing of team members by name and/or roles.

The messages conveyed in progress reports can be enhanced if the authors focus on the "5 C's of Quality Writing." Communication should be Clear, Concise, Compelling, Consistent, and

Correct. For the AHA/HRET HEN progress reports, a 6th "C" of "Complete" could be added.

- "Clear" writing is understandable, avoids jargon, and is careful to explain abbreviations, so as to ensure that its content will be understandable to readers who are unfamiliar with the project.
- "Concise" writing is precise, and conveys meaning by using as few words as possible.
- "Compelling" addresses the importance and value of the improvement efforts, i.e. why is the project important, and why resources should be expended.
- "Consistent" refers to the flow across sections. The reader should understand the PDSA Cycle and Tests of Change and whether the tests are being evaluated, adapted, abandoned, or adopted. How are the tests being linked to lessons learned and to next steps?
- "Correct" reflects the accuracy of the content. Are the data accurate? Any typographical errors? Is the self-assessment score reflective of the project's current progress?
- "Complete" references the provision of information. Is information provided in each section? Do the data include a baseline or a notation that baseline data were not available? Is there any missing information?

Each report should include the hospital's name and state, the date, the self-assessment score, and the team member list.

Progress reports should be updated monthly, and can serve as a record that allows readers to follow the hospital's quality journey. Questions answered could include:

- What challenges have been faced?
- Which solutions were implemented?
- Which interventions or improvement strategies were modified?
- Who was engaged in the efforts?
- Was the quality improvement team multi-disciplinary?
- Did it include an executive leader, a physician champion, front-line staff, patients or family members?

Summary

The effectiveness of performance and quality improvement projects can be assessed through specific performance and outcome measures. Data collected from Tests of Change should be analyzed to identify positive impacts and variations, and disseminated to regulatory agencies, governing boards, and other stakeholders via periodic and specific progress reports. ([See Section IV on Communication](#))

CHANGE PACKAGES

As noted above, Cynosure Health, working with the Health Research & Educational Trust (HRET), has developed a series of Change Packages for each of the 10 CMS “Partnership for Patients” topic areas as well as 8 of the LEAPT topics. Each Change Package draws from the successful quality improvement experiences of fellow healthcare organizations and includes background information on the topic area, a description of evidence-based practices and the research behind those practices, a driver diagram, and several “Ideas to Test.”

Organizations are encouraged to use the change packages as a guide when planning for improvement in any of the clinical areas.

- Pick one of the “Ideas to Test” for the first small Test of Change.
- Expand the testing, if successful, using the “adapt,” “adopt,” or “abandon” model.
- If testing remains unsuccessful, opt for a different “Idea,” and begin the cycles again.

Though the change packages are robust resources, they are not the only source of information and expertise available to hospitals. Hospitals are encouraged to use resources on the HRET website (www.hret-hen.org) or that have been shared via national and state meetings and webinars, as well as resources from the IHI, the Joint Commission, and other national organizations (i.e. AHRQ, NQF, etc.). Finally, information and experience gleaned from peer institutions and shared among health care professionals can promote collaborative learning and the dissemination of best practices.

AHA/HRET HEN Change Packages

CORE TOPICS

Adverse Drug Events (ADE)
Catheter-Associated Urinary Tract Infections (CAUTI)
Central Line Associated Blood Stream Infections (CLABSI)
Injuries from Falls and Immobility
OB Adverse Events are addressed through two change packages: Early Elective Delivery (EED) and OB Harm
Pressure Ulcers (PU)
Preventable Readmissions
Surgical Site Infections (SSI)
Venous Thromboembolism (VTE)
Ventilator Associated Pneumonia (VAP)

These can be found at www.HRET-HEN.org

LEAPT TOPICS

Airway Safety
Clostridium difficile Infections (CDI)
Failure to Rescue
Hospital Acquired Acute Renal Failure
Iatrogenic Delirium
Procedural Harm (Blood Use focus)
Undue Exposure to Radiation
Sepsis

Section IV: Communication and Engagement

PROMOTING THE WORK: CREATING A COMMUNICATION PLAN

Performance improvement initiatives may be implemented locally, i.e. nested within a department, unit or team, but it is critical for an organization as a whole to remain aware of these projects and their progress and outcomes. One of the key tenets of performance improvement is transparency. Effective ongoing communication not only supports transparency, but promotes an environment of accountability. By developing a communication plan early in the project planning process, the improvement teams can use its structure to inform leaders and colleagues about project updates in a deliberate, organized and systematic manner that raises awareness and builds enthusiasm!

What is a communication plan?

A communication plan is a written document that identifies:

- The objectives of the planned communication(s).
- The individuals and groups that need to or should be informed. This audience is typically invested in how well the health care organization is performing.
- The modes or vehicles of communication that will be used.
- The timing and frequency of information release.
- The individuals responsible for creating and issuing the various communications.

The communication plan is the roadmap for transporting effective messages and information to designated stakeholders within the organization. To develop an effective plan, improvement teams will need to prioritize the targets, messages, and methods of “transport,” which may be influenced by the staffing and resources available. The completed plan will serve as a guide for the team, providing direction and ensuring that communications are purposeful, ongoing and successful.

Getting Started

The creation of a communication plan is a short-term task that can be accomplished by selected members of the performance improvement team, along with colleagues in the organization with expertise in marketing, communications, and/or public relations. The plan development group should begin by identifying the objectives for the communication plan. Examples of objective statements are listed in Table 8.

TABLE 8
Examples of Communication Plan Objectives

- To announce the Good Health Medical Center’s commitment to the Partnership for Patients and the goals of reducing inpatient harm by 40 percent and readmissions by 20 percent by December 8, 2014.
- To inform the Good Health Medical Center staff and its local community of our topic-specific goals, strategies, metrics, and outcomes.
- To provide regular updates to key stakeholders regarding our progress.
- To build teamwork and engagement.

Who needs to be informed?

Next, the team should identify the target of the communications, i.e. who needs to be informed of the improvement efforts. Among the potential recipients: key stakeholders, the individuals and/or groups that have an interest or investment in the health care process(es) being addressed by the improvement program. These stakeholders may include physicians, nurses, pharmacists, therapists, and others who directly provide services. Additional stakeholders include employees in the broader organization, the organization’s governing board and leadership team, and patients and their families. Community groups and organizations, and business partners and vendors may also be identified as parties who should receive communications.

What will be communicated?

The communications planning group should then identify what information should be communicated at various points in time over the course of the project. The information provided is likely to vary with the intended audience. For example, team members and associates working on an improvement effort will require immediate, real-time information about the results of implemented Tests of Change, the adherence to key process steps, and other necessary team updates. The rest of the organization may only be interested in periodic updates which share the overall progress, significant milestones, and beneficial impacts of the improved patient care processes.

Communications may also vary based on project phases. For example, raising awareness of a QI issue may be most critical during the early stages of a project, but progress made and lessons learned are more useful at later stages after broader awareness has been achieved. Understanding their target audience can help improvement teams choose the most important topics to address, and the best language for an effective message. For example, community members are generally less interested in the details of a project, but are eager to learn what the identified QI issue was, and what improvements the implemented interventions achieved.

MEANINGFUL AND MEMORABLE COMMUNICATION

Branding and Creating Sticky Messages

Additional approaches that the planning groups and teams should consider are to create a “brand” for the improvement project and to use “sticky messages” (Heath, 2007) for all communications. Brands are recognizable and familiar markers that invite the stakeholders receiving the communications to pay attention to the message. The organization’s public relations and marketing staff can work with the team to develop a brand and logos that effectively represent and market the improvement initiative. If resources are limited, however, inexpensive alternatives such as selecting a standard design, style, and color scheme for all publications may catch the eye of readers.

“Sticky messages” are messages that are understood, remembered, and have a lasting impact in a way that changes the audience’s opinions and/or behavior. In clinical improvement projects, for example, the audience may include the stakeholders, such as the organization’s staff, physicians, and leaders, as well as patients and families. By creating sticky messages for the improvement effort(s), the improvement team can help ensure the change ideas and messages will endure.

In the book, *Made to Stick*, authors Chip and Dan Heath introduce the SUCCES model. SUCCES is an acronym for the six principles behind the success of sticky messages, as noted below.

EXHIBIT 1 “SUCCES Model”: Six Principles of Sticky Ideas

1. **Simple** – Keep the idea simple; strip it to its core
2. **Unexpected** – Get the audience’s attention
3. **Concrete** – Explain the idea(s) in terms of human actions and sensory information
4. **Credible** – Make the message or idea believable; the messenger matters
5. **Emotional** – Trigger the audience’s emotions, so they connect with and care about the idea(s)
6. **Stories** – Make the idea(s) actionable, in other words, tell stories and examples that bring the ideas “to life”

EXHIBIT 2

Examples of a Sticky Message used in CAUTI Improvement – “Why The Foley” (www.giggledmed.com)



EXHIBIT 3

Examples of Communication Tools and Forums

Communication Tools

- Newsletters
- Flyers
- Posters, Banners
- Intranet
- Website (Internet)
- Table tents
- Computer wallpaper, screensavers
- System log-in bulletin board
- Community newspapers
- Paycheck inserts
- Patient/Family education materials
- White boards
- Letters
- Press releases
- Reports
- Bulletin boards
- Telephone recorded messages
- Email tag lines

Meetings and Forums

- Medical Staff Meetings — general meetings, department meetings, medical executive committee, other committees
- Employee Meetings — department, open forums, shift change huddles
- Leadership Meetings
- Board of Director Meetings — committees of the board
- Community outreach activities, such as health screening events

EXHIBIT 4
Example Inventory of Existing Communication Tools

COMMUNICATION VEHICLE/TOOL	INTENDED AUDIENCE	FREQUENCY	CONTENT OWNER
Medical Staff Bulletin	Physicians	Quarterly	Medical Staff Services
General Medical Staff Meetings	Physicians	Quarterly	Chief of Staff and COO
Medical Staff Department Meetings	Physicians	Monthly	Medical Staff Services
Patient/Family Educational materials	Patients and family members	Ongoing – in displays, waiting rooms	Patient Care Committee
Patient – Family Council	Patient and Family Council members	Monthly	Chairman
Nursing Newsletter	Nursing staff	Bi-monthly	CNO
Nurse ‘Huddles’	Nursing staff	Change of shift	CNO
Department Leadership Meetings	Hospital leadership (VPs, Directors, Managers)	Monthly	COO
Medical Center Newsletter	Employees	Monthly	Communications Department
Intranet Bulletin Board	Physicians Employees	Continuous	HR and COO
Staff Meetings	Department employees	Variable	Department Director
Organization Website	Community, Employees, Physicians	Continuous	PR Department
Community Newspaper	Community	Daily	PR Department – press releases
Board Meetings	Board members	Monthly	CEO, COO
Poster Displays/Easels	All	Ongoing – in entries and waiting rooms	PR Department (submit request)

Logistics

The communications planning group should then assign responsibility for creating each of the planned communications/messages as well as a timeline for their development, production, and dissemination. If the improvement team plans to contribute to existing publications, they will have to adhere to the publications’ deadlines and submit content in a timely manner. Partnering with the organization’s employees in public relations and marketing can make these tasks easier. An example of a communication plan is depicted in [Appendix VII](#).

See Appendix VII for a Sample Communication Plan

Improvement teams should consider using the PDSA model with their communications plan. Inviting feedback and input from the target audience, assessing the impact of the communications, and evaluating the effectiveness of the plan can guide helpful revisions that can hone the “message” and its delivery.

Summary

A well-designed communication plan can help to promote important performance and quality improvement initiatives throughout the organization, and ensure that key stakeholders remain well-informed about the project’s scope and ongoing progress. A well-developed and effective communication plan can also build support and enthusiasm for an improvement initiative across an organization. By using existing communication tools and forums and by enlisting the support of colleagues that typically handle public relations and/or marketing, teams with limited resources can implement a successful communication plan to advance their performance improvement goals.

TERMS OF ENGAGEMENT

Engaging Leadership and Frontline Staff

The release of “To Err is Human” by the Institute of Medicine over a decade ago highlighted the fact that even well-intentioned health care delivery can be unsafe, causing unnecessary death to tens of thousands of people annually (IOM, 1999). Quality and safety have improved over the past 10 years, but, despite the allocation of significant financial resources towards improvement, the quality and safety gap is still too large.

Engaging health care leadership and providers from “the top” to “the front lines” is a critical approach. According to the IOM, three key principles can guide this process:

- Rapid cycle PDSA (The Model for Improvement)
- Engagement at all levels
- Collaboration, not competition

FIGURE 9

Cognitive Engagement
+ Emotional Engagement
+ Behavioral Engagement
= Organizational Outcomes

Shuck and Wollard define employee engagement as “a positive cognitive, emotional, and behavioral state directed towards organizational outcomes” (Shuck, 2009).

In other words, employees feel connected to their organization and their work; they are part of something larger than themselves.

In order to achieve successful engagement, leaders should:

- appeal to their employees’ minds (cognitive),
- appeal to their employees’ hearts (emotional), and
- create an environment in which it is possible and easy to do the right thing (behaviors).

Susan Butterworth, PhD, MS, a nationally known expert on motivational interviewing, identifies nine reasons why people engage in change (Butterworth, 2008):

1. Their values support it.
2. They think the change will be worth it.
3. They think it is important.
4. They think they can.
5. They think they are ready for it.
6. They believe that they need to take charge.
7. There is a good plan and adequate support.
8. They get frequent reminders about resources.
9. It’s fun.

When members of an organization are engaged, they are aligned with the organization’s goals, and they want to be part of the solutions to achieve these goals. With engagement, organizational goals are more easily achieved (Cook, 2008). Without engagement, employees tend to follow their personal goals without significant regard for those of the organization and are more likely to resist change.

To engage others in pursuing common paths to achieve outcomes otherwise not possible, it is necessary to dispel four commonly held myths of engagement.

Myth #1: Showing the Evidence is Sufficient

Simply showing the research evidence to support a change is not enough to rapidly disseminate knowledge into everyday clinical practice. Non-engaging methods include the following:

- Sharing medical literature passively.
- Doing something just because the Joint Commission requires it.
- Creating and disseminating a policy – and doing nothing more.

Myth #2: Everyone Engages at the Same Time

Expecting that everyone will start moving in one desired direction at the same time will lead to failure. Non-engaging methods include the following:

- Starting a change process with an entire department, rather than individuals.
- Trying to get ‘buy-in’ from everyone at once, rather than focusing on key early adopters.
- Utilizing an early adopter who has little credibility.
- Trying too early to “convince” resisters to change.

Myth #3: The Same Message Works for Everybody

Different individuals, depending on their receptive styles, respond differently to messages. Examples of such styles include:

- “What’s in it for me?” (WIFM): These individuals perceive the message in relation to their duties and responsibilities. For example, a CEO might be focused on keeping the Board of Directors happy, while the CFO is looking at the bottom line, the physicians are focused on their specialty or their practices, and the nurses are thinking of finishing their work and charting before end of shift. Messages to each of these individuals would need to be different in order to speak to the WIFM. (See section on Communication)
- People-oriented: These individuals share a strong concern for others and their feelings.
- Content-oriented: These individuals are interested in what is said rather than who is saying it, and seek to validate expertise and truthfulness.
- Action-oriented: These individuals focus on what will be done; how, when, and by whom.
- Time-oriented: These individuals have their eyes constantly on the clock. They organize their schedules to allocate time for listening, but become concerned if such sessions over-run.

Customizing the message based on the WIFM and listening style of the target audience will improve uptake. The messenger matters as well. Health care workers seem more likely to absorb a message from a peer, especially if that peer is respected for his or her clinical expertise.

Failing to customize the message to the audience will lower the chance of engagement. Non-engaging methods include:

- Not vetting the messenger.
- Assuming only people “with titles” can communicate.
- Using only e-mail to get the word out.
- Saying “I told them.”
- Using the same words and talking points for change towards everyone.

Myth #4: Every Intervention is Equally Easy to Implement

Rogers identified characteristics of an innovation that are most likely to lead to successful adoption:

- Relative advantage: provides a benefit compared to the old way of doing things.
- Complexity: is of low complexity; easy to learn, use, teach, or implement.
- Observability: demonstrates visible, observable improvements.

- Compatibility: is compatible with other current processes.
- Trial-ability: can be beta-tested in phases without full commitment.

Methods of implementation that do not engage include:

- Attempting an intervention with the most challenging patients.
- Developing a rigid work plan limited by prior experience.
- Implementing multiple change projects simultaneously.
- Utilizing the same strategy on multiple projects.

The Four Rules of Engagement

Rule #1: Connect to the Core (Chin, 2004)

Active engagement and involvement is more likely to occur when the action, project or movement connects to employees’ beliefs and values: their core. The model in Figure 10 calls out four keys to connecting to that core.

THE FOUR RULES OF ENGAGEMENT

1. Connect to the core
2. Engage the engaged
3. Customize communication
4. Segment and align

FIGURE 10
The Four Keys to Connecting to the Core
(Ashkenas, 1995)



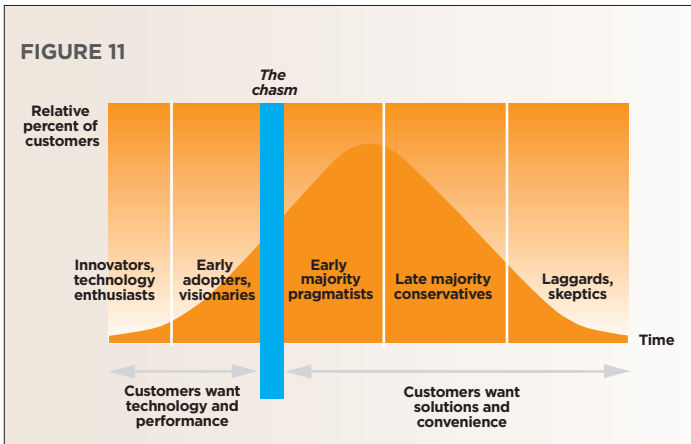
For example, many health care workers were mobilized for the first time to engage in quality improvement during the IHI “100,000 Lives” campaign (Rao, 2008). Many individuals believed they could contribute to the “meaningful journey” of reducing harm as part of a large national program.

Successful methods to engage by “connecting to the core” are

- Describing how a project fits into the bigger picture, i.e. the organizational mission.
- Aligning the project with an employee’s professional identity.
- Showing how staff contributions have positively impacted the project, i.e. made a difference.

Rule #2: Engage the Engaged

People adopt innovations at different rates.



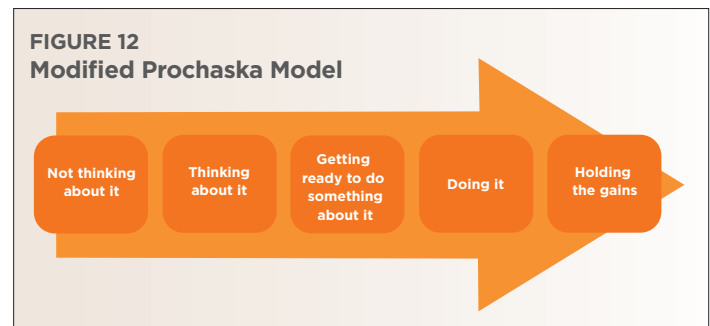
Rogers’ recommendation is to “engage the engaged.” The best place to start is with early adopters, visionary individuals who are respected by their peers and have good communication skills. They will work with less intrepid individuals in the early and late majority to speed up adoption. The skeptics may never come on board and ultimately may need to be required to adopt the change processes, or leave.

Successful methods to engage the engaged are:

- Seeking champions who are opinion leaders (yet may not have a formal title).
- Starting a project on a small scale with a few key participants.
- Including others after the early adopters “work out the bugs.”
- Using early adopter peers as spokespersons to spread the word.

Rule #3: Customize Communication to Support Engagement

Individuals will be at different places along the ‘readiness’ continuum, so communications must be customized for each employee. James Prochaska and colleagues developed the readiness model shown in Figure 12.



For example, creating a message guiding an employee to take action when he or she is neither aware of, nor thinking about, an issue, is unlikely to be fruitful. Instead, the message should focus on why the issue is important and inspire “thinking about it.”

Because different types of messages demonstrate different degrees of effectiveness in shaping behavior and promoting change, developing and disseminating the right message at the right time is critical. Figure 13 summarizes this concept through the work of Ashkenas (1995) and Fraser (2001)



Points to consider when developing communication

- **What's In It for Me? (WIFM)** Who is the target audience and what is/are their core intrinsic motivation(s)? "What is in it for them"? Or, from their perspective, "What's in it for ME"? (WIFM). Messaging about reducing readmissions to avoid financial penalties may be of interest to the hospital CFO, but for staff nurses, a more relevant message may address improving post-discharge patient transitions to avoid complications that undermine their diligent nursing care and lead to patients' return to the facility.
- **The Elevator Speech.** A short summary used to quickly and simply define a product, service or organization and its value (Pincus, 2007). The "pitch" should be delivered in the time it takes to ride an elevator, generally less than two minutes. *Business Week* describes the importance of "elevator speech" in today's world: "One of the most important things a businessperson can do is learn how to speak about their business to others. Being able to sum up unique aspects of your service or product in a way that excites others should be a fundamental skill. Even if your meeting is a planned, sit-down event, you should still be prepared to capture your audience's attention quickly" (Wikipedia).
- **The message matters.** People are more likely to process a message if it comes from someone they respect, who communicates well, and who is not perceived as self-serving.

Rule #4: Segment and Align

To create confidence, competence, and success, it's best to start quality improvement initiatives by launching their simplest components before tackling more complex or challenging steps or phases. For example, patient flow is one of the most complex activities in health care organizations and requires organizational improvement competence and collaboration at a high level. A unit-by-unit handwashing training and implementation project may be a better confidence-building starting point.

Alignment, discussed in detail below, works hand-in-glove with segmentation. For example, to prevent central line infections in an ICU, each professional group is given specific tasks. To promote success of the entire project, however, each group must share the same goals, objectives, tools and methods.

Successful methods to segment and align include:

- Developing an organizational goal and enlisting the participation of all levels
- Rolling out a project in an area most likely to be successful
- Adapting implementation approaches for each segmented group or area while aligning the common goals and objectives

ENGAGEMENT AT ALL LEVELS

Engaging the Board of Directors (Trustees)

Jim Conway of the IHI wrote in his 2008 article in *The Joint Commission Journal on Quality and Patient Safety* (Conway, 2008), "Outmoded views of hospital governance suggest that hospital boards are responsible primarily for the organization's financial health and reputation." Board duties in these areas are unquestionably important, but the board's duties do not end with financial stewardship. Boards oversee mission, strategy, executive leadership, quality and safety on behalf of the owner – whether the hospital is a nonprofit, government, or investor-owned facility. For non-profit and government facilities, this owner is the community, its citizens, and the patients receiving care and their families. AHRQ, in a statement released in December, 2011 further underscores the Board's responsibility for quality, and its ability to accelerate quality improvement.

"In the modern view, boards bear direct responsibility for the hospital's mission to provide quality care."

This responsibility cannot be delegated to the medical staff or executive-level administrative and clinical leadership, because it is at the very core of the board's fiduciary responsibility. An activated board, in partnership with executive leadership, can provide the will, and can demand system-level expectations and accountability for high performance and the elimination of harm. Properly conducted, this leadership work can dramatically and continuously improve the quality of care in service to the mission, those receiving care, and those delivering it.

Research, including studies by Lockee (2006) and by Vaughn (2006), demonstrates a direct correlation between high performing hospitals and the attributes of their boards. An active and engaged board drives quality and safety, especially if (Locke, 2006):

- The board holds the CEO accountable for quality and safety goals.
- The board participates in the development of explicit criteria to guide medical staff credentialing and privileging.
- The board quality committee annually reviews patient satisfaction scores.
- The board sets the agenda for quality.
- The medical staff is involved in setting the agenda for the board's discussion surrounding quality. *Medical Staff and other employee input and expertise contributes to the Board's quality discussions.*

Better outcomes are associated with hospitals in which (Vaughn, 2006):

- The governing board spends more than 25 percent of its time on quality issues.
- The board receives a periodic formal quality performance measurement report.
- There is a high level of interaction between the board and the medical staff on quality improvement strategies.
- The senior executives' compensation is based in part on quality performance.
- The CEO is charged with the responsibility for quality by the governing board.

Boards of Trustees can drive improvement through oversight of performance and accountability by:

- Learning about the role of governance.
- Conducting patient safety rounds.
- Holding the CEO and other executives accountable for patient safety and quality outcomes.
- Implementing ongoing reviews of dashboards that include key metrics and results of the strategic initiatives and projects.
- Ensuring that the institution's Partnership for Patients project goals and general QI goals (such as reducing harm and readmissions) are reported to the Board as an ongoing part of its quality review process, and include updates on progress and success.
- Presenting information about the best practices across the topics in Partnership for Patients.
- Promoting and Disseminating Best in Class performances and practices.
- Acknowledging front-line staff and leaders for demonstrated improvement.

Engaging Senior Leaders

The Center for Health Professions at the University of California, San Francisco, reports that engagement of senior leaders is critical to the overall success of any large-scale QI effort. Senior leaders are influential, control resources and can promote or block organizational change. "They help overcome barriers, and in other ways support the project team. Leaders can also assure that improvement efforts are aligned with strategic priorities, and help communicate to internal and external audiences the importance of delivering high quality care to all patients. Engaging the support of senior leaders can send a powerful message to staff that efforts to improve equity are a priority for the organization" (Bringing Equity into QI: Practical Steps) (Kotter, 1995).

Many organizations outside healthcare tie executive bonuses to certain prescribed performance metrics. Some healthcare organizations are now adopting this strategy, and have the key quality metrics that determine such rewards reported directly to the Board.

Small initiatives that require few resources may not initially need senior leader involvement. However, as efforts unfold, barriers may be encountered or resources may become necessary that will demand the support of senior leaders. This support is most likely if the improvement effort is aligned with the strategic priorities of the leadership, and is communicated to them as such via a customized message that reflects the leaders' WIFM.

An executive sponsor can help improvement efforts succeed. According to the Agency for Healthcare Research and Quality (www.ahrq.gov), an executive sponsor:

- Educates other leaders about clinical issues, safety hazards, and improvement strategies.
- Provides staff with resources to assist with removal of barriers and mitigate hazards.

To keep senior leaders aware of and supportive of improvement efforts, the Center for Health Professions suggests communicating early "wins" through:

- Presentations at existing leadership meetings.
- Memos or emails.
- Sharing of patient stories and experiences that highlight how the organization has succeeded (or fallen short) in delivering patient-centered care.
- Sharing of information about the project and data showing progress towards milestones and goals via short, succinct, customized messages to management.

Engaging Physician Leaders

Hospitals across the U.S. are making great strides in improving the quality and safety of care. Most senior health care leaders report that, despite the challenges, their organizations could not have achieved these improvements without physician involvement. Though more physicians today are salaried hospital employees, most remain independent practitioners or partners in group office practices and use hospital facilities as affiliates to meet their patients' medical needs. These mutually beneficial relationships are valuable and often positive, but, may be undermined by physicians and hospitals non-aligned interests and goals.

Fortunately, the outcomes of the hospital's quality initiatives may appeal to physician's financial and emotional WIFM. In smaller communities, physicians are often community leaders and are invested personally and professionally in a hospital's success and the subsequent benefits to the community. Other physicians may be interested in enhancing their practices by supporting expanded services, new facilities, and upgraded equipment. Finally, the majority of physicians endorse quality improvement, but may not have the expertise to lead or manage QI programs.

Senior Physicians

What's the WIFM

- The opportunity to partner in the future direction of the organization.
- A healthier 'bottom line.'
- The opportunity for growth and development.
- The opportunity to find more joy in the practice of medicine

Strategies to Engage

- Find the right physician champions.
- Give the champions the tools they need for success.
- Master the elevator speech.
- Appeal emotionally re the benefits of quality improvement for patients and doctors alike

What is a senior physician? Typically, he or she is a physician of any age or specialty who is respected by all: administrators, physicians, nurses, pharmacists, etc.

One approach for engaging physicians in hospital quality improvement initiatives is to partner with physician champions to serve as advisors and ambassadors. Desirable characteristics of physician champions are:

- Passionate about quality.
- Make quality the highest priority.
- Dissatisfied with the status quo.
- Have a natural interest in systems and how systems affect work flow.
- Clinically respected by peers and other clinical staff.
- Demonstrate a high degree of common sense and judgment.
- Courageous.
- Exhibit emotional maturity.

Characteristics to avoid include:

- Volunteering just to fill up a resumé.
- Personal or professional self-promotion.
- Carrying hidden agendas (seeking influence, power or money).
- Looking for an easy path to a better lifestyle.
- Unable to communicate effectively.
- Authoritarian.
- "Burned-out."
- Clinically dogmatic without solid, evidence-based backup.

Physician champions, who are often careful risk-takers, tend to be among the early adopters in Rogers' diffusion curve. They need not be formal leaders and may be found heading committees, or leading journal clubs or case study reviews, and serving on quality improvement task forces. They are strongly influential within the medical staff, and can mentor the early majority pragmatists and late majority conservatives to adopt change. Physician champions can also be nominated by other employees, such as nursing or clerical colleagues, who can identify physicians with the desirable characteristics.

Physician champions should be mentored to grow and should be given the tools and support needed to succeed. Upon assuming the role of leading a change effort, a champion will be watched closely by the medical staff. If the champion is successful in achieving the improvement goals, more physicians are likely to engage and volunteer as champions in the future. Failure, even in the short-term, can result in increased vulnerability and negative feedback for the champion, and may discourage others from taking on champion roles in the future.

Fortunately, change management skills and expertise can help the champion achieve success. The components of this skill set include:

- A thorough understanding of and the ability to apply The Model for Improvement, including small-scale Tests of Change and rapid cycle PDSA.
- An understanding of Rogers' diffusion of innovation, including the various stages of adoption of change, and the ability to identify for each idea in which stage the intended mentees are on the adoption curve.
- A commitment to active learning and development, including asking questions.
- Knowledge of how practices can be translated into meaningful outcomes.
- An understanding of how measurement is conducted for quality improvement, and how improvement measurement differs from research measurement.
- The skills to be able to use data and results, rather than harsh judgment and blame, to drive behavior. The ability to encourage change by shedding light, not "heat."
- Good judgment and discretion: knowing when to be diplomatic and when to be assertive.

In addition, physician champions must have a firm grip on quality improvement research and findings, familiarity with the best-in-class performers, and the ability to interpret and filter the often conflicting input provided by diverse sources such as professional societies. QI leaders can assist champions by providing key literature and resources and training materials and opportunities, as well as by reviewing up-to-date performance data to alert champions to best practices and "best in class" outcomes. Finally, QI leaders should help physician champions avoid the traps that can undermine the improvement efforts, noted in Figure 14:

FIGURE 14
The Eight Cardinal Mistakes of Physician Champions

1. Starting with a committee rather than a receptive individual or group.
2. Equating clinical ability with ability to change.
3. Approaching a resistant Medical Executive Committee or Medical Director prematurely.
4. Mandating a change unilaterally.
5. Giving up following the initial "blowback."
6. Becoming the "Change Cop."
7. Ignoring business relationships.
8. Rushing to senior leaders to ask for more money/resources.

Engaging Mid-Level Management

Organizations value middle managers because they provide supervision of front-line staff and link employees with senior management. David Sirota, co-author of *The Enthusiastic Employee: How Companies Profit by Giving Workers What They Want*, and author of *Caught in the Middle* (2008), describes middle managers as "the glue across upper and lower levels, as well as horizontally with other departments."

Jane Farran, a senior fellow in Wharton Executive Education and managing partner of the consulting firm C4 amplifies, "These intermediaries have a very important role. The middle managers translate strategy and the big picture so that it makes sense and is applicable for the day-to-day workers."²⁵ At the same time, effective middle managers understand front-line staff needs and facilitate their accomplishment of the desired work.

Mid-Level Managers

What's the WIFM

- To be part of the 'how' change occurs.
- To gain more knowledge, skills, and expertise.
- To advance their careers.

Strategies to Engage

- Help them understand their connection to the organization.
- Help them know how their role supports the mission and business vision.
- Allow them some autonomy in meeting organizational objectives.
- Provide them the opportunity to develop new skills, receive recognition for their achievements, and be a part of high performing teams.

Michael McNerney, Vice President of Executive Performance and Rewards for Aon Consulting, states "Often, one of the biggest barriers to implementing strategy has been the failure to engage middle managers. The middle is where we execute and institutionalize change and strategy – yet this layer and the leaders here can fail to see what change means for them and the employees they manage, leading them to continue to do their work in the same way. As a result, the commitment to change and the specifics of how to change are left undefined" (McNerney, 2010).

Robert Tanner of "Management is a Journey" recommends the following steps to engage middle managers (Tanner, 2011):

- Help middle managers understand their connection to the organization and its mission.
- Help middle managers learn and understand how their role supports the business vision.
- Allow middle managers some autonomy in meeting organizational objectives.
- Provide middle managers the opportunity to develop new skills, receive recognition for their achieve

As change moves at a faster and faster pace, middle managers must have opportunities to stay abreast of the evolving competencies necessary to lead and manage change and improvement. The IHI’s “TCAB How to Guide: Developing Front Line Nursing Managers” is an excellent resource to guide this critical mentoring (Peck, 2011).

Engaging Front-Line Staff

Front-line staff are the keys to change implementation. They know the local environment best, can often identify what problems exist from first-hand experience, and can offer good ideas for effective changes and solutions. Engaging the front-line staff in the change process often helps a change “stick,” i.e. staff own the change and help to sustain it. Change processes implemented with staff engagement are not only more successful, but tend to require less oversight than changes imposed on staff.

Middle managers play a key role in successfully encouraging and guiding front-line staff in the change process. Effective managers:

- Model the way.
- Inspire a shared vision.
- Challenge the process.
- Enable others to act.
- Encourage the heart.

An example of the implementation of these principles can be observed in the Comprehensive Based Unit Safety Program (CUSP) developed by Johns Hopkins University and adopted by the AHRQ (2011). After front-line staff were taught the science of safety, they were asked to brainstorm and identify potential risks of patient harm. The next step was a structured process to learn from earlier errors or negative outcomes by asking: what happened; why it happened; how risk can be mitigated in the future; and how risk reduction can be measured. The front-line team prioritized the issues raised, and then began to design and implement strategies to prevent or mitigate the negative outcomes identified or projected. Rapid cycle improvement concepts were

used to expedite success. Staff were empowered with an element of control over their work procedures, and accurately perceived that they were “part of the solution.”

Contra Costa Regional Medical Center in California is an IHI ‘Mentor’ in the area of medication reconciliation. Starting with small Tests of Change, Contra Costa rolled out the new procedures slowly to selected units. After witnessing successful implementation of these change processes on the medical unit, the surgical nurses “pulled” the processes onto their own unit before the go-live date for that unit had arrived. Additionally, when staff design the “how,” they are more likely to support the improvement change and celebrate a “win” (AHRQ Innovations Exchange).

Engaging Patients and Families

Patients and families can be a powerful force for improvement that, when channeled effectively, can promote rapid change. “Research shows that when patients are engaged in their health care, it [sic] can lead to measurable improvements in safety and quality.” AHRQ has identified several strategies and interventions that have promoted or facilitated patient and family engagement and quality improvement. These strategies include:

- Including patients and families on the health care team.
- Facilitating communication with patients and families.
- Increasing patient knowledge, skills, or abilities.
- Incorporating patient and family input into development and implementation of management and processes.

AHRQ has compiled a set of resources and tools with tested, evidence based resources to help hospital work as partners with patients and families to improve quality and safety. The four key activities that support engagement include:

1. Working with Patients and Families as Advisors
2. Working with Patients and Families at the Bedside: Communicating to Improve Quality
3. Working with Patients and Families at the Bedside: Nurse Bedside Shift Report
4. Working with Patients and Families at the Bedside: Care Transitions from Hospital to Home: IDEAL Discharge Planning

Front-Line Staff	
What’s the WIFM	Strategies to Engage
<ul style="list-style-type: none">• Being a part of ‘how’ change occurs.• At times, being a part of ‘what’ gets changed.• Learn more knowledge and skills.• Advance their careers.• Find more joy in their work.	<ul style="list-style-type: none">• Model the way.• Inspire a shared vision.• Challenge the process.• Enable others to act.• Encourage the heart.

The Institute for Patient and Family Centered Care suggests the following steps to facilitate engagement of patients and families:

- Invite patients and family leaders to provide meaningful contributions to the health care system and its processes.
- Work with community groups to educate consumers to expect and demand partnerships in their own health care and meaningful roles in the health care system and its institutions.

Patients and Families	
What's the WIFM	Strategies to Engage
<ul style="list-style-type: none">• The opportunity to play a role in one's own safety.• The opportunity to participate in what is changed and how it is changed.• Making a "big" difference.• Improving care and services for other patients and families.	<ul style="list-style-type: none">• Facilitate communication.• Increase knowledge, skills, and abilities.• Provide opportunities for input into management and processes.• Create a Patient-Family Care Council with patient-family advisors.
<i>Patient and Family Engagement</i> <i>See Appendix VIII for additional content</i>	

REWARDS AND RECOGNITION: CELEBRATING THE WINS

There are many reasons people choose to work in health care, reasons as diverse as the individuals themselves. Some are moved by passion and a desire to care for others. Some are inspired by the sense of fulfillment they obtain by doing meaningful work. Monetary compensation may certainly be another motivator, yet is often oversold as the only determinant of an individual's intrinsic motivation. But is a good paycheck enough to attract and engage health care workers laboring in a difficult and demanding profession? For many, the answer is 'no' – and yet they stay. Why? The Best Practice Institute (2012) surveyed nurses from across the U.S., asking: "I am rewarded in such a way that I feel motivated to perform the work expected." Startlingly, 62 percent of respondents answered "false." A key factor in staff engagement and retention was discovered to be 'meaningful recognition,' i.e. proof that health care workers and their services are valued by employers as well as by society at large.

The American Association of Critical Care Nurses, in its Standards for Establishing and Sustaining Healthy Work Environments (2005), states that recognition has meaning only when it is relevant to the person being recognized. Lack of relevant recognition can lead to discontent, poor morale, reduced productivity, and suboptimal care outcomes. It is therefore important to validate and celebrate individual and team contributions, "the wins," to support and motivate health care professionals.

What are Rewards and Recognition and Why Are They Important?

What do we mean when we say "Rewards and Recognition?" Are we talking about money? Are we referring to a formal program where staff members are recognized for their work? Or to throwing staff a party for completing the latest survey? Rewards and recognition can include these components – and more.

One of the many studies investigating the relationships between staff performance and meaningful rewards was performed by Blegen et al. in 1992. The study randomly selected 341 staff nurses and asked them to rate how meaningful they perceived certain rewards and recognition. Monetary rewards commensurate with performance were found to be the most meaningful, followed by private verbal positive feedback, and written acknowledgment. Other highly ranked categories of recognition were public acknowledgment, schedule adjustment, and opportunities for growth and development. Rewards and recognition are not found in solely monetary compensation, however. According to Keller (1999), non-monetary recognition can be very motivating and help to build feelings of confidence and satisfaction.

Non-monetary rewards and recognition can be tools to promote and reinforce motivation, and play a critical role in supporting staff when financial resources are limited. Staff would like acknowledgment that they are making progress and getting things done, and that their efforts and contributions are appreciated. Additionally, providing rewards and recognition reinforces the actions and behaviors leaders desire their employees to continue or repeat.

Offering recognition and "celebrating wins" is also a means of communication between leaders and employees. According to Chestor Elton, co-author of The Carrot Principle (Adrain and Elton, 2009), meaningful recognition communicates to employees that they and their work are valued, and that their commitment to achieving professional standards and accountability will be acknowledged by the organization in a positive way. "Celebrating wins" can be a powerful way to sustain staff engagement and accelerate quality improvement efforts by encouraging positive actions and behaviors. Recognition is also important for staff retention. Hospitals that have been recognized for more effectively attracting and retaining nurses put great emphasis on staff personal and professional growth, and provide many opportunities for clinical development of new skills and expertise (American Hospital Association, 2002).

How to Celebrate the Wins

- “Rewards and recognition” need to be simple, specific, timely and meaningful. A general “Job well done!” tossed off in passing may not mean much to a hard-working employee. But when a leader publicly acknowledges the team members behind a project and its successful outcome, the thanks carry greater weight. Written thank you letters or certificates can also add credence to an expression of gratitude by management.
- Measurement is typically used to collect data for analysis, strategic planning, and reporting to regulators and accreditors. However, measurement can also serve as a reward by making positive feedback specific and more valuable. Senior management can present data demonstrating that an important goal has been achieved, and communicate to staff that their contributions towards the goal were important and valued. When staff members realize that their efforts effect change, they are likely to take greater “ownership” of an initiative or process and invest personally in the positive outcome.
- Recognition can come from supervisors, managers and senior leaders who should “celebrate wins” as soon as possible after a success. Waiting until the “next month’s staff meeting” may reduce the positive impact the recognition will have on the team. Waiting can lead to staff perceptions that their contributions were “an afterthought” and not truly valued.

Ideas for Celebrating the Wins

Send Thank You Notes

Never underestimate the power of a personal, specific thank you. Employees value leaders who care and who appreciate their hard work and accomplishments. Thank you notes are an excellent tool for managers to express their appreciation (Browning, 2012).

Guidelines for thank you notes include:

- Be specific: Describe the contribution or behavior you want to applaud and encourage.
- Say thank you, and note how the staff member’s contribution positively impacted the target outcome.
- Be timely! Notes should be given to the employee as close to the event or achievement as possible.
- Thank you notes can be sent via a formal letter, or even via email. Some recommend that a handwritten note, being more personal, is best.

Utilize department or facility-wide newsletters

In addition to providing regular updates regarding a PI team’s progress, the hospital newsletter, intranet, and website are excellent media for providing staff and team recognition. Individual or team accomplishments can be published and highlighted in print or online. The notice should include details of the accomplishment and the specific contributions of the awardee(s), as well as the value of the achievement for the organization and for patients. Some recommendations include:

- Give details of the accomplishment. What was achieved? How was the outcome achieved?
- Give concrete examples of how the recognized individual, team, or unit contributed to this success.
- Express a thank you to the individual, team, or unit.
- Provide photos, if available, of the improvement activities or of the contributors winning awards and receiving certificates or plaques from senior leaders.

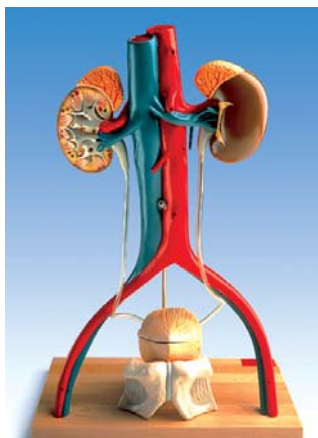
Develop Specialty Awards

A specific award such as a “Patient Safety Hero Award” is a great way to recognize and reward an individual or unit’s outstanding contributions to quality improvement. Suggestions for specific awards include:

- Identify the target area for the award and enlist an award review committee.
- Develop criteria for the award.
- Invite nominations and have the review committee select the person and/or unit that best fits the criteria.
- Present the award at an event such as “Nurse’s Day” or at an all-staff meeting. The presenter could be a supervisor or a senior leader.
- Publish a newsletter article to promote the achievement.

Promote Friendly Competition

Friendly competition among units to improve quality of care can be rewarding, motivating and fun! An award can be given to a unit with the highest performance for a month, and then passed on to another high performing unit after 30 days. For example, traveling awards, such as the “Kidney Award,” can be given to the unit with the fewest CAUTIs or the best compliance with urinary catheter removal; the “Catch a Falling Star Award” can be given to the unit with the lowest fall rate; or the “ZAP VAP Award” to the unit with the lowest ventilator-associated pneumonia rate.



Quality Achievement Award,
Kidney Award and Catch a
Falling Star Award



Recognition Banner and
Celebration Cake



Visual Recognition

A banner can be presented to a high-performing unit which recognizes an accomplishment such as achieving quality improvement outcomes. The banner can be hung for all, including visitors, to see, and can reflect the staff's pride in their unit and its teamwork.

Use Measurement to Show Progress

Recognize specific staff contributions to the accomplishment of quality improvement goals to demonstrate staff ability to effect change.



Posted Displays of "Days" Without
an Infection



Invite Senior Leadership

Participation in recognition programs by senior leadership underscores the critical value and importance of employee contributions to the organization and its mission. For example, a visit by the Chief Nursing Officer or Chief Executive Officer to a staff meeting, or a team meeting to congratulate a team or unit on reducing hospital-acquired infections, honors employee service, and can be inspiring and motivating for ongoing quality improvement. Senior leaders can recognize key contributions by staff who have helped to achieve an important benchmark or objective in a variety of disciplines such as medicine, nursing, facilities, and Health Information Management.



Staff Nurse Recognized by Chief Nursing Officer

PERFORMANCE IMPROVEMENT BASICS AND TOOLS (HOW-TO)

Flowcharting

Flowcharts provide a visual map of the steps in a process. A flowchart may be high-level, providing a general overview of the major process steps, or may be more detailed to reflect individual steps and even decision points. Detailed flowcharts can prove useful when analyzing a process failure and/or when making a change in a process.

GETTING STARTED

It is often helpful to use sticky-notes to map out a flowchart. The team members can use one sticky-note for each step in a process, place the notes on a poster board or other flat surface, and rearrange the sticky-notes until the team agrees that the appropriate steps are recorded and are displayed in the correct order. The team can then create the flowchart, using directional flow lines to indicate the order of the process steps.

There are standard shapes and symbols used to identify key aspects of a process. (See Figure 15) The steps in creating a flowchart are depicted in Figure 16.

Flowchart Facts

Used to visually explain a process and the interrelationship between process steps.

Allows analysis and better understanding of a process.

Visual tool to support training.

Used to understand process failures and to redesign a process

FIGURE 15
Flowchart Symbols

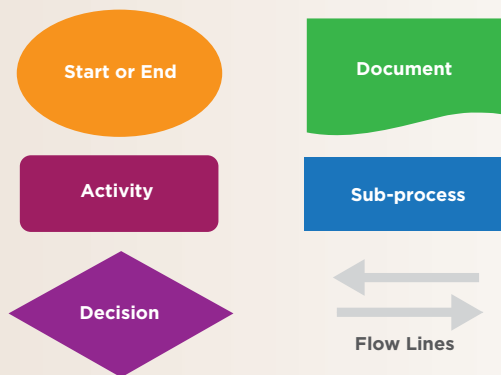
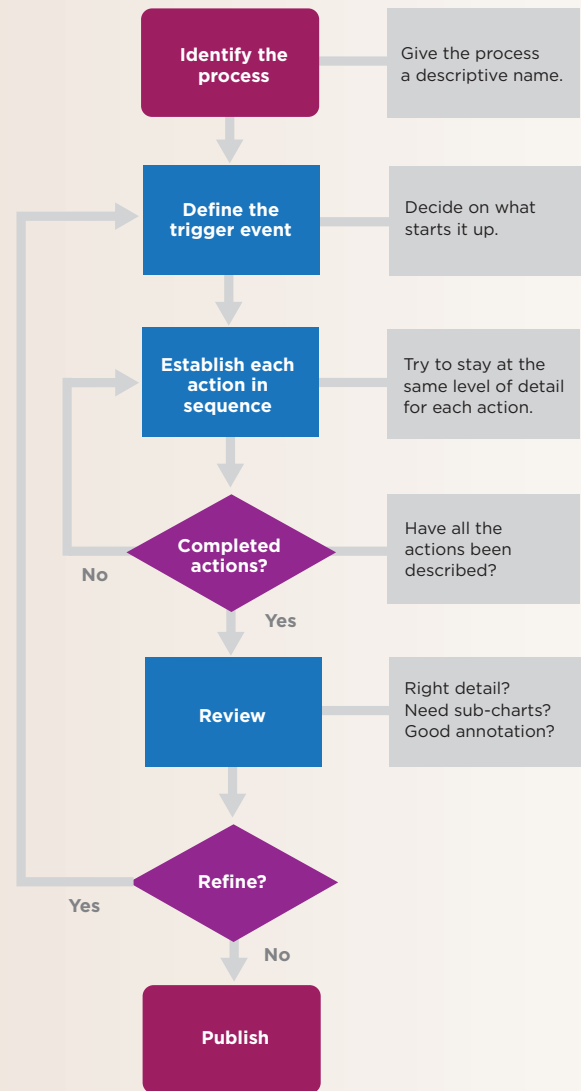


FIGURE 16
Steps in Creating a Flowchart



Driver Diagrams

Driver diagrams are a tool commonly used by quality improvement teams to highlight and understand the key elements that need to be changed to improve a process.

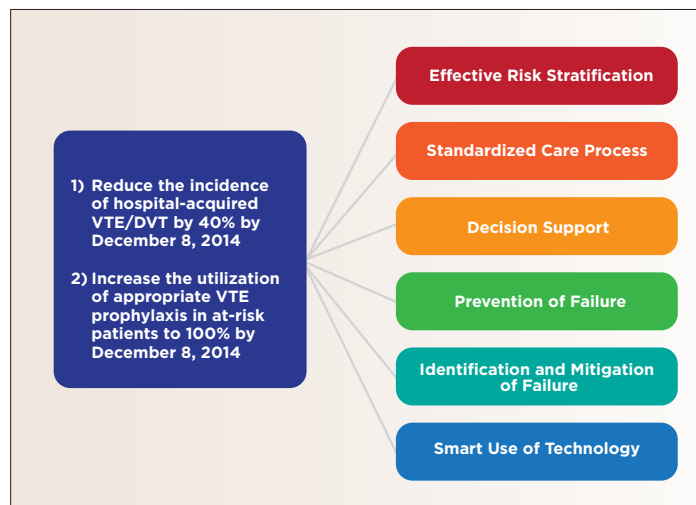
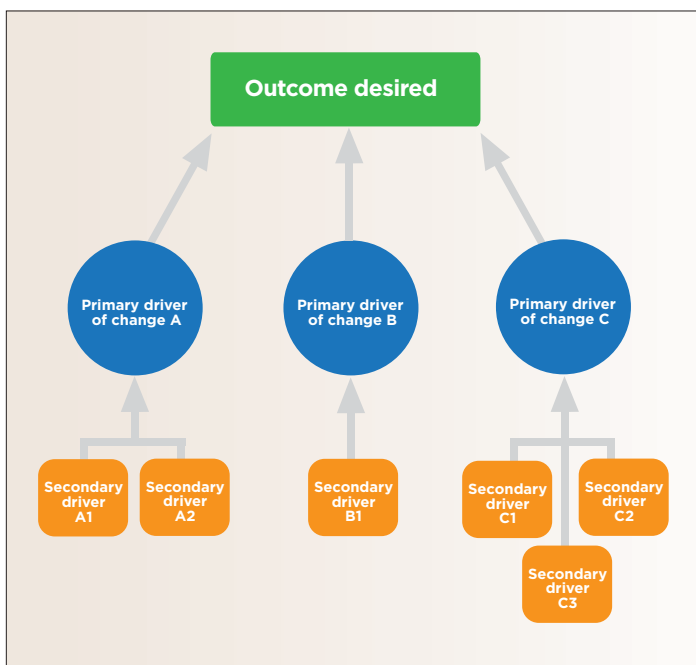
Driver diagrams provide a “game plan for change” that can:

- Help a team explore the factors that need to be addressed to achieve a specific goal.
- Show how the contributing factors are connected.
- Act as a communication tool for explaining a change strategy.
- Provide the basis for a measurement framework.

Driver diagrams are a type of structured logic chart with three or more levels, including:

- A goal or vision (AIM).
- The high-level factors that must be addressed in order to achieve that goal (Primary Drivers).
- Specific activities that influence or affect the high level factors (Secondary Drivers).

Driver diagrams are best used when an improvement team needs to determine which actions should be undertaken to achieve a goal. The working team begins with the specific goal or outcome and works backward to identify both the primary drivers and secondary drivers needed to attain that outcome.



Brainstorming, Affinity Grouping, and Multi-voting

Brainstorming

Brainstorming and multi-voting are tools used to generate, categorize, and select among ideas provided by team members. One of the goals of brainstorming is to generate a list of ideas that are offered and received without judgment or comments from other team members. Negative comments, and even positive comments may stifle creativity and deter participants from contributing.

Performance improvement teams may elect to use brainstorming when seeking to identify Ideas to Test (Tests of Change), to identify possible barriers the team may encounter, or to create a list of team norms.

Affinity Grouping

During affinity grouping, brainstorming ideas are grouped in related sets. The team members then provide a descriptive title or sentence for each of the grouped sets of ideas. Based upon team consensus, items can be shifted to create the most appropriate groupings.

Multi-voting

After a team has created a list of ideas through brainstorming, multi-voting can be implemented to identify and prioritize the “best” ideas.

In order to narrow the list of ideas, each team member can be provided with an “x” number of votes and can then select the ideas (or, if affinity groupings are used, groups of ideas) that he or she favors. Voting can be aided by providing each team member with colored sticker dots, sticky notes, or by asking for a pen/pencil check mark next to a selected item. The items with the most votes remain, and the others are eliminated or retained for future review and consideration.

Fishbone/Ishikawa

Another helpful tool to visually depict factors that contribute to a specific outcome is a fishbone or Ishikawa diagram. The diagram is used to depict a cause and effect relationship. The fishbone name is derived from the shape of the diagram, with large “bones” depicting the major categories of contributing factors and smaller “bones” depicting specific processes or factors. The traditional major categories addressed are: materials, methods, equipment, environment and people.

Summary

Quality improvement is a critical initiative to promote patient safety, reduce medical errors, and improve patient outcomes. The consequences of lagging behind national standards and peer benchmarks in quality outcomes can be severe, and include

Brainstorming

Session leader/facilitator communicates the purpose of the brainstorming session.

Participants are asked not to comment, criticize, or elaborate on any ideas. The goal is to solicit as many ideas as possible in the allotted time.

Participants provide one idea at a time, either taking turns or at random. Each idea is recorded, preferably on a board that all can see.

Continue until idea generation slows.

After all ideas are collected, clarify if necessary and remove duplicates.

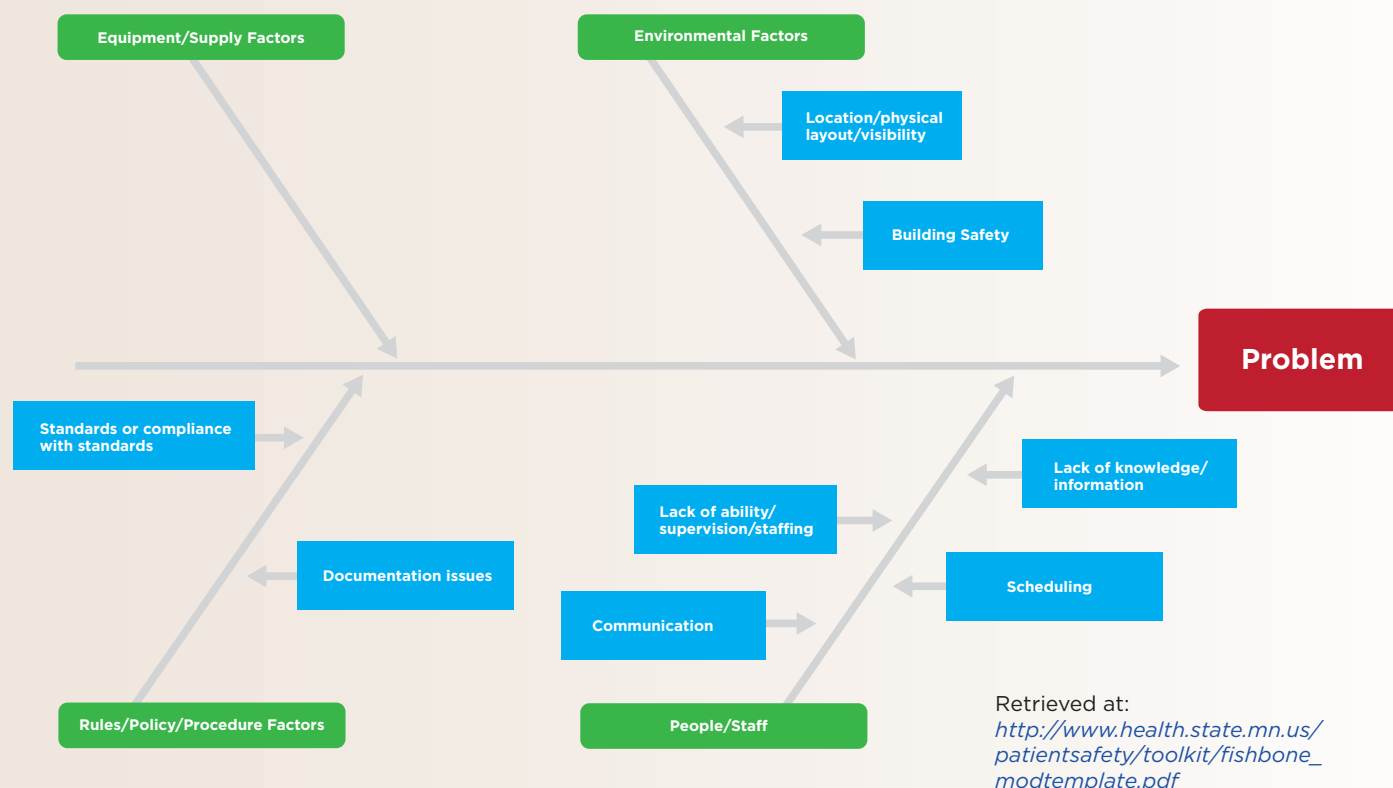
negative professional, ethical, and financial impacts. The evolution of the healthcare landscape over the past century has been accelerated with the implementation of the Affordable Care Act, and the transition from volume-based to value-based reimbursements by CMS and other insurers. Quality improvement, transparency, and accountability are among the expectations by regulatory agencies, patient/customers and their families, and our communities.

This guide has introduced readers to the background of this evolution to today’s demanding quality standards, and provided an easy to use “how-to” guide with additional resources for organizations to use in enhancing and expanding their quality improvement programs, projects and initiatives. The guide presents several types of successful models for quality improvement; describes how to develop, implement, test, assess, and revise quality improvement projects; and how to collaborate with and engage stakeholders such as care partners, patients and families, communities, and leaders and employees at all levels of the organization in the QI efforts.

Additional resources will be available for advanced users in Part II of the Implementation Guide.

FIGURE 17

Fishbone Diagram Example: A visual depiction of factors that contribute to a specific outcome.



Appendix I: Key Features and Timeline of the Affordable Care Act Implementation

2010

A new version of the Patient's Bill of Rights" goes into effect. Per CMS, it "will help children (and, eventually, all Americans) with pre-existing conditions gain coverage and keep it, protect all Americans' choice of doctors, and end lifetime limits on the care consumers may receive." Cost-free "preventive services" began for many Americans.

2011

Individuals with Medicare can get "key preventive services for free," and can receive a "50 percent discount on brand-name drugs" that fall in the Medicare prescription coverage gap.

2012

Accountable Care Organizations and other programs help doctors and health care providers work together to deliver better care.

2013

Open enrollment in the Health Insurance Marketplace begins on October 1st.

2014

All Americans have access to affordable health insurance options. The Marketplace allows individuals and small businesses to compare the costs and benefits of health plans. Millions of people who were previously uninsured gain coverage.

2015

Payment of physicians will be based on value not volume. (U.S. Department of Health and Human Services)

The Sections of the Affordable Care Act Include:

Title I. Quality, Affordable Health Care for All Americans

Title II. The Role of Public Programs

Title III. Improving the Quality and Efficiency of Health Care

Title IV. Prevention of Chronic Disease and Improving Public Health

Title V. Health Care Workforce

Title VI. Transparency and Program Integrity

Title VII. Improving Access to Innovative Medical Therapies

Title VIII. Community Living Assistance Services and Supports (CLASS Act)

Title IX. Revenue Provisions

Title X. Reauthorization of the Indian Health Care Improvement Act

(U.S. Department of Health and Human Services, 2010)

For additional information and details regarding any for the above sections of the ACA <http://www.hhs.gov/>

Appendix II: Stakeholders in Healthcare Quality

Stakeholders

There are many stakeholders in healthcare and patient safety today that contribute to shaping the national quality strategy. Regulatory agencies/national public health agencies, private-public partnerships, payers, not-for-profit organizations, professional trade organizations, providers, and, most importantly, patients and their families are ALL stakeholders who promote the provision of safe, effective and equitable healthcare. All of these stakeholders can play a role in defining and highlighting best practices, with the ultimate goals of furthering patient safety. To understand how all of these organizations can work together to shape a cohesive national healthcare agenda, it is first important to identify what role each of the stakeholders plays in the national

arena. While the list below does not include every organization involved in healthcare, it does paint a picture of the depth and breadth of resources across the continuums of government, medicine, research, private sector, business, and not-for-profit organizations that contribute to reducing harm and improving health care and patient safety.

Regulatory Agencies/National Public Health Agencies

Regulatory and national public health agencies, which typically operate under federal or state oversight, implement and monitor basic standards of care for healthcare organizations, and support research and disseminate data and best practices to promote high quality health care.

AGENCY	DESCRIPTION
Centers for Medicare and Medicaid Services (CMS)	CMS is the largest payer in the U.S. and coordinates the federal Medicaid and Medicare programs. Healthcare organizations must adhere to the regulatory standards developed by CMS when treating Medicare and Medicaid patients. These regulatory standards, or Conditions of Participation (CoPs), have been developed to improve quality and protect the health and safety of Medicare beneficiaries. CMS ensures that these standards are met through periodic on-site surveys that are performed by CMS surveyors or other accrediting bodies (such as The Joint Commission) that have been recognized by CMS. (www.cms.gov)
Agency for Healthcare Research and Quality (AHRQ)	The mission of the AHRQ is to produce evidence which improves healthcare safety, quality, accessibility, and affordability. The AHRQ works with the U.S. Department of Health and Human Services (DHHS) and other partners to make sure that research evidence is understood and incorporated in clinical decision-making. AHRQ disseminates evidence-based best practice information to healthcare organizations which addresses topics such as reducing healthcare associated infections and team training. In addition, the AHRQ sponsors the National Quality Measures Clearinghouse (NQMC), which is a public resource with evidence-based quality and patient safety measures and measure sets intended for use by healthcare providers. (www.AHRQ.gov)
The Centers for Disease Control and Prevention (CDC)	The CDC tracks data related to public health, health promotion, and disease prevention, and provides up-to-date information to policymakers and providers on health trends and challenges for the U.S. population. (www.CDC.gov)
The Joint Commission (TJC)	The Joint Commission is an organization that voluntarily accredits and certifies health care organizations and programs. Joint Commission-accredited institutions adhere to specific TJC standards of practice for quality and patient safety, measurement and reporting of data. While not a regulatory agency, TJC one of the accrediting organizations that work with CMS to coordinate standards and practices. (www.jointcommission.org)

Private – Public Partnerships/Not-for-Profit Organizations

There are many private-public partnerships and not-for-profit organizations that are devoted to improving healthcare and patient safety. The partnerships take many forms, but all share the common goal of reducing harm to patients. These organizations may also develop and provide standards with which multiple hospitals can engage in benchmarking.

ORGANIZATION	DESCRIPTION
Institute for Healthcare Improvement (IHI)	The IHI is a non-profit organization that partners with healthcare organizations, front-line healthcare workers, public policy makers, government organizations, and others to provide educational resources and programs in quality improvement science, as well as training in specific topic areas in healthcare leadership. (www.IHI.org)
National Quality Forum (NQF)	NQF is a private sector, standard-setting organization whose efforts center on the evaluation and endorsement of standardized performance measures for healthcare quality and patient safety. NQF is comprised of healthcare stakeholders, and works to improve the quality of American healthcare by assessing healthcare practices to determine if and how patient needs are being effectively and efficiently met. (www.qualityforum.org)
The Commonwealth Fund (CMWF)	The Commonwealth Fund is a private foundation that supports independent research on health and social issues and offers grants to promote the improvement of health care practices and policies. The Fund is dedicated to helping people become more informed about their health care, and improving care for vulnerable populations such as children, the elderly, low-income families, underserved groups, and the uninsured. The Fund's two national program goals are to improve health insurance coverage and access to care, and to improve the quality of health care services. (www.commonwealthfund.org)
Institute for Safe Medication Practices (ISMP)	The Institute for Safe Medication Practices (ISMP) is a non-profit organization that works closely with healthcare practitioners and institutions, regulatory agencies, professional organizations, and the pharmaceutical industry to provide education about adverse drug events and their prevention. The Institute performs an independent review of medication errors that have been voluntarily submitted by U.S. practitioners to a national Medication Errors Reporting Program (MERP) operated by the United States Pharmacopeia (USP). Information from the reports may be used by USP to recommend revisions of drug standards. (www.ISMP.org)
National Patient Safety Foundation (NPSF)	The NPSF is an independent, non-profit research and educational organization. It is a partnership of health care practitioners, institutional providers, health product providers, health product manufacturers, researchers, legal advisors, patient/consumer advocates, regulators, and policy makers who are committed to making health care safer for patients. Through leadership, research support, and education, the NPSP works to make patient safety a national priority. (www.NPSF.org)
The Leapfrog Group	The Leapfrog Group is a voluntary program run by health plan purchasers which aims to make quality, safety and efficiency measures transparent to consumers and purchasers of care to better facilitate health care and plan decisions. Hospitals voluntarily participate in the annual Leapfrog Hospital Survey that measures hospital performance in the areas of patient safety, quality, and resource utilization. (www.Leapfroggroup.org)

Payers

In the past, hospital healthcare costs were covered via fee-for-service reimbursement. Payers have now become drivers of improvement in healthcare quality by moving to a performance-based payment system. For example, “Never Events,” i.e. events that occur in the hospital that should never occur, are being considered events for which hospitals cannot bill. (A primer on Never Events can be found at: <http://psnet.ahrq.gov/primer.aspx?primerID=3>.) Hospitals must now meet quality benchmarks to maintain full CMS funding, and many private insurance companies have also incorporated quality benchmarking in their contracts with hospitals in order to promote quality improvement.

ORGANIZATION	DESCRIPTION
The Centers for Medicare and Medicaid Services (CMS)	In addition to being a regulatory agency, CMS is also the largest health plan provider in the U.S. As the largest payer source for healthcare, CMS has a vested interest in ensuring that healthcare for its members is safe, effective, and efficient. (www.CMS.gov)
Private Insurance Companies	Private insurance companies share the same goals as CMS in ensuring that safe, quality care for their health plan members is provided in the most effective and efficient means possible.

Role of Stakeholders in Shaping the National Quality Agenda

Each stakeholder plays a role in shaping the national quality agenda, but the methods for driving improvement differ among stakeholders. Healthcare is an incredibly complex system, and no single entity, initiative, or system can successfully ensure the achievement of quality and safety outcomes. The table below presents a few methods through which stakeholders can drive improvement across the healthcare continuum:

STAKEHOLDER	IMPROVEMENT DRIVER
Regulatory Bodies	Drive improvement through licensing, accreditation, basic standards.
Payers	Drive improvement through pay-for-value programs, public reporting mechanisms, and grant-funded collaborative improvement work.
Public Health Agencies	Drive improvement through research, data collection and analysis, dissemination of evidence-based findings, and advocacy for public policies regarding safe practices.
Public-Private Partnerships/ Not-for-Profits	Drive improvement by facilitating collaboration among partners, such as government agencies, non-profits, payers, and clients; and by funding research, disseminating research findings, providing education, and highlighting disease- or topic-specific issues, such as adverse drug events.
Medical Specialty Professional Organizations	Drive improvement through the development of consensus recommendations and the dissemination of research and best practices. Provide peer consultations and education to promote adherence to evidence-based practices.

Providers, Patients and Families

With so many stakeholders “at the table,” the voices of the most important stakeholders in the healthcare arena – patients – may remain unheard. Patients today are more involved in their care and have more information at their fingertips about their conditions and treatment options. As a result, health care has been moving away from the “disease-centered model” in which only physicians had access to health care information to make health-care decisions, and toward a “patient-centered model,” in which patients are active participants and partners in their health care. In the patient-centered model, providers and patients work together to focus on the patients’ individual needs and preferences and to utilize the information garnered from the drivers of improvement to make better-informed decisions about the care being delivered. (A primer on the patient-centered care model can be found at: <http://www.ahrq.gov/research/findings/factsheets/patient-centered/ria-issue5/index.html>)

Appendix III: National Priorities

The six priorities were constructed to support the national aims. Agencies within the Department of Health and Human Services have adapted the six priorities to align with the goals of the NQS. Specific examples of both public and private sector activities that support the six priorities are also available on the NQS website, which is maintained by AHRQ (<http://www.ahrq.gov/workingforquality/index.html>).

Priority 1 – Making care safer by reducing harm caused in the delivery of care.

Much has been written about the safety lapses that have been reported in healthcare settings. Improvements in patient safety have been demonstrated, although progress nationally has been slower than expected. Fortunately, the HEN project approach has been successful in this regard, reporting significant progress in quality improvement benchmarks as of May 2014, and has been identified as a best practice. (<http://www.modernhealthcare.com/article/20130226/NEWS/302269960>)

Long-term goals:

- Reduce preventable hospital admissions and re-admissions.
- Reduce the incidence of adverse health care-associated conditions.
- Reduce harm from inappropriate or unnecessary care.

Priority 2 – Ensuring that patients and their family members are engaged as partners in health care.

Patient and family engagement has emerged as a major theme in quality and safety improvement programs. Implementing methods to engage patients and their families as partners in care can promote successful healthcare outcomes. Yet, we still need to identify the highest-yield practices that translate patient engagement into improved outcomes.

Long-term goals:

- Improve the healthcare experience for patients, families, and caregivers as related to accessibility, quality, and safety across a variety of settings.
- In partnership with patients, families, and caregivers – and using a shared decision-making process – develop understandable and culturally competent care plans.
- Enable patients, families, and caregivers to navigate, coordinate, and manage health care appropriately and effectively.

Priority 3 – Promoting effective communication and coordination of care.

Multiple sources cite communication breakdowns as a leading cause of poor health care delivery and failed handoffs among health care providers. System factors causing these breakdowns include poor or absent communication channels to share patient information, lack of standardized language and formats for sharing information, and poor follow-up of care after interventions. Additionally, diverse patient skills in areas such as health literacy, limited patient engagement and empowerment, and environmental determinants of health status can influence care practices. Priority three is a complex topic that spans the entire health care system.

Long-term goals:

- Improve the quality of communications and transitions of care among care settings.
- Improve the quality of life for patients with chronic illness and disability by implementing an up-to-date care plan that anticipates and addresses patients' symptom and pain management, psychosocial needs, and functional status.
- To improve quality of care and reduce health disparities, integrate healthcare systems and communities and establish shared accountability for high quality care.

Priority 4 – Promoting the most effective prevention and treatment practices for the leading causes of mortality (e.g. cardiovascular disease).

The NQS bridges a breadth of settings and sets the core priorities of improving the health of individuals and communities via effective prevention and treatment of the common causes of mortality. Cardiovascular disease has been a primary area of quality improvement attention for decades, but remains a priority as per the 2013 NQS report:

Long-term goals:

- Promote cardiovascular health through community interventions that result in improvement of contributing social, economic and environmental factors.
- Promote cardiovascular health through interventions that result in the adoption of the healthiest lifestyle behaviors across the lifespan.
- Promote cardiovascular health through the implementation of effective clinical preventive services across the lifespan in clinical and community settings.

Priority 5 – Working with communities to promote wide use of best practices to enable healthy living.

The obesity epidemic is well-known and pervasive in America. Dealing with this issue requires much broader interventions than can be provided by the health care industry alone. Partnering with communities to address this global issue, which ultimately impacts the other priorities and the three national aims, is critical for success. Preventive and therapeutic interventions such as affordable access to healthy foods, safe environments for exercise, resources to promote stress reduction, etc. must be enhanced. To that end, the Affordable Care Act launched The Prevention and Public Health Fund, administered by the CDC, to address the topic of healthy living.

Long-term goals:

- Promote healthy living and well-being through community interventions that result in improvement of social, economic and environmental factors.
- Promote healthy living and well-being through interventions that result in the adoption of the most important healthy lifestyle behaviors across the lifespan.
- Promote healthy living and well-being through the receipt of effective clinical preventive services across the lifespan in clinical and community settings.

Priority 6 – Making quality care more affordable for individuals, families, employers and governments by developing and spreading new health care delivery models.

High-quality care and healthy communities may not be feasible without the enhancement of health care affordability. Innovative payment models such as Accountable Care Organizations (ACO), bundled payments, and primary care medical homes have emerged, which aim to improve care while reducing costs. To promote more affordable health care, the health care industry is moving from a volume-based system, in which more care resulted in higher reimbursements, to a value-based system, in which better outcomes for a population drive greater reimbursement.

Long-term goals:

- Ensure affordable and accessible high quality health care for individuals, families, employers, and governments.
- Support and enable communities to ensure accessible, high quality care while reducing waste and fraud.

Appendix IV: TeamSTEPPS

TEAMSTEPPS

Overview

“Team Strategies and Tools to Enhance Performance and Patient Safety” (TeamSTEPPS) is an evidence-based teamwork system designed to improve communication and teamwork skills among health care professionals. Its ultimate goals are to reduce harm, improve outcomes, and enhance patient and provider satisfaction.

TeamSTEPPS was developed by the Department of Defense’s (DoD) Patient Safety Program in collaboration with the Agency for Healthcare Research & Quality (AHRQ). The program is supported by more than 25 years of research, and is based on practical lessons learned from “high-risk” industries such as aviation and nuclear energy. The TeamSTEPPS curriculum is available free-of-charge in a modular format that can be used in a variety of health care settings, with all types of health care professionals. The TeamSTEPPS program includes a breadth of multimedia resources, including videos, clinical vignettes, case studies, ready-to-use presentations, pocket guides, handouts and more.

More than 1,500 individuals, representing hundreds of organizations, have received a certification as a TeamSTEPPS Master Trainer. It is estimated that these graduates subsequently trained over 5,000 of their colleagues. In the first year of the Hospital Engagement Network (HEN) contract with the Center for Medicare and Medicaid’s (CMS) Partnership for Patients (PfP) initiative, the American Hospital Association (AHA)/Heath Research & Educational Trust (HRET) integrated key concepts of TeamSTEPPS training as part of the Improvement Leader Fellowship (ILF). For example, TeamSTEPPS, a module-based program was broken into small, teachable components and tied directly to aspects of the Model and Science of Improvement. The AHA/HRET HEN team and partner faculty focused on the TeamSTEPPS’ communication concepts and tools that were deemed most translatable to the aims of the PfP: reducing preventable readmissions by 20 percent and avoidable harms by 40 percent. In the second year of the initiative, these concepts were referenced as a foundation of the ILF. During both of the base contract years, the AHA/HRET HEN team also encouraged associated state hospital associations (SHAs) and affiliated hospitals to attend and subsequently deliver TeamSTEPPS training. The TeamSTEPPS program and the AHA/HRET HEN efforts are described in more detail below.

Why is Teamwork Important?

Teamwork is a critical component of successful health care delivery, yet teamwork skills have traditionally not been a part of clinical education and training. Paul Schyve (2005), Senior Advisor of Healthcare Improvement at The Joint Commission, states: “Most health care today is delivered by teams – certainly in settings such as hospitals, nursing homes, and clinics, but also in most physicians’ offices. Our challenge, therefore, is not whether we will deliver care in teams, but rather how well we will deliver care in teams.”

Health care teams make fewer mistakes because they have a shared mental model and mutual trust. The core concepts of teamwork are developed through trainable and observable behaviors, such as giving and receiving feedback, exercising leadership and maintaining a positive group climate; King et al., 2008); all of which are strategies promoted in the TeamSTEPPS curriculum.

In addition to improving care delivery, teamwork has been positively linked to better patient outcomes and safety culture scores (Leonard, Graham, & Bonacum, 2004; Morey et al., 2002; Pronovost & Freischlag, 2010); Weaver et al., 2010). Poor teamwork and communication can lead to job dissatisfaction, burnout, turnover, and, ultimately, patient harm (Zangaro & Soeken, 2007).

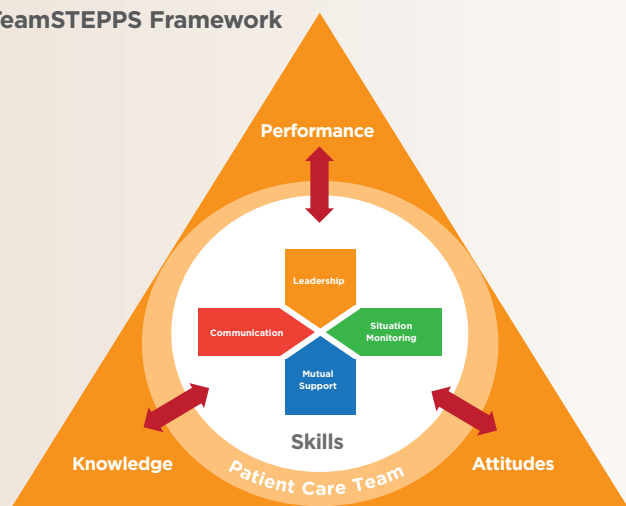
TeamSTEPPS Fundamentals

The TeamSTEPPS curriculum emphasizes the following four key competencies (AHRQ):

- **Leadership** – The ability to coordinate the activities of team members by ensuring that team members understand the team goals and action plan, are informed of updates and changes, and have the necessary resources to achieve their objectives.
- **Situation monitoring** – The process of actively scanning and assessing situational elements to gain information and understanding, and to maintain awareness to support the functioning of the team.
- **Mutual support** – The ability to anticipate and support other team members’ needs by understanding their duties, responsibilities, and workload.
- **Communication** – The process by which information is clearly and accurately exchanged among team members.

The overarching skills listed above are the cornerstones of high functioning teams. These critical skills are easily learned through training and can enhance communication and improve team performance, care delivery and morale. Figure 1 below demonstrates how these four key competencies fit within the TeamSTEPPS instructional framework.

FIGURE 1
TeamSTEPPS Framework



How to Get Started with TeamSTEPPS

TeamSTEPPS recommends a three-step sequential process for creating and sustaining a culture of safety: (1) readiness assessment and pre-training, (2) training for health care staff, and (3) implementation and sustainment, each of which is described briefly below.

- **Phase I – Assessment.** The purpose of this phase is to determine the organization’s readiness to undertake a TeamSTEPPS initiative. During this phase, team leaders and champions are identified and a site assessment, or “training needs analysis,” is conducted. The site assessment is used to identify potential implementation barriers and to determine if the appropriate resources to support the initiative are in place.
- **Phase II – Planning, training and implementation.** During this phase, the team decides which elements of the TeamSTEPPS program they will use and begins planning for implementation. Because TeamSTEPPS is a customizable program, some organizations/departments/units may decide to start training with a phased approach (e.g. initially targeting certain tools or a specific unit) or they may opt to implement the program throughout the entire organization. During Phase II, the organization might send staff members to attend the in-person Master Trainer training program at any of the six regional training centers across the U.S. The end result of these planning efforts should be a formal report detailing exactly how the initiative will be implemented.

- **Phase III – Sustainment.** The purpose of this phase to ensure that improvements made during Phase 2 implementation are sustained and spread throughout the organization. During Phase III, teamwork skills and tools should be used and practiced daily, and the effectiveness of the initiative should be monitored and measured on an ongoing basis. The team should also establish a plan for ongoing training and revision of the program as indicated by the analysis of assessment data.

TeamSTEPPS and the AHA/HRET HEN

The AHA/HRET HEN consists of 31 SHAs and nearly 1,600 hospitals. Many of the AHA/HRET HEN hospitals have enlisted a number of staff members, improvement teams, and clinical units to address one or more of the 11 healthcare-acquired conditions (HACs) targeted by the CMS P4P campaign. To promote successful outcomes, the AHA/HRET HEN participants should have access to trainings that are designed to reinforce changes in their organizations’ cultures needed to reduce and eliminate harm.

As noted, the AHA/HRET included TeamSTEPPS training as a core component of its ILFs, in 2012-2013. For 2014 opportunities, the AHA/HRET HEN team recommends that states and hospitals connect with the HRET National TeamSTEPPS team; the National TeamSTEPPS team is working under AHRQ’s scope to build upon and expand existing modules and trainings. Again, the TeamSTEPPS initiative can provide HEN participants with a framework for improved communication, and a pathway to continuous improvement of safety and quality of care.

To learn more about TeamSTEPPS, please visit <http://www.hret.org/quality/projects/teamstepps.shtml>

FOR MORE INFORMATION

The TeamSTEPPS curriculum and tools are available free of charge, online, and in print. If you are interested in implementing TeamSTEPPS at your organization, please visit AHRQ’s website at <http://teamstepps.ahrq.gov/>. For additional information:

- TeamSTEPPS Master Training:
<http://teamstepps.ahrq.gov/trainingEligibility.htm>
- TeamSTEPPS User Portal:
<http://teamsteppsportal.org/>
- TeamSTEPPS Pocket Guide

Appendix V: Team Member Roles and Responsibilities

TEAM MEMBER ROLE	RESPONSIBILITIES	CHARACTERISTICS AND SKILLS
Team Leader	Project plan management and project plan execution, including scheduling and conducting meetings; providing direction; facilitating team discussion in the development and implementation of Tests of Change, outcomes, and action plans. Communicates with senior management.	Experience running effective meetings (creating agendas, designating team roles and processes for decision making, documenting of minutes and action items); skills in active listening, conflict resolution and team facilitation.
Front-Line Staff, Others	Provides knowledge and experience of the process(es) to be improved; serves as liaison to and informal leaders among peers and co-workers.	Respected by colleagues; opinion leader; thought leader; has a desire to improve quality. (<i>See Engaging Leadership and Frontline Staff</i>)
Day-to-Day Leadership	A key driver of the project implementation; oversees Tests of Change and data collection; provides knowledge and insight regarding details of systems and processes.	Middle manager or supervisor
Nurse or Ancillary Services Leader	Provides knowledge of clinical and operational implications; provide executive nursing leadership, and authorizes and supports day-to-day leadership in executing change.	Chief Nursing Executive or designee
Physician Champion	Resource for clinical evidence; liaison to medical staff; facilitates physician buy-in.	Respected by colleagues; opinion leader; thought leader; has desire to improve quality. May or may not be in a formal leadership role. (<i>See Engaging Leadership and Frontline Staff</i>)
Quality – Performance Improvement Expert	Informs team about the application of improvement theory and utilization of available tools.	Expertise in the science of improvement (model for improvement, testing for change), measurement (collection, interpretation, display of data)
Executive Sponsor	Conveys leadership commitment (will); reflects alignment with organizational mission, vision and values; provides resource allocation/support; establishes and reinforces expectations and accountability; empowers the team; breaks down barriers; shows appreciation for and acknowledgement of everyone involved with the development and testing; serves as liaison to the executive leadership team; Takes an active role in development of the dissemination and implementation plan.	Executive level leader
Patient or Family Member	Provides the patient-family perspective; participates in the design of care processes.	Patient-Family Council member, or a patient or family member with an interest in helping the organization maintain a patient-family centered focus; personal experience with the issue or process being addressed.
All members	Publicly express and demonstrate support through actions. Engage others in the improvement effort. Communicate the team's progress and successes.	A passion for excellence. Dissatisfied with the status quo. A desire to contribute.

Appendix VI: Sample Project Planning Template

Project Planning Document

Project Title						
Description <i>Brief summary statement</i>						
Goal <i>Key outcome measure of success</i>						
Other metrics <i>Specific metric, the definition (numerator/denominator if applicable), current baseline and target</i>	Metric Name	Definition (including Numerator/Denominator)	Baseline Performance (as of ___ date)	Target (Goal) Performance		
Unit/Dept(s) involved <i>List</i>						
Project Leaders	<i>Name</i>	<i>Responsibilities related to this project</i>				
Admin Leader						
Nursing Leader						
MD Leader						
Team Lead						
Project Design						
List Key Elements Required	List specific TASK(S) to support the required element <i>Use separate row for each task. One key element may have multiple related task(s). (Design note: consider risk of failure & design redundant processes to mitigate such risks)</i>		Identify individual responsible for each task <i>(by designation, i.e. Operative MD, bedside RN)</i>	Additional detail		
References (Literature, evidence based)						

Implementation Timeline			
Item	Responsible	Target Date	Notes

Appendix VII: Sample Communication Plan

Communication Plan

Project Name: Reducing Preventable Readmissions

Project Lead: Mary Smith RN, MSN, Case Management Director

Key stakeholders: Primary: Nursing, Case Managers, Physicians, Social workers, Patients, Families, Executive Leaders
Secondary: All employees, community partners (local SNFs, clinics), Board of Directors, QIO, Hospital Association

Communication:

1. Organization-wide awareness of this project
2. Recognition of the magnitude of the work, which will involve many disciplines and various strategies
3. To keep our stakeholder informed of our progress (sharing data results)
4. To acknowledge and recognize our successes, key team members/teams

Communication Tool	Target Audience	Timing	Message (Content)	Content Owner	Due Date for Publication	Publication Owner	Distribution Date (Target)	Feedback/ Comments
Med Staff Bulletin	Physicians	Qtrly	Announcement Description	JW	Sept. 19	ST	Oct. 1	
Newsletter	Employees, Physicians	Monthly	Announcement Description	JW	Oct. 17	ST	Nov. 5	
Med Staff Bulletin	Physicians	Qtrly	Update and Results (data)	JW	Third Wed. end of Qtr.	ST	First week of the Qtr.	
Newsletter	Employees, Physicians	Monthly	Update and Results (data)	JW	Third Wed. each month	ST	First week of the month	
Intranet Banner	Employees, Physicians	Monthly	Update new TOC and results	CM	First week of month	ST	N/A	
Internet page	All	Monthly* (or Qtrly)	Basic overview	CM	First week of month	PC	N/A	
Flyers	Employees	Monthly	SBAR format Include their role	SA	Third Wed. each month	ST	First week of month	Distribute to directors for posting and review in staff meetings
Brochure	Patients, Families	Ongoing	Overview of project	JW	Oct. 17	ST	Nov. 5	Will use in waiting rooms and displays

Appendix VIII: Patient and Family Care

Background

The Institute of Medicine (IOM) (2001) defined patient-centered care as “providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions.” The Institute for Patient and Family-Centered Care highlights bringing the patient and family perspectives into the design and delivery of care, with an emphasis on dignity and respect, information sharing, participation and collaboration.

Improving America’s overall health requires active participation from all segments of the population: policymakers, public health agencies, providers, payers, and health care users. Involving patients and their families as partners in their care has resulted in positive effects on outcomes. The Agency for Healthcare Research and Quality noted in 2001, “...research has demonstrated that patients who are active participants in their care experience better outcomes than those who are not similarly engaged.”

Seeking ways to better engage patients in shared decision-making and self-management behaviors, and involving the community in supporting care can significantly improve public health. As care shifts away from acute, episodic care to chronic disease management, hospitals will have to expand their focus beyond the inpatient setting, create mutual relationships, and think more broadly and creatively in partnership with diverse groups of stakeholders when developing strategies for health care user engagement.

Framework for Engaging Patients and Families in Care

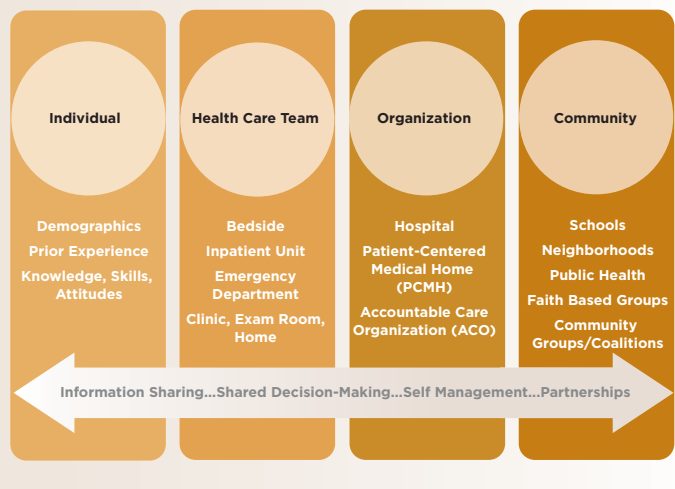
In 2007, Shaller identified six core attributes of Patient-Centered Care (endnote):

1. Education and shared knowledge.
2. Involvement of family and friends.
3. Collaboration and team management.
4. Sensitivity to nonmedical and spiritual dimensions of care.
5. Respect for patient needs and preferences.
6. Free flow and accessibility of information.

The Framework for Engaging Health Care Users in Figure 19 outlines how health care organizations can actively engage with health care users.

This framework presents a continuum of engagement from information-sharing to full partnership and includes potential entry points for user engagement opportunities at different levels of the health care system (Balik, 2011). Assessing where

FIGURE 19
Framework for Engaging Health Care Users



the organization is in its journey to engage patients and families helps to build awareness and identify opportunities for understanding and collaboration. The resources provide tools that health care organizations can use for such assessments, which include questions such as:

- Does the hospital have open visiting hours?
- Does the hospital have an active patient and family advisory council?
- Do patients or families serve on the hospital’s quality improvement project teams?

STRATEGIES FOR ENGAGEMENT AT EACH LEVEL OF CARE

Table 10 provides examples of strategies to increase healthcare user engagement at different levels of the health care system. Health care organizations may not be able to implement all of these strategies, but may choose a few that are most actionable.

Examples include:

- *Including patients and families on the health care team:* With the patient’s approval, doing bedside rounds and ‘change of shift’ reports when the family is present encourages patient and family participation and helps clinicians understand patient and family interest and motivation. Engaged patients (and, with permission, their families) can access medical information and clinical records, participate in care decisions and serve on patient- or family-activated rapid response teams.

- *Facilitating communication with patients and families:* Patients and families should be informed as to which staff members are involved in the patient's care and should be mentored on how to effectively participate in clinician-patient encounters. Whiteboards in patient rooms can provide a vehicle for this form of engagement. Another helpful approach is the Joint Commission's "Speak Up" initiatives:
 - *Urging patients to take an active role in preventing health care errors:* by becoming involved and informed participants on their health care team and participating in all decisions about their treatment.
 - *Encouraging patients to speak up* if they have questions or concerns.
 - *Increasing patient knowledge, skills or abilities:* Includes supporting patients and families in coordinating care, establishing systems to track medications and health records post-discharge, communicating with physicians, and providing access to health information.
 - *Inviting input into management and processes:* Includes establishing patient and family advisory councils, introducing additional opportunities for patients and families to be involved; and actively eliciting patient and family feedback.

Some organizations have opened their doors further, and include patients and families in standing (not advisory) committee meetings, utilize their input for root-cause analyses, and invite the presentation of their stories to the Governing Board.

BARRIERS

The current volume-based reimbursement system may not provide significant funding to promote these initiatives in the short term; improvements in outcomes and savings are typically realized in the longer term. Additionally, the large number of strategies that health care organizations can employ to achieve desired patient engagement results – from medical home models to nutrition classes and shared decision-making – makes it challenging to identify which strategies are the most successful and worthy of investment of organization time and resources. However, the benefits of patient and family engagement make implementation and investment in some or many of these strategies valuable for a health care organization seeking to improve quality of care.

TABLE 10
Examples of Patient and Family Engagement Strategies

HEALTH CARE SYSTEM	DESCRIPTION	SELECTED EXAMPLES OF ENGAGEMENT STRATEGIES
Community	Communities have an important role to play in supporting residents living with chronic disease. A growing number of hospitals and health systems are partnering with community health centers and public health agencies to involve the community in engaging in healthier behaviors and self-management activities.	<ul style="list-style-type: none"> • Health education and health literacy classes. • Healthy cooking and physical education classes. • Use of patient navigators and peers to provide support. • Local policy changes that promote healthier lifestyles (e.g., eliminating sugary drinks from school cafeterias).
Organization	There are many programs and changes in care delivery that health care organizations can implement within their settings to engage patients throughout the continuum of care, and involve them in improving their quality and patient experience.	<ul style="list-style-type: none"> • Use of volunteers or patient advocates to support care. • Involving patients and families in patient and family advisory councils, governance, and other committees. • Removing restrictions on visiting policies for families. • Providing open access to medical records. • Enhancing communications via email and social media technology (e.g., Facebook, Twitter).
Health Care Team	The combination of the growing incidence of chronic disease combined with an expanded patient base has placed more responsibility on clinicians practicing both inside and outside of the hospital to work with each other and with patients to design individual care plans to achieve better outcomes.	<ul style="list-style-type: none"> • Performing bedside change-of-shift reports. • Involving patients and families in multidisciplinary rounds. • Implementing patient and family-activated rapid response. • Providing shared decision-making tools. • Using patient teach-back. • Using clinic based multidisciplinary care teams.
Individual (Patients and Families)	Clinical advances have the ability to improve the quality of life for a majority of patients. In order to receive the full benefits, patients must actively manage their conditions and prevent complications. For example, new HIV/AIDS drugs extend life, but patients must adhere to the necessary regimens for success.	<ul style="list-style-type: none"> • Seeking health information and knowledge. • Adhering to treatment plans and medication regimens. • Participating in shared decision-making. • Using online personal health records. • Engaging in wellness activities.

Appendix IX: Healthcare Disparities

HEN IMPLEMENTATION GUIDE: HEALTH CARE DISPARITIES

Despite significant advances in quality and patient safety over the past decade, health care disparities persist. In a 2002 report, the Institute of Medicine defined health care disparities as “racial or ethnic differences in the quality of health care that are not due to access-related factors or clinical needs, preferences, and appropriateness of intervention” (1). Disparities impact quality of care. Racial/ethnic minorities are more likely to experience medical errors, adverse outcomes, longer lengths of stay and avoidable readmission; and racial/ethnic minorities are less likely to receive evidence-based care for certain conditions. Language barriers often contribute to adverse events, barriers to accessing care, and low patient satisfaction scores (2).

Health care disparities not only impact quality of care, they also contribute to increased health care costs. A recent analysis by the Kaiser Family Foundation suggests that 30 percent of direct medical costs for African-Americans, Hispanics, and Asian-Americans are excess costs due to health inequities (3). Additionally, pay-for-performance contracts are beginning to include provisions to address racial and ethnic disparities (4).

To address the moral, quality and financial imperatives to eliminate disparities in care, hospitals must develop the capacity to measure, track and reduce disparities. The American Hospital Association, along with the Institute for Diversity in Healthcare Management, America’s Essential Hospitals, the Catholic Health Association of the United States (CHA), the American College of Healthcare Executives (ACHE), and the American Association of Medical Colleges (AAMC) have formed the Equity of Care initiative (www.equityofcare.org) to support hospitals in addressing health care disparities. These partners have committed to three goals: 1) increase the collection and use of race, ethnicity, and language preference (REAL) data; 2) increase cultural competency training; and 3) increase diversity in health care governance and leadership. Through pursuing these three goals, health care organizations can more effectively track and address health care disparities in their communities.

FIGURE 20
FOUR-STEP APPROACH TO ENSURE SUCCESSFUL REAL DATA COLLECTION



Source: American Hospital Association, 2013.

RACE, ETHNICITY AND LANGUAGE PREFERENCE DATA

In 2013, the American Hospital Association Equity of Care (EOC) initiative released a how-to guide on the collection and use of race, ethnicity, and language preference (REAL) data (5). The guide has two sections: 1) optimizing REAL data collection and 2) making good use of REAL data, both summarized here.

The approach to optimizing REAL data collection may be summarized in four steps: determining the appropriate categories; developing a methodology for data collection; training staff members on the methodology for data collection; and assigning accountability and monitoring progress of data collection efforts.

Once the organization has developed and implemented a strategy for systematically collecting REAL data, they can begin to use that data to identify and address disparities in care. The Disparities Solution Center at Massachusetts General Hospital provides a toolkit with recommendations on how to best conduct REAL data analysis: http://www2.massgeneral.org/disparitiessolutions/z_files/Disparities%20Commissioned%20Paper.pdf.

FIGURE 21
USING REAL DATA EFFECTIVELY

HOW TO USE REAL DATA

DETAILS

Identify the measures for which the greatest disparities exist, and prioritize which initiatives to pursue.

Given resource constraints, hospitals and care systems can use REAL data to prioritize their agenda for reducing disparities. For example, AnMed Health in Anderson, S.C., created a “Disparities Dashboard” and stratified patient satisfaction and inpatient quality indicators by race and ethnicity to identify disparities. The health system found that, while some scores were fairly consistent across race categories, the 30-day readmission rate for acute myocardial infarction was significantly higher among African-Americans compared to other patients. In order to identify the root cause, the hospital dedicated a nurse to interview patients flagged to be at risk for AMI readmissions.¹²

Understand the demographic makeup of the patient population at a more granular level and develop tailored care plans.

Using REAL data, clinicians can begin addressing disparities during patient visits. For example, studies have shown that breastfeeding rates vary significantly among different Asian ethnicities (91 percent among Indian women versus 35 percent among Cambodian women).¹³ Using granular ethnicity data, obstetricians can include additional patient education for certain populations. In another example, clinicians at Hennepin County Medical Center in Minnesota consider ordering vitamin D level screens for Somali women, who are prone to vitamin D deficiencies.^{14, 15}

Develop patient-centered, community-based interventions to reduce disparities.

REAL data can support the development of programs that influence behavior outside the exam room as well. Massachusetts General Hospital in Boston pursued a patient navigator program after finding a significant gap in colorectal cancer (CRC) screening rates between Latino and white populations. The hospital first interviewed a subset of Latino patients to understand common barriers to CRC screening, then trained patient navigators to provide patients with educational materials, emotional support, and referral and scheduling services.¹⁶

Drive board-level decision making on where to invest and deploy resources.

Hospitals and care systems also can use REAL data for operational and strategic decision-making. One study found that 40 percent of providers using REAL data reported that the data would “inform decisions about resource allocation (e.g., deciding where to build new clinics), and one-third used the data to look at trends in patient demographics for marketing and strategic planning.”¹⁷ For example, Vidant Health, based in North Carolina, identified 45 different languages used by its patients. As a result, the health system created a patient-centered communications task force to improve language interpretation services among its 10 hospitals and 40 physician practices.¹⁸

Source: American Hospital Association, 2013

* Endnotes in table refer to sources in original document, accessible here:

http://www.hpoe.org/Reports-HPOE/Equity_Care_Report_August2013.PDF

There are four major ways to use REAL data effectively:

1) Identify measures where the greatest disparities exist and prioritize interventional initiatives; 2) Understand patient population demographics and develop tailored care plans; 3) Develop patient-centered, community-based interventions to reduce disparities; and 4) Drive board-level decision making on where to invest and deploy resources. The guide on collecting and using REAL data may be accessed here:

http://www.hpoe.org/Reports-HPOE/Equity_Care_Report_August2013.PDF

INCREASING CULTURAL COMPETENCY

The second goal of the Equity of Care initiative, and the second step that hospitals can take to reduce health care disparities, is to build a culturally competent organization. Cultural competency refers to the ability of the system to provide care to patients with diverse values, beliefs, and behaviors, including the tailoring of

care delivery to meet patients’ social, cultural and linguistic needs (6). The HPOE guide, “Building a Culturally Competent Organization: The Quest for Equity in Health Care,” outlines seven steps for building a culturally competent organization:

1. Collect REAL data.
2. Identify and report disparities.
3. Provide culturally and linguistically competent care.
4. Develop culturally competent disease management programs.
5. Increase diversity and minority workforce pipelines.
6. Involve the community.
7. Make cultural competency an institutional priority.

The guide provides more detail on how to implement each of these interventions and may be accessed here:

<http://www.hret.org/quality/projects/resources/cultural-competency.pdf>

One of the key strategies for building a culturally competent organization is to educate all clinical staff during orientation on how to address the unique cultural and linguistic factors affecting the care of diverse patients and communities (6). As required under the Patient Protection and Affordable Care Act, all hospitals must conduct a community health needs assessment. Based on this assessment, organizations should identify community demographics, including the primary cultures and languages of patients served. Accordingly, the organization should provide the corresponding cultural and linguistic services and ensure that written materials are provided in the appropriate language and at the appropriate literacy level. The Association for Community Health Improvement (ACHI) has developed a Community Health Needs Assessment Toolkit, accessible here: <http://www.assesstoolkit.org/>

To further ensure cultural competency, health care organizations should require all employees to attend diversity training, and, based upon the findings from the community needs assessment, should ensure that culturally and linguistically appropriate services are provided, including interpreter services and translators, bilingual staff, community health educators, multilingual signage, and written materials provided in the appropriate language. The Equity of Care presentation on “Making the Case for Health Equity” includes a self-assessment, case studies, and key resources for building a culturally competent organization. That presentation is accessible here: http://www.hpoe.org/Reports-HPOE/RisingAboveNoise_EOC_SlideDeck_Nov2013.pdf.

INCREASED DIVERSITY IN GOVERNANCE

The third priority area for addressing health care disparities is to increase diversity in governance. The Institute for Diversity in Healthcare Governance (IFD) facilitates educational programs and internship opportunities in pursuit of this goal. Their website and programs are accessible here: www.diversityconnection.org

Hospitals can also take the following steps to increase diversity in governance:

- Actively work to diversify your board to include voices and perspectives that reflect your community.
- Incorporate specific goals into the board workplan with accountability for their achievement.
- Engage the broader public through community-based activities and programs.
- Consider creating a community-based diversity advisory committee.

Additionally, hospitals can take the following steps to increase diversity in leadership:

- Regularly report on the ethnic and racial makeup of senior leaders.
- Support and assist the development of diversity programs within health care organizations.
- At every opportunity, advocate for the goal of achieving diverse representation among employees at entry, middle, and senior levels.
- Advocate for diversity when appointing job search committee members, and promote a diverse slate of candidates for senior management positions.

A self-assessment, case studies, and resources to help hospitals increase diversity in leadership and governance is accessible here: http://www.hpoe.org/Reports-HPOE/RisingAboveNoise_EOC_SlideDeck_Nov2013.pdf.

CONCLUSION

Health care disparities are challenging to address. Many social and economic determinants contribute to health care disparities. Even if factors beyond a hospital’s control are eliminated, health care disparities persist, suggesting that there are interventions that hospitals can and must implement to help eradicate health care disparities.

Hospitals can use the strategies and resources referenced above to track and address health care disparities in the following ways:

- 1) Increase the collection and use of REAL data.
- 2) Build and support a culturally competent organization.
- 3) Increase diversity in governance and leadership.

Appendix X: Progress Report



Project Title: _____ **Date:** _____

Hospital Name _____ **State:** _____



Self Assessment Score = _____ (1=Planning; 2=Some Activity; 3=Some Improvement; 4=Significant Improvement; 5=Outstanding Results; See AHA/HRET Assessment Scale document for more detail)

Aim Statement

- Aim? (Including your **How Good** and **By When** statement)
- Why is this project important?

Changes Being Tested, Implemented or Spread

- For each listed change, indicate whether it is being Tested (T), Implemented (I) or Spread (S)

Run Charts

- Make fonts large and use simple text, labels, dates and notes prior to shrinking graphs. Should be able to fit 6-8 readable graphs here. If not data are available for a particular measure, please create an "empty" run list that includes the name of the measure to be collected.

Lessons Learned

- Enter summary here (What did your tested changes teach the team? If something worked or didn't work, list here)

Recommendations and Next Steps

- Enter summary here (What do you need from Executive Project Champion, Sponsor at this time to move project?)
- Recommendations
- Next steps for testing

Team Members

- Name of Project Champion, Senior Leader Sponsor and all other names and roles



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AHA/HRET Project Assessment Scale

Assessment Scale for Improvement Projects



Guidelines for Use

- Assessments are progressive, e.g. all elements of a 2 must be satisfied before considering a 3 assessment.
- Evidence of assessments must be documented in the team's monthly reports, storyboards, or similar platforms.
- Except in special circumstances, once the team achieves a score, that score is maintained (or improved) throughout the Collaborative.

Background

- The Project Assessment Scale is modeled off of the Institute for Healthcare Improvement's Assessment Scale for Collaboratives.
- This scale gives information on how to assess a team's progress

ASSESSMENT	DEFINITIONS AND EXAMPLES
1. Forming a Team to Planning	<ul style="list-style-type: none"> ✓ Team has signed up to participate in the Collaborative ✓ Target population identified ✓ Aim determined ✓ Information gathered ✓ Baseline data submitted ✓ Team is meeting ✓ Discussion is occurring ✓ Plan for project have been made ✓ Measures selected by the team are aligned with the aim (These items verified through discussion with team leads)
2. Activity with No or Little Changes (sans Improvement)	<ul style="list-style-type: none"> ✓ Project plan has been posted ✓ Process goals are included in plan ✓ Team actively involved in preliminary tasks, such as development tools, education, assessment, information gathering, and discussion ✓ Changes are planned, but not tested ✓ Changes are being tested (in at least one driver), but no improvement measures noted ✓ Components of the model being tested ✓ Data on key measure (in aim) are being reported
3. Modest Improvement to Improvement	<ul style="list-style-type: none"> ✓ Initial test cycles have been completed ✓ Implementation has begun (on several components) ✓ Evidence of moderate improvement in process measures, shown by: <ul style="list-style-type: none"> > Three consecutive months of improvement; > Close the gap between baseline and goal by 50 percent > Better evidence ✓ Some improvement in (at least one) outcome measure ✓ Some improvement in (at least one) process measure ✓ PDSA test cycles on all components of the Change Package ✓ Changes implemented for changes in half of the drivers where changes are being Tested
4. Significant Improvement to Sustainable Improvement	<ul style="list-style-type: none"> ✓ Most components of the Change Package are implemented for the population focus ✓ Evidence of sustained improvement in outcome measures, halfway toward accomplishing all of the goals ✓ Plans for spread improvement are in place ✓ Sustained improvement in most outcomes measures, 75 percent of goals achieved ✓ Sustained improvement in outcome measures and all of the team's process goals have been achieved, as shown in the run chart (or control chart rules) ✓ Measures are within 90 percent of goal ✓ Spread to larger population has begun
5. Outstanding Sustainable Results	<ul style="list-style-type: none"> ✓ All components of the Change Packages are underway ✓ All goals of the aim have been accomplished ✓ Outcome measures are at best practice levels (e.g. the national benchmark levels) ✓ Spread to another patient population or area of the organization is underway



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Appendix XII: Run Chart Template and Run Chart Rules

Vertical Axis Label	Axis Label
Graph Label	Graph Title

[illegible]

Enter dates or observation numbers into the green cells at right. (clear the sample data before you begin)

Enter your data values into the blue cells. Goal values are optional.

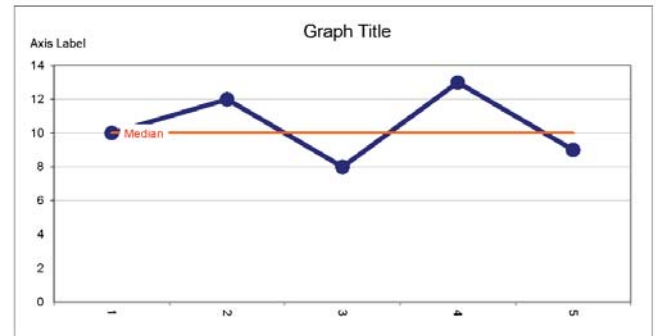
Don't leave any blank cells in the Date/Observation column.

Enter an 'X' into the End Median column to mark the last row to be included in the median

Enter your graph title and y axis label into the cells provided.

Use regular Excel commands to configure the graph.

See sheet 'Rules for Interpreting Charts' for information about interpreting charts

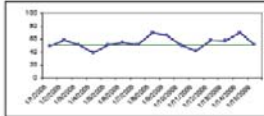


Run Chart Rules

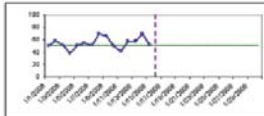
- To retrieve this Run Chart file, see: <http://www.ihl.org/knowledge/Pages/Tools/RunChart.aspx>

Testing a Change with a Run Chart

1. Plot the baseline

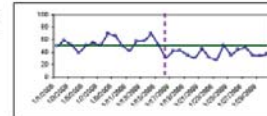


2. Extend the median & begin the test



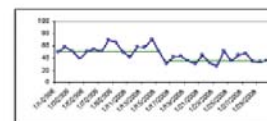
Testing a Change with a Run Chart

3. Continue to plot data following the change



4. Apply the rules

5. If there was a signal, re-plot with new median

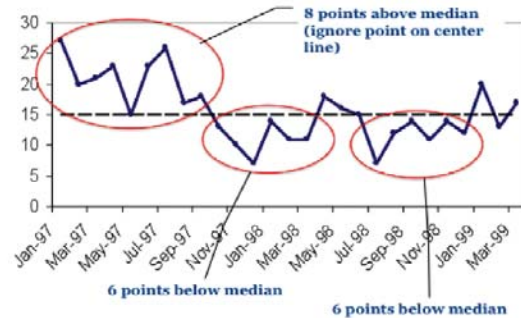


Run Charts Decision Rules

Signals of an effective change:

- Shift – 6 or more consecutive points above or below the median
- Trend – 5 or more consecutively increasing or decreasing points
- Runs – Are there too many or too few for just common cause variation?
- Astronomical Point – A dramatically different value

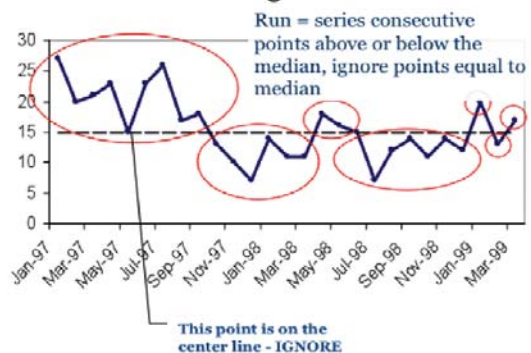
Signals



A Run

- A run is a sequence of consecutive points which all lie on the same side of the line
- Ignore points exactly on the line!

Counting Runs



How Many Runs?

- How many runs should we expect if the values all come from the same unchanged process with the baseline median?
- If there are fewer runs (or more), we have a signal that our change has made a difference in the process.
- Use the table on the following slide to determine expected number of runs.

Expected Runs Table

Count *USEFUL* values only – ignore those equal to the median!

If there are no signals in the data, how many runs would we expect to see?

If too few, then a signal that change was effective.

# obs	Lower	Upper	# obs	Lower	Upper
15	4	12	30	11	20
16	5	12	31	11	21
17	5	13	32	12	22
18	6	13	33	12	22
19	6	14	34	12	23
20	6	15	35	13	23
21	7	15	36	13	24
22	7	16	37	13	25
23	8	16	38	14	25
24	8	17	39	14	26
25	9	17	40	15	26
26	9	18	41	16	27
27	9	19	42	17	28
28	10	18	44	18	30
29	10	20	46	19	31

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Eliminating Harm Across the Board Resources: http://www.hret-hen.org/index.php?option=com_phocadownload&view=category&id=317&Itemid=334

ENGAGEMENT REFERENCES

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Institute for Healthcare Improvement, <http://www.ihi.org/>

How to Guides:

- Transforming Care at the Bedside How-to Guide: Creating an Ideal Transition Home for Patients with Heart Failure. Retrieved at <http://www.ihi.org/knowledge/Pages/Tools/TCABHowToGuideTransitionHomeforHF.aspx>
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