



BASIC FIELD GUIDE TO HEALTHCARE QUALITY

A workbook for healthcare quality leaders



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Introduction

The *Basic Field Guide to Healthcare Quality* provides the most current information about healthcare quality. Once the user receives the guide, it will likely become outdated due to the ever-changing healthcare landscape as well as continual changes promulgated by the Centers for Medicare and Medicaid Services, and state and local regulatory agencies.

No one book or guide is all-encompassing, and this guide is no different. There are many resources that address quality and patient safety which one can choose on the quality quest, however this guide specifically relates to healthcare organizations. There is a distinct difference one must consider between other industries and healthcare since care providers at all levels are managing human lives which is quite different from widgets.

One goal in developing this *Basic Field Guide* is to peak your interest regarding the quality journey, and to provide information that you will find valuable every day in your practice setting. The guide, however, is not all-inclusive and will offer additional resources to assist you in embracing knowledge about quality and topics associated with quality.

Quality is universal and is a strategic tool that organizations can use to continually improve performance. It is important to embrace the principle that quality is the overarching strategy to achieve one's mission successfully.

“Quality is everyone’s responsibility.”

--Dr. W. Edwards Deming



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About HealthTechS3:

HealthTechS3 is an award-winning healthcare consulting and hospital management firm based in Brentwood, Tennessee with clients across the United States. We are dedicated to the goal of improving performance, achieving compliance, reducing costs and ultimately improving patient care. Leveraging consultants with deep healthcare industry experience, HealthTechS3 provides actionable insights and guidance that supports informed decision making and drives efficiency in operational performance.

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Objectives

When using this Basic Field Guide, the user will be able to:

1. Develop a clearer understanding of basic quality principles as evidenced by exhibiting an ability to articulate leader and board responsibilities around quality.
2. Discuss the roles and responsibilities of the Quality Director
3. Identify two resources that have been used to increase knowledge about quality and patient safety.
4. Define the components of a Quality Plan.
5. Describe the essentials of a comprehensive Quality Management System.
6. Define strategies to engage all staff and leaders in quality.
7. Deliver quality data to respective regulatory agencies.
8. Develop scoreboards as a means of reporting meaningful data to the board, leaders, staff and the community.
9. Articulate ways to mitigate risk.
10. Discuss the importance of integrating quality and information technology.

Chapter 1: Embracing Quality

“Quality is never an accident; it is always the result of intelligent effort.”

--John Ruskin, English writer

1.1 Definition

- Quality is defined by the satisfaction of the customer and is multidimensional. Quality is also dynamic since the customer's needs and requirements are always changing. (Deming)
- Quality means fitness for purpose. (Juran)
- Quality consists of the “degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.” (Institute of Medicine. 1990)
- Conformance to requirements (Phillip Crosby)

One cannot distinguish quality separately from the gurus of quality theory and methodology, namely Dr. W. Edward Deming and Dr. Joseph Juran. Each contributed significantly to the field beginning their work in the manufacturing sector, then spreading the principles to healthcare in the 1980s under the guise of Total Quality Management (TQM). The basic premise of Deming's TQM methodology is zero defects and teamwork with four specific principles:

- 1) Customer focus
- 2) Continuous improvement
- 3) Defect prevention
- 4) The importance of sharing quality responsibilities

Dr. Juran's trilogy supports Dr. Deming's work with the following concepts:

- 1) Quality planning
- 2) Quality control
- 3) Quality improvement

Dr. Juran suggests that implementing strategic goals must include:

- 1) Identifying both internal and external customers and their needs.
- 2) Creating measures of quality that establish optimal quality goals.
- 3) Developing operational processes that are capable of meeting quality goals.

In the 1980s, Dr. Juran stated that the approach to TQM must start at the top since there is no short cut to quality consisting of campaigns and slogans, but only through dedication to continual improvement by everyone.

So much more can be said about Drs. Deming and Juran and their work regarding quality and the importance of continual improvement regardless of type of industry. There are resources listed in **Chapter 8** for those interested in pursuing further information about these quality innovators.

Deming's 14 Point Quality Framework

- 1) Create constancy of purpose for improvement of product and service
- 2) Adopt the new philosophy
- 3) Cease dependence on mass inspection
- 4) End the practice of awarding business on price tag alone
- 5) Constantly and forever improve the system of production and service
- 6) Institute modern methods of training on the job
- 7) Institute modern methods of supervision
- 8) Drive out fear
- 9) Break down barriers between staff areas
- 10) Eliminate numerical goals for the work force
- 11) Eliminate work standards and numerical quotas
- 12) Remove barriers that hinder the hourly worker
- 13) Institute a vigorous program of education and training
- 14) Create a situation in top management that will push every day on the above points

Dr. Joseph Juran's 10 steps to quality improvement:

- 1) Build awareness of opportunity to improve.
- 2) Set-goals for improvement.
- 3) Organize to reach goals.
- 4) Provide training
- 5) Carryout projects to solve problems.
- 6) Report progress.
- 7) Give recognition.
- 8) Communicate results.
- 9) Keep score.
- 10) Maintain momentum by making annual improvement part of the regular systems and processes of the company.

LESSONS: There are themes that arise from the work done by Drs. Deming and Juran, Crosby and the IOM that translate nicely to healthcare initiatives. The lessons include:

- 1) The definitions for quality are numerous
- 2) Error rates must be reduced
- 3) Eliminate waste and rework
- 4) Mitigate customer dissatisfaction
- 5) Try new products and services in a timely way
- 6) Minimize risk

The positive outcomes of the above-mentioned lessons and their associated processes will improve market share, increase customer satisfaction, improve revenue, and meet the competition head-on.

DEFINITION OF HEALTHCARE QUALITY: Healthcare quality is the extent to which health services provided to individuals and patient populations improve desired health outcomes. The care should be based on the strongest clinical evidence and provided in a technically and culturally competent manner with good communication and shared decision making. *(Source: Institute of Medicine)*

1.1.1 Quality Background: QA, TQM, CQI, QAPI

This section addresses how quality evolved and where it is today.

DEFINITION: Quality assurance in the healthcare field is a commitment to the public by healthcare professionals that they will work toward the goal of achieving excellence in services provided to every patient.

Since the 1960s, emphasis has been placed on each member of the healthcare team to provide optimal care. Quality assurance programs address and define what needs to be measured. Quality assurance also suggests that there is a clear understanding of what is meant by quality along with defining a methodology for evaluating care. The concept of quality assurance has traditionally involved volumes of data collection with some emphasis on analysis of data, strategies for improvement, and ultimately a focus on refining outcomes.

Oftentimes, quality assurance, performance improvement and quality improvement are used interchangeably, however there are differences. The positive outcome is that performance improvement and quality improvement are built upon the basic quality assurance framework.

DEFINITION: Total quality management (TQM) is an approach to the improvement of the provision of services based on the premise that the overwhelming majority of quality failures are the result of flaws in processes and that quality can be improved by controlling these processes. TQM

replaces traditional methods of quality management based on the identification and correction of problems as they occur and requires the participation of all members of an organization in improving processes, products, services, and the culture in which they work. TQM involves creation of an organizational structure for identifying and improving processes, the use of data-based statistical analysis to study processes, and the empowerment of employees to take responsibility for their own tasks in a way that encourages both continuous learning and personal responsibility. In a healthcare setting, this means a shift from an emphasis on tasks to an emphasis on outcomes of care, which provide the data. *(Source: Mosby's Medical Dictionary, 8th Edition, 2009)*

The initial principle of TQM is that it makes quality the driving force behind leadership, design, planning, and improvement initiatives. The second principle of TQM is that it is a system of management where every staff member must be committed to maintaining high standards of work in every aspect of an organization's operations. Building upon the quality assurance framework, TQM includes a focus on the customer and the active involvement of staff to improve outcomes.

TQM has a long history with the inception of some of the concepts beginning in the 1920s and evolved today into ISO 9001-2015. The term was coined by the Naval Air Systems Command based on the Japanese management approach to quality improvement.

TQM has eight key elements:



(Source: slideshare.net)

No matter what quality system an organization elects to use, the key elements of TQM should be part of the foundational framework of every system. The basis of TQM is the collection of objective data and using statistical analysis to determine the effect of current processes and adjust accordingly to improve outcomes.

DEFINITION: Continuous quality improvement (CQI) is a system that seeks to improve the provision of services with an emphasis on future results. Like total quality management, CQI uses a set of statistical tools to understand subsystems and uncover problems, but its emphasis is on maintaining quality in the future, not just controlling a process. Once a process that needs improvement is identified, a team of knowledgeable individuals is gathered to research and document each step of that process. Once specific expectations and the means to measure them have been established, implementation aims at preventing future failures and involves the setting of goals, education, and the measurement of results. If necessary, the plan may be revised on the basis of the results, so that the improvement is ongoing.

(Source: Mosby's Medical Dictionary, 8th Edition, 2009)

Quite simply, CQI is one component of TQM that emphasizes ongoing assessment of performance and developing plans for further improvement.

The game-changer occurred when The Joint Commission (TJC) developed their Performance Improvement (PI) standards around the late 1990s. The focus shifted to the TQM principle of how people performed in the organization, rewarding those who performed well and the improvement of outcomes. Today, reporting to a variety of organizations continue to accelerate and have extended another focus to patient safety.

DEFINITION: QAPI is the merger of two complementary approaches to quality, Quality Assurance (QA) and Performance Improvement (PI). Both involve seeking and using information, but they differ in key ways:

- QA is a process of meeting quality standards and assuring that care reaches an acceptable level. QA is a reactive, retrospective effort to examine why a facility failed to meet certain standards. QA activities do improve quality, but efforts frequently end once the standard is met.
- PI (also called Quality Improvement or QI) is a pro-active and continuous study of processes with the intent to prevent or decrease the likelihood of problems by identifying areas of opportunity and testing new approaches to fix underlying causes of persistent/systemic problems. PI can make good quality even better. *(Source: cms.gov)*

12 Action Steps to QAPI

- STEP 1:** Leadership Responsibility & Accountability
- STEP 2:** Develop a Deliberate Approach to Teamwork
- STEP 3:** Take your QAPI "Pulse" with a Self-Assessment
- STEP 4:** Identify Your Organization's Guiding Principles
- STEP 5:** Develop Your QAPI Plan
- STEP 6:** Conduct a QAPI Awareness Campaign
- STEP 7:** Develop a Strategy for Collecting & Using QAPI Data
- STEP 8:** Identify Your Gaps and Opportunities
- STEP 9:** Prioritize Quality Opportunities and Charter Performance Improvement Projects (PIPs)
- STEP 10:** Plan, Conduct and Document PIPs
- STEP 11:** Get to the "Root" of the Problem
- STEP 12:** Take Systemic Action

(Source: QAPI at a Glance)

QAPI 5 Elements defined by CMS:

Element 1: Design and Scope: A QAPI program must be ongoing and comprehensive, dealing with the full range of services offered by the facility, including the full range of departments. When fully implemented, the QAPI program should address all systems of care and management practices, and should always include clinical care, quality of life, and patient/resident choice. It aims for safety and high quality with all clinical interventions while emphasizing autonomy and choice in daily life for patient/residents (or resident's agents). It utilizes the best available evidence to define and measure goals. Nursing homes will have in place a written QAPI plan adhering to these principles.

Element 2: Governance and Leadership: The governing body and/or administration of the hospital/nursing home develop a culture that involves leadership seeking input from staff, patients/residents, and their families and/or representatives. The governing body assures adequate resources exist to conduct QAPI efforts. This includes designating one or more persons to be accountable for QAPI; developing leadership and facility-wide training on QAPI; and ensuring staff time, equipment, and technical training as needed. The governing body should foster a culture where QAPI is a priority by ensuring that policies are developed to sustain QAPI despite changes in personnel and turnover. Their responsibilities include, setting expectations around safety, quality, rights, choice, and respect by balancing safety with resident-centered rights and choice. The governing body ensures staff accountability, while creating an atmosphere where staff is comfortable

identifying and reporting quality problems as well as opportunities for improvement.

Element 3: Feedback, Data Systems and Monitoring: The facility puts systems in place to monitor care and services, drawing data from multiple sources. Feedback systems actively incorporate input from staff, patients/residents, families, and others as appropriate. This element includes using Performance Indicators to monitor a wide range of care processes and outcomes, and reviewing findings against benchmarks and/or targets the facility has established for performance. It also includes tracking, investigating, and monitoring Adverse Events that must be investigated every time they occur, and action plans implemented to prevent recurrences.

Element 4: Performance Improvement Projects (PIPs): A Performance Improvement Project (PIP) is a concentrated effort on a particular problem in one area of the facility or facility wide; it involves gathering information systematically to clarify issues or problems, and intervening for improvements. The facility conducts PIPs to examine and improve care or services in areas that the facility identifies as needing attention. Areas that need attention will vary depending on the type of facility and the unique scope of services they provide.

Element 5: Systematic Analysis and Systemic Action: The facility uses a systematic approach to determine when in-depth analysis is needed to fully understand the problem, its causes, and implications of a change. The facility uses a thorough and highly organized/ structured approach to determine whether and how identified problems may be caused or exacerbated by the way care and services are organized or delivered. Additionally, facilities will be expected to develop policies and procedures and demonstrate proficiency in the use of Root Cause Analysis. Systemic Actions look comprehensively across all involved systems to prevent future events and promote sustained improvement. This element includes a focus on continual learning and continuous improvement.

QUALITY ASSURANCE VERSUS PERFORMANCE IMPROVEMENT		
	Quality Assurance	Performance Improvement
Motivation	Measuring compliance w/ standards	Continuously improving processes to meet standards
Means	Inspection	Prevention
Attitude	Required, reactive	Chosen, proactive
Focus	Outliers: "bad apple" individuals	Processes or systems
Scope	Medical provider	Resident care
Responsibility	Few	All

Source: CMS, "QAPI at a Glance, 2013"

As evidenced by the consolidation of QA and PI, there continues to be an emphasis on data collection yet a stronger prominence on utilizing tools to analyze the data and determine solutions based on the analysis to improve outcomes and patient safety.

LESSONS: Quality by any name has moved to center stage based on research that has revealed that healthcare organizations do not always provide excellence in care nor do they always keep patients safe.

As a result, it is imperative that everyone understand and embrace the role of quality within an organization. It is not one person's job to manage quality; it is everyone's responsibility to assure active involvement in proposing, developing, analyzing, evaluating and revising quality initiatives.

1.1.2 Terms, Definitions and Concepts

Since the compendium of terms and definitions for quality encompasses multiple entries for each letter of the alphabet, please refer to the following resources:

www.asq.org/glossary

www.ihl.org

In addition to the American Society for Quality (ASQ) and the Institute for Healthcare Improvement (IHI) glossaries, there are a number of other resources where additional terms and definitions can be found. The resources will be noted in **Chapter 8**. A perusal of and familiarity with the terms and definitions is wise as a means of understanding quality vernacular.

The concept for healthcare quality is relatively simple; it is about assuring and delivering quality care to individuals. The three aspects of quality care are:

- 1) **Measurable** quality is the aspect of care which can be judged by the provider through comparative measures between the actual performance versus the standard one.
- 2) **Appreciative** quality is the aspect of care which can be judged by experienced practitioners who rely not only on standards, but on their personal judgments and experiences. An example of appreciative quality is peer review.
- 3) **Perceptive** quality is the aspect of care which is perceived by the individual who receives care. This aspect refers to the "degree" of care provided and the relationship that the provider creates with the individual.
(Source: Dr. Alber Paules)

In conjunction with the key aspects of quality care are the key dimensions associated with quality care.

They include:

- 1) Appropriateness — the care and services provided address the individual's clinical needs.
- 2) Availability — the care and services are accessible to meet the individual's clinical needs.
- 3) Competency — each provider (anyone providing hands-on care to an individual) has the ability to achieve favorable outcomes that meet the expectations of the individual and yield satisfaction with the care and service.
- 4) Continuity — care is coordinated and seamless among all providers over time and along the continuum.
- 5) Effectiveness — desired outcomes are achieved.
- 6) Efficacy — the capacity or capability to create the desired outcomes.
- 7) Efficiency — maximizing resources to produce the desired outcomes.
- 8) Prevention — promoting maximum wellness and function.
- 9) Respect and Caring — empathy and sensitivity to individual needs and expectations.
- 10) Safety — minimizing risk for all who are in the care environment.
- 11) Timeliness — providing care or services when necessary and are beneficial to the individual.

1.2 Purpose and Scope

Purpose: The Quality Assurance Process Improvement Program (QAPI) offers a formal process for organizations to objectively and systematically monitor, analyze and evaluate the quality and appropriateness of care through utilizing an interdisciplinary and multidimensional approach. In addition, efficiency, safety and effectiveness of care and service is reviewed with the goal of continual improvement through revision of work processes and analysis of outcomes and individual's and provider's satisfaction along with the promotion of accountability of all personnel who provide care and service to customers. The governing body is ultimately responsible to assure that the goals of the QAPI are met.

Scope: The QAPI provides for review, analysis and evaluation of all aspects of healthcare delivery, and includes clinical care as well as services provided to external and internal customers. All departments participate in the QAPI Program under the direction and guidance of the Chief Quality Officer/Quality Director/Quality Manager. Measurement of clinical and service outcomes plus provider and customer satisfaction provides data to assure that the goal of continual improvement is achieved.

1.3 The Big Picture-Embracing Quality

One person is not and cannot be responsible for creating a quality culture within any organization. Each individual, based on their scope of practice and job duties, is responsible for assuring that they meet the goals of the QAPI Program. Customers assume that they will be safe when entrusting their life to healthcare providers, and ethically the concept of *do no harm* should not be violated.

1.3.1 Creating a Sustainable Culture of Quality & Patient Safety

DEFINITION: Sustainable is the ability to last or continue for a long time.

DEFINITION: Culture is the shared beliefs, perceptions and expectations of individuals in an organization, and is driven by leadership.

There is a strong link between culture and results. Great organizations with great cultures produce great results. When there is congruence between management's values and those of the employees, employees feel that they "fit" in the organization and safety performance improves. Safety performance can be linked directly with employee morale and commitment.

Dr. Maulik S. Joshi, the former SVP for healthcare research of the American Hospital Association, has stated that "Healthcare transformation will occur in organizations whose DNA includes a culture of improvement and leadership's ability to execute." According to Amerinet's Executive Roundtable, there are three necessary components for creating a culture of quality and safety. They are:

Commitment	Transparency	Patient Safety Initiatives
The everyday mission, vision and strategic plan must be clear. These elements must include quality and patient safety and be aligned with quality and patient safety initiatives. Patient care and safety must always come first and include all individuals in the organization.	An organization's patient and employee safety and satisfaction, quality information and ethics policies all need to be transparent both internally and externally. Through this open sharing, accountability and trust increases, leading to a safer organization.	When an organization reengineers for safety (i.e. medication and lab barcoding), the organization is hardwired for successful outcomes. This is accomplished through the development, implementation and evaluation of these patient safety initiatives.

One essential for promoting a culture of patient safety is that organizational leaders must establish clear goals, values and practices necessary to keep all employees engaged. This **commitment** is the foundation for high reliability and high performing organizations in realizing that patient safety and quality is an ever-evolving commitment which requires flexibility and nimbleness to make changes quickly. Working together as a team and being genuinely receptive to physician and staff ideas is crucial.

Many organizations espouse the concept of **transparency**, yet the truth about real organizational **transparency** is that "if staff members do not feel they can communicate with management on patient safety then executive leadership should recognize this as a red flag. Internal transparency, or open book management, has shown to improve employee satisfaction, reduce turnover and improve performance". (Source: Amerinet Executive Briefing)

The Centers for Medicare & Medicaid Services (CMS) ruled that it was not going to pay for certain conditions, never events or hospital-acquired conditions (HACs), and as a result some leadership teams started to pay greater attention to the importance of quality and **patient safety**. Poor results affect organizations negatively through monetary penalties thus making **patient safety** initiatives a priority.

1.3.2 Performance Improvement Methods & Tools

Some of the models to facilitate improvement have been mentioned in **section 1.1.1**, however there are a number of models to discuss further for practical purposes.

Striving for high performing/high reliability organizations (HRO) should be the goal of every organization.

DEFINITION of HRO: An organization or industry that has succeeded in creating systems that prevent catastrophes from occurring despite a risky and complex environment where "normal" accidents can be expected to occur. HROs can be defined as organizations which have fewer than the normal, "expected" rate of accidents. This decrease in accidents occurs primarily through a change in culture.

High reliability organizations are characterized by a total pre-occupation with the possibility of "failure", meaning every employee in the organization is constantly asking the questions: what can go wrong and how can we prevent it? (Source: T. Babineau, MD. *Becoming a High-Reliability Organization*)

Characteristics of HROs: (Source: Wyck and Sutcliffe. *Managing the Unexpected*.)

Sensitivity to operations. Manuals and policies constantly change, but HROs work quickly to identify anomalies or problems in their systems to eliminate

potential errors. Maintaining “situational awareness” is important for staff at all levels because it is the only way anomalies, potential errors and actual errors can be quickly identified and addressed.

Preoccupation with failure. HROs are focused on predicting and eliminating catastrophes rather than reacting to them. A preoccupation with failure means “near misses” are viewed as opportunities to improve current systems by examining strengths, determining weaknesses and devoting resources to improve and address them.

Reluctance to simplify interpretations. HROs refuse to simplify or ignore explanations for difficulties and problems they face. Instead, these organizations accept that their work is complex and do not accept simplistic solutions for challenges confronting complex and adaptive systems. All staff members are encouraged to recognize the range of things that might go wrong and not assume that failures and potential failures are the result of a single, simple cause.

Deference to expertise. HROs cultivate a culture in which team members and organizational leaders defer to the person with the most knowledge relevant to the issue they are confronting, realizing the most experienced person or the highest person on the organizational hierarchy does not necessarily have the information most critical to responding to a crisis. A high-reliability culture requires staff at every level to be comfortable sharing information and concerns with others.

Resilience. HROs pay close attention to their ability to quickly contain errors and improvise when difficulties occur. An HRO assumes that despite considerable safeguards, the system may fail in unanticipated ways. They plan for these failures by training staff to perform quick situational assessments, working effectively as a team that defers to expertise and practicing responses to system failures.

Example of an HRO Initiative:

Fairfield Medical Center aspired to achieve the following to become an HRO:

- **Informed culture.** An informed culture involves transparency and the sharing of information across all areas and levels of the organization.
- **Reporting culture.** A reporting culture is one in which everyone in the organization, from those at the bedside to those in the board room, all need to value the importance of reporting safety concerns.
- **Flexible culture.** A flexible culture is where everyone in the organization understands the value of change. There needs to be an openness to change to help prevent and decrease errors.

- **Learning culture.** A learning culture has to do with learning about errors and working to improve processes, and the importance of everyone – the organization and the individual.
- **Just Culture.** The key component of a Just Culture is personal accountability. It has to do with each individual accepting their own personal responsibility to understand what at-risk behaviors are.

Measurement. Fairfield Medical Center utilized the Agency for Healthcare Research and Quality (AHRQ) hospital survey on patient safety culture to help measure its progress. Executives selected this survey for its emphasis on patient safety issues, medical errors and event reporting. Plus, the survey enabled the organization to submit its data not only to AHRQ, but to compare its data with other organizations, as well as trend the data over time.

Action. The AHRQ survey revealed positive results in the area of teamwork within departments for Fairfield Medical Center. However, there were five areas identified as needing improvement – communication openness, frequency of events reports, teamwork across hospital departments, non-punitive response to error, and hospital handoffs and transitions. With these five areas now identified, Fairfield Medical Center developed key projects to change the results.

Event reporting. Needing to improve communication openness, frequency of reporting events and non-punitive response to error, Fairfield Medical Center planned an awareness campaign to educate staff on the importance of reporting near-misses. The facility also improved its process to make it easier to report incidents. These simple actions helped to dispel the assumption that it was not okay to report errors.

Multi-disciplinary teams. Bringing departments together can be a challenge. One major change to encourage teamwork across hospital departments was the creation of multi-disciplinary case reviews.

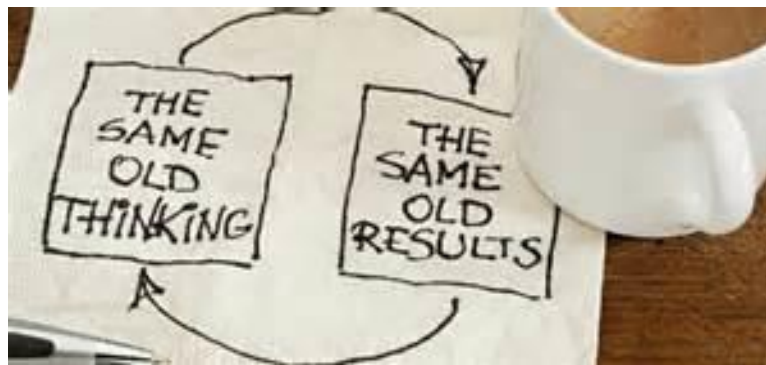
Scheduled twice a month and organized by the chief medical officer and safety office at Fairfield Medical Center, the case reviews joined people from across all areas of the facility – dietary, respiratory, facility maintenance, environmental services, etc. – to examine unexpected events. These multi-disciplinary team meetings present Fairfield Medical Center with an opportunity to improve current systems by examining strengths, determining weaknesses and devoting resources to improve and address them.

Hand-offs and transitions. A fundamental change that needed to occur at Fairfield Medical Center was to review and update the transfer process of patients across departments. The organization created a pilot project to analyze its system, identify areas for improvement and standardize a new system. It was discovered that Fairfield Medical Center utilized more than 30

forms across departments for hand-offs and transitions of patients. By collaborating and identifying the important things that each department needed to know about a patient, Fairfield Medical Center was able to use just three forms.

Technology. When proper care is not given, oftentimes it is because rules are not being followed. In order to achieve a culture of patient safety, Fairfield Medical Center needed the ability to get real-time feedback on the core measures of a patient. The organization built a technology system to deal with the inter-relatedness of all variables of executing patient care. Then, by providing physicians and staff with a mobile device to access this system, it enabled getting the right information to the right people at the right time so that staff can make the decisions that they need.

Conclusion. Research shows it takes about 20 years for an organization to develop culture. In its ongoing commitment to achieve a patient safety culture, Fairfield Medical Center is building a foundation of mutual trust throughout all levels of the organization. Change does not happen overnight, but continually adopting new ideas and processes, then testing them to see what works and what does not work, is helping Fairfield Medical Center become successful. *(Source: Amerinet. 2010. Permission obtained on December 7, 2015 to use excerpts from this article.)*



Operational Excellence (OpX) 4Q & Problem Solving: Effective problem solving and root cause analysis is a key to sustainable quality and operational excellence improvements. It can be applied to any quality problems, customer complaints or deviations to the standards or targets. Following a structured problem solving methodology will prevent you from identifying solutions too early in the process, before knowing the true root cause of the problem and its consequences. *(Source: Robert Kowalik., ABB.)*

4Q Improvement Template	
Q1 Measure	Q2 Analyze
Define an opportunity, investigate to understand the current state in detail.	Identify and confirm root causes of the problem.
Q4 Sustain	Q3 Improve
Maintain the improvements by standardizing the work methods or processes.	Develop, pilot and implement solutions that eliminate root causes.

Below are the key steps that need to take place in various quadrants of the 4Q template.

Q1 Identify the problem (how do you know that there is a problem, for the problem to exist, there must be a clear standard or objective and the gap / deviation to that standard, what evidence do you have to prove that this is a problem, demonstrate facts and data only, avoid opinions). Develop a thorough understanding of the situation by observing the process yourself (verify facts, observe existing process). Examine and define the true problem, aim before firing, don't fire the shotgun on all problems without aiming (clearly describe the problem on the piece of paper). Justify the problem and the consequences (safety, quality, customer and financial impact in dollars), use "therefore" method to justify consequences of the problem. Get agreements of all stakeholders that this is the problem you want to solve (focus, avoid blaming later).

Q2 Complete a thorough root cause analysis using basic quality tools, as Pareto and Ishikawa / fishbone diagrams (keep asking "why" a minimum of 5 times to get to the root cause). Seek problem root causes that are solvable and within control (there is always more than one). Describe the root cause(s) so it is clear to everyone.

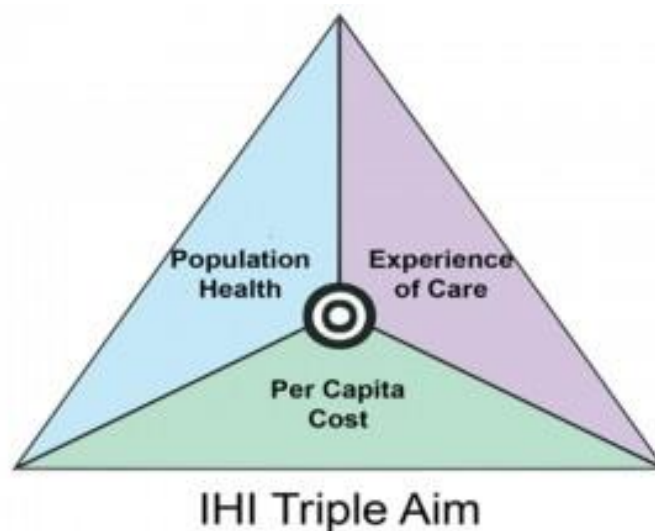
Q3 Brainstorm and define possible countermeasures and options to solve the root causes of the problem, involve the right people, Kaizen (prioritize ideas). Narrow down the solutions based on simplicity, costs, area of control and the ability to implement quickly. Justify the costs of the proposed solution vs. the costs of the problem (make sure you don't implement \$10 solution to solve \$1 problem). Develop consensus (get agreement from all stakeholders that these are the solutions you want to implement). Test selected ideas for effectiveness (run pilot, can solution control the outcome and simulate the problem?). Select best solution. Develop the plan (clear actions and

deliverables, timeline and responsibilities, define how you will measure success). Implement solution(s).

Q4 Verify results and the impact of the solution(s) implemented (does it address and solve the problem). Update standards with the new solution (i.e. drawings, process maps, procedures, instructions, document changes and train employees to sustain it). Continuously monitor the process to verify sustainability of the solution and to detect any new problems (audits, control chart, diagrams, etc.) Reflect and learn from the process (what we did right and what we did wrong, how to improve in the future). Not knowing the root cause will always lead to costly band aids. *(Source: Robert Kowalik. Power Products Medium Voltage NAM. ABB Inc.)*

Additional Resource: <http://inside.edison.com/opx>

Triple Aim, Institute for Healthcare Improvement



Key Points of the Triple Aim: IHI's focus is on the Triple Aim for populations.

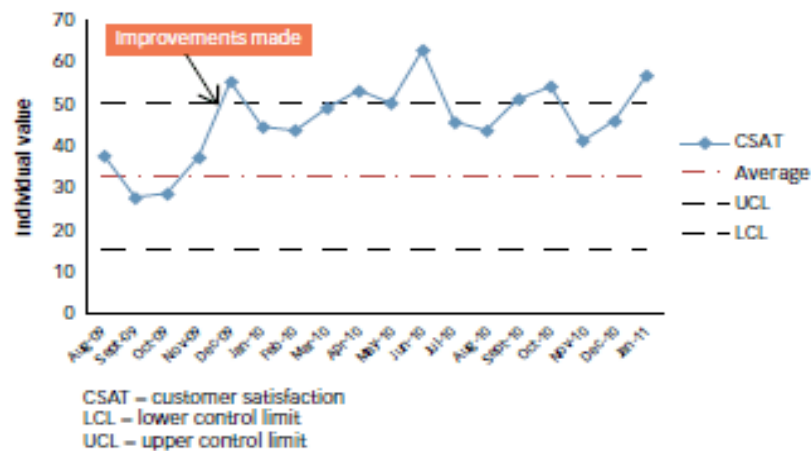
- New models of population health management
- Change packages to support the Triple Aim, starting with high-risk, high-cost populations
- Large campaigns and other population health initiatives to improve population outcomes at scale, with a particular focus on reducing disparities or inequities
- Extending reach and impact by building capacity and skills for population health improvement
- Providing assessment, design, and capability for comprehensive quality strategies for nations and other large health systems. *(Source: IHI.org)*

Control Charts (Shewhart chart)

A control chart consists of:

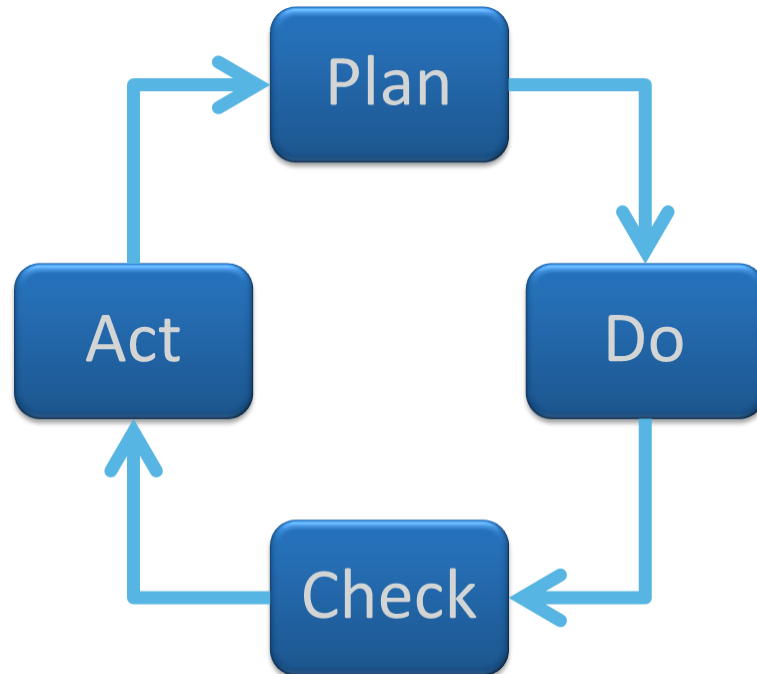
- Points representing a statistic (e.g., a mean, range, proportion) of measurements of a quality characteristic in samples taken from the process at different times (i.e., the data)
- The mean of this statistic using all the samples is calculated (e.g., the mean of the means, mean of the ranges, mean of the proportions)
- A center line is drawn at the value of the mean of the statistic
- The standard error (e.g., standard deviation for the mean) of the statistic is also calculated using all the samples
- Upper and lower control limits (sometimes called "natural process limits") that indicate the threshold at which the process output is considered statistically 'unlikely' and are drawn typically at 3 standard errors from the center line.

Customer satisfaction scores / FIGURE 1



(Source: asq.org)

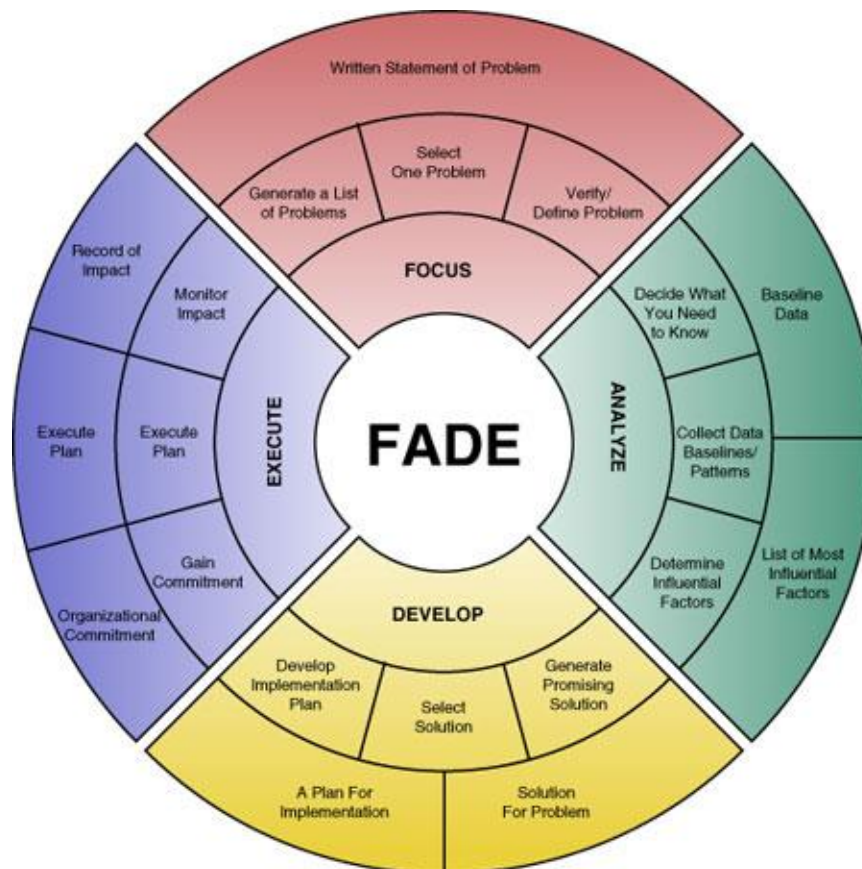
PDCA/PDSA—Walter Shewhart and Dr. W. Edwards Deming



1. **PLAN:** Plan a change or test how something works.
2. **DO:** Carry out the plan.
3. **CHECK:** Look at the results. What did you discover?
4. **ACT:** Decide what actions should be taken to improve.

F.A.D.E.

1. **Focus:** Define and verify the process to be improved
2. **Analyze:** Collect and analyze data to establish baselines, identify root causes and point toward possible solutions
3. **Develop:** Based on the data, develop action plans for improvement, including implementation, communication, and measuring/monitoring
4. **Execute:** Implement the action plans on a pilot basis.
5. **Evaluate again!:** Install an ongoing measuring/monitoring (process control) system to ensure success.



(Source: patientsafetyed.duhs.duke.edu)



DEFINITION: A method that provides organizations tools to improve the capability of their business processes. This increase in performance and decrease in process variation lead to defect reduction and improvement in profits, employee morale, and quality of products or services. Six Sigma quality is a term generally used to indicate a process is well controlled (within process limits $\pm 3s$ from the center line in a control chart, and requirements/tolerance limits $\pm 6s$ from the center line). Lean Six Sigma is a methodology that relies on a collaborative team effort to improve performance by systematically removing waste by combining lean manufacturing/lean enterprise and Six Sigma to eliminate the eight kinds of waste (muda): Time, Inventory, Motion, Waiting, Over production, Over processing, Defects, and Skills (TIMWOODS). *(Source: ASQ.)*

Five principles of LEAN:

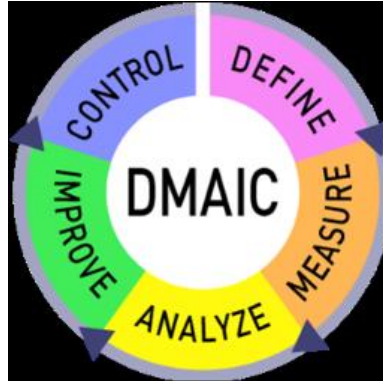
1. Define value from the patient's (customer's) perspective
2. Identify activities required to provide patients with a product or service
3. Identify value-added steps and make those flow smoothly
4. Implement a system where products and services are "pulled" when needed
5. Continuously pursue perfection

“Six Sigma is a quality program that, when all is said and done, improves your customer’s experience, lowers your costs, and builds better leaders.” — Jack Welch

What is Six Sigma (6 σ)? The statistical representation of Six Sigma describes quantitatively how a process is performing. To achieve Six Sigma, a process must not produce more than 3.4 defects per million opportunities. A Six Sigma defect is defined as anything outside of customer specifications. A Six Sigma opportunity is then the total quantity of chances for a defect.

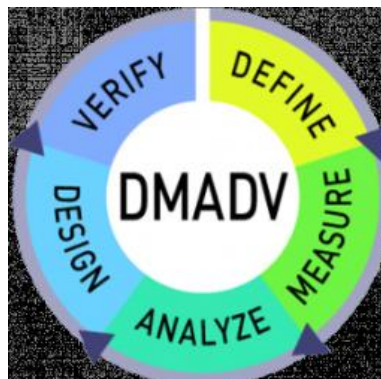
The fundamental objective of the Six Sigma methodology is the implementation of a measurement-based strategy that focuses on process improvement and variation reduction through the application of Six Sigma improvement projects.

6σ Methodologies:



Define	Step 0	Select a Project
Measure	Step 1 Step 2	Establish Performance Parameters Validate Measurement System for "Y"
Analyze	Step 3 Step 4 Step 5	Establish Process Baseline Define Performance Goals Identify Variation Sources
Improve	Step 6 Step 7 Step 8	Explore Potential Causes Establish Variable Relationship Design Operating Limits
Control	Step 9 Step 10 Step 11	Validate Measurement System for "X" Verify Process Improvement Implement Process Controls

Optional methodology:



A3: A problem solving approach – built around PDCA

1. A concise summary of the problem and solution
2. A way of structuring thinking
3. A communication tool for staff to report problems and improvement suggestions to management
4. A way for management to structure and “discipline” the improvement process
5. Used for any kind of problem in all parts of the a business
6. **A3 Thinking Process:** *(Source: Lori Pelletier, MBA PhD, Director, Performance Improvement, UMMHC Assistant Professor, UMass Medical School)*

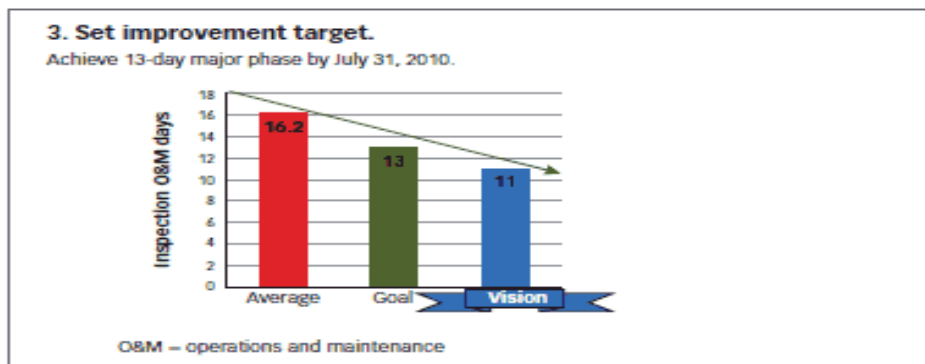
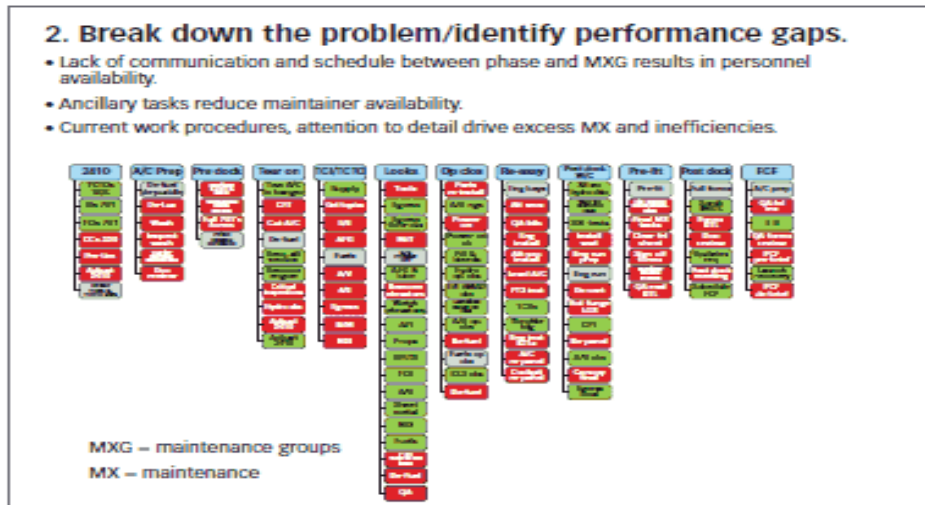
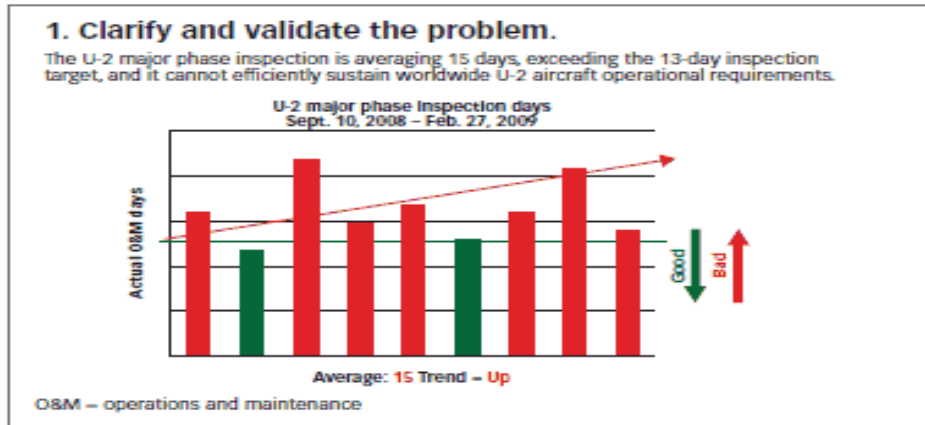
Who owns the problem?	What are possible countermeasures for the problem?
What is the problem? What are the symptoms? Impact?	How will you choose which fix to propose?
What is the background - What are you talking about & why?	What is the cost and benefit of the selected countermeasure?
What are the current conditions?	What is the implementation plan and schedule?
What are the root causes of the problem?	How will you know if your plan is working?
What is the specific improvement in performance you need to close the gap?	What problems are likely to occur during implementation?
	What problems are likely to occur during implementation?

A3 Template:

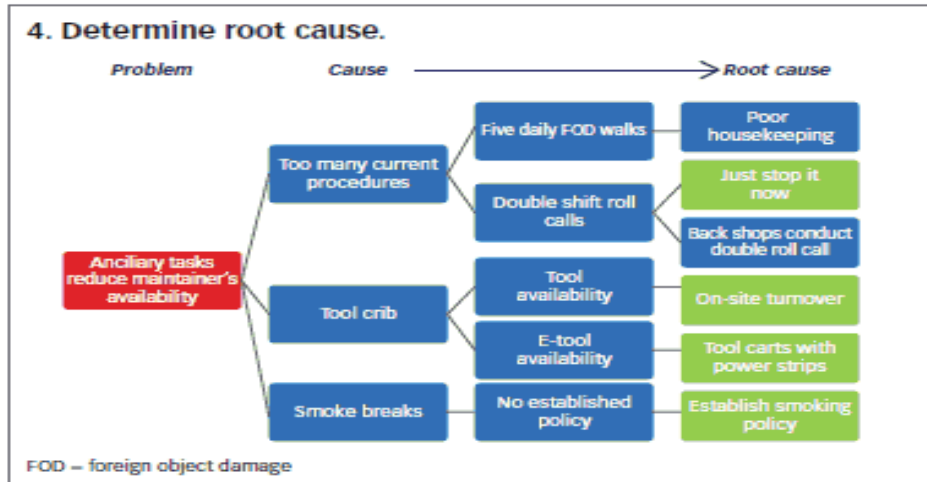
<p>Background – Clarify and Validate the Problem Relevant historical data and information</p>	<p>Countermeasures Summary of who will do what by when in order to resolve the problem situation or achieve the target state</p>
<p>Current State – Break down the problem. Identify performance gaps Detailed description of the current situation (process flow, trend, Pareto, gap identification, problem statement)</p>	<p>Check Results – Confirm results and process Quantitative comparison of actual results versus your goal</p>
<p>Goal – Improvement Target Specific goal to address the gap or target state from the current state</p>	
<p>Analysis – Determine root cause Depiction of analytic techniques to uncover the root cause of the problem or factors that affect the problem in the current state. (5 Why's – Root Cause)</p>	<p>Follow-Up – Standardize successful processes Summary of follow-up action items (lessons learned, communication, standardization, etc.)</p>

(Source: ianjseath.wordpress.com)

Example of completed problem-solving A3:



Example of completed problem-solving A3: (continued)



5. Develop countermeasures.

Action	POC	Start	End	Status	Remarks	Do-It
Spaghetti diagram and process time for A/C tear down	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26			X
Spaghetti diagram and process time for TCI/ TCTO process	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26			X
Spaghetti diagram and process time for Looks	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26			X
Spaghetti diagram and process time for Ops checks	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26			X
Spaghetti diagram and process time for reassembly	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26			X
Spaghetti diagram and process time for post dock work cards	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26			X
Time in motion study	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26			X
Quality assurance pass rates	TSgt Bernard	Jan. 15	Jan. 21			X
Phase roll out stats	Mr. Rowan	Jan. 15	Jan. 15			X
Paper doll	Mr. Rowan	Jan. 15	Jan. 15			X
Consumable usage data for kitting				C/W		

A/C – aircraft
TCI – time change item
TCTO – time compliance technical order
POC – point of contact
Ops – operations
C/W – complied with

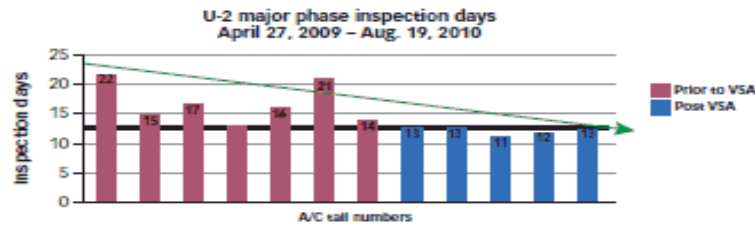
Example of completed problem-solving A3: (continued)

6. See countermeasures through.

Action	POC	Start	End	Status	Remarks	Do-it
Spaghetti diagram and process time for A/C tear down	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26	C/W		X
Spaghetti diagram and process time for TCI/TCTO process	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26	C/W		X
Spaghetti diagram and process time for Looks.	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26	C/W		X
Spaghetti diagram and process time for Ops checks	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26	C/W		X
Spaghetti diagram and process time for reassembly	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26	C/W		X
Spaghetti diagram and process time for post dock work cards	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26	C/W		X
Time in motion study	Mr. Harrington Mr. Rowan	Jan. 23	Jan. 26	C/W		X
Quality assurance pass rates	TSgt Bernard	Jan. 15	Jan. 21	C/W		X
Phase roll out stats	Mr. Rowan	Jan. 15	Jan. 15	C/W		X
Paper doll	Mr. Rowan	Jan. 15	Jan. 15	C/W		X
Consumable usage data for kitting				C/W		

A/C – aircraft
TCI – time change item
TCTO – time compliance technical order
POC – point of contact
Ops – operations
C/W – complied with

7. Confirm results and process.

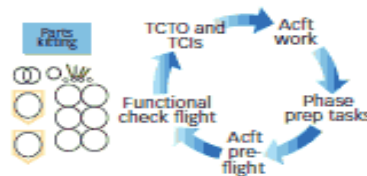


Average: 15 Trend – Down Goal – 13 days Vision – 11 days

VSA – value stream analysis
A/C – aircraft

8. Standardize successful processes.

- Implemented in-house training manager and plan.
- Created standard inspection task flowchart.
- Established biannual ancillary block training week.
- Realign critical inspection tasks to proper shift.
- Reassigned aircraft phase prep tasks among AMXS and MXS.
- Acft refuel and defuel in hanger.
- Standardized parts kits.
- Event A3 uploaded to CPI-MT.



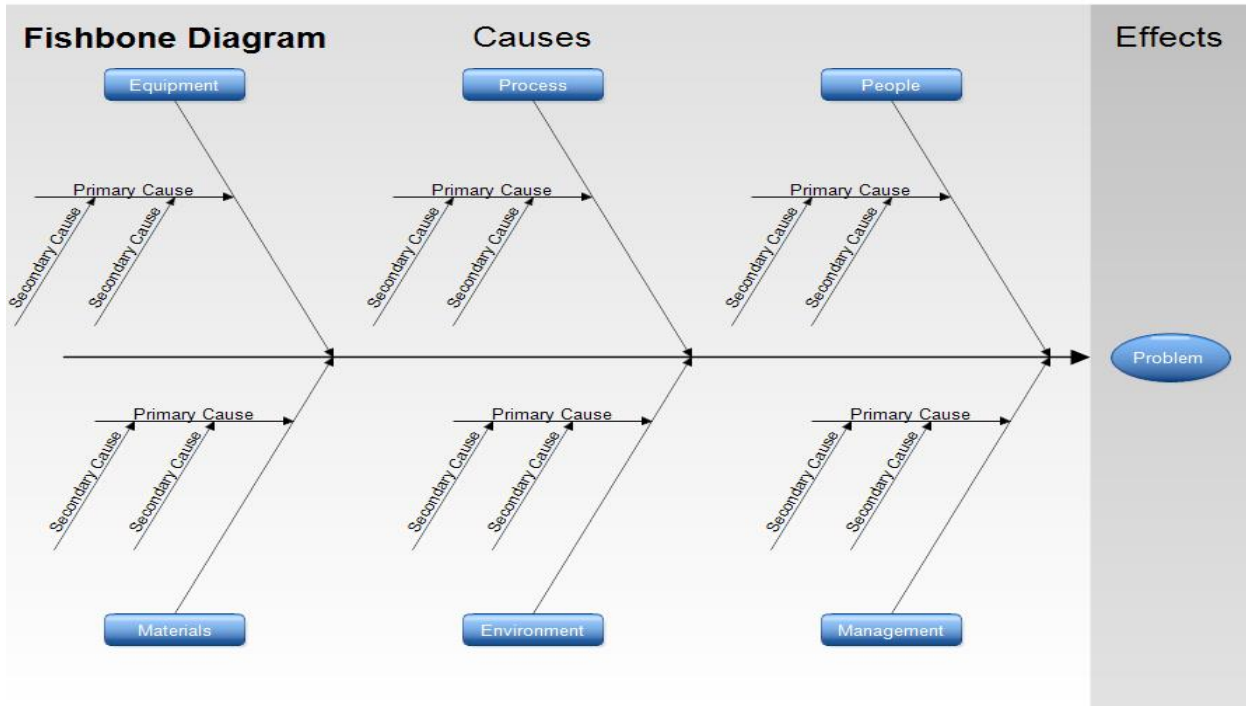
AMXS – aircraft maintenance squadron
MXS – maintenance squadron
CPI-MT – continuous process improvement-management tool
Acft – aircraft
TCTO – time compliance technical order
TCI – time change item

(Source: asq.org)

The Right Tool for the Right Job:

Define	Measure	Analyze	Improve	Control
Benchmarking	Value Stream Mapping	Fishbone Diagram	Modeling	Statistical process Control Charts (SPC)
Process Flow Mapping	Cause & Effect Diagram	FMEA	Tolerance Control	Performance Metrics
Flow Charts	Defect Metrics	Root Cause Analysis	Design Changes	
Review existing data	Run Charts Time Series Charts Pareto Charts		Piloting	
	Sampling			

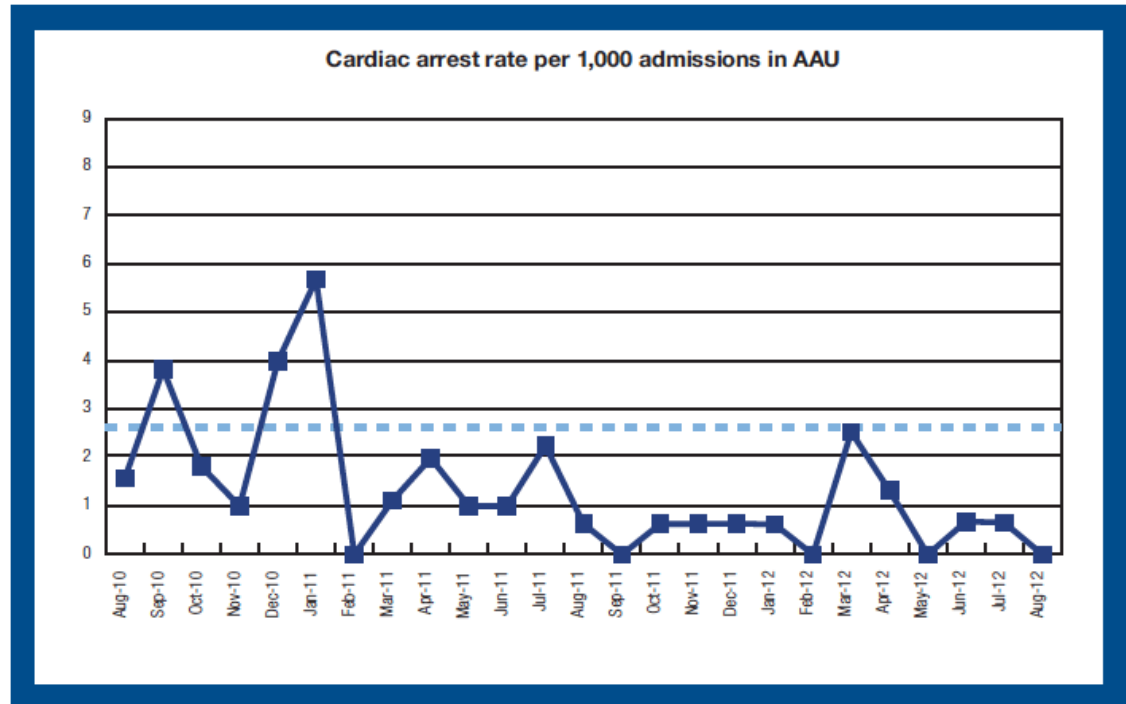
Fishbone/Ishikawa/Cause & Effect



When to Use a Fishbone Diagram:

- When identifying possible causes for a problem.
- Especially when a team's thinking tends to fall into ruts

Pareto Chart:



When to Use a Pareto Chart:

- When analyzing data about the frequency of problems or causes in a process.
- When there are many problems or causes and you want to focus on the most significant.
- When analyzing broad causes by looking at their specific components.
- When communicating with others about your data.

Check Sheet:

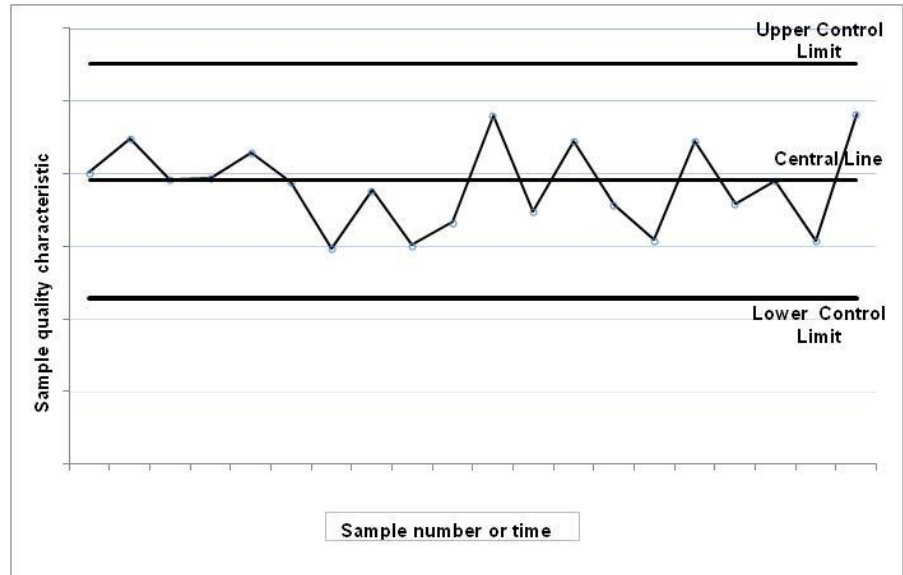
Telephone Interruptions

Reason	Day					Total
	Monday	Tuesday	Wednesday	Thursday	Friday	
Wrong Number						20
Information Request						10
Boss						19
Total	12	6	10	8	13	49

When to Use a Check Sheet:

- When data can be observed and collected repeatedly by the same person or at the same location.
- When collecting data on the frequency or patterns of events, problems, defects, defect location, defect causes, etc.
- When collecting data from a production process.

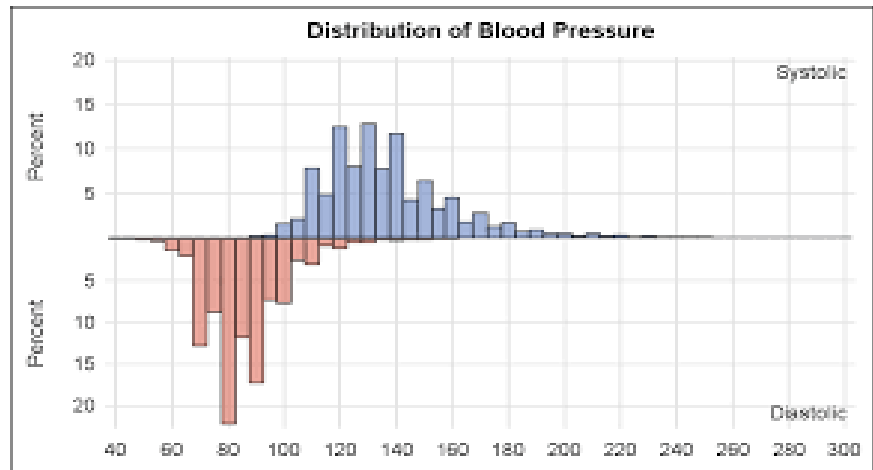
Control Chart:



When to Use a Control Chart:

- When controlling ongoing processes by finding and correcting problems as they occur.
- When predicting the expected range of outcomes from a process.
- When determining whether a process is stable (in statistical control).
- When analyzing patterns of process variation from special causes (non-routine events) or common causes (built into the process).
- When determining whether your quality improvement project should aim to prevent specific problems or to make fundamental changes to the process.

Histogram:



When to Use a Histogram:

- When the data are numerical.
- When you want to see the shape of the data's distribution, especially when determining whether the output of a process is distributed approximately normally.
- When analyzing whether a process can meet the customer's requirements.
- When analyzing what the output from a supplier's process looks like.
- When seeing whether a process change has occurred from one time period to another.
- When determining whether the outputs of two or more processes are different.
- When you wish to communicate the distribution of data quickly and easily to others.

Failure Modes and Effects Analysis:

Institute for Safe Medication Practices

Example of a Health Care Failure Mode and Effects Analysis for IV Patient Controlled Analgesia (PCA)

Processes & Subprocesses	Failure Modes (what might happen)	Causes (why it happens)	Effects	Severity	Probability	Hazard Score	Actions to Reduce Failure Mode
Prescribing							
Assess patient	Inaccurate pain assessment	Cultural influences; patient unable to articulate	Poor pain control	2	4	8	Standard scale to help assess pain; training on cultural influences
Choose analgesic/mode of delivery	Wrong analgesic selected	Clinical situation not considered (age, renal function, allergies, etc.); tolerance to opiates not considered; standard PCA protocols not followed (or not available); concomitant use of other analgesics not considered; drug shortage; knowledge deficit; improper selection of patients appropriate for PCA	Improper dosing; improper drug; allergic response; improper use of substitute drug	4	3	12	CPOE with decision support, clinical pharmacy program; standard PCA protocol with education on use; point-of-use access to drug information; feedback mechanism on drug shortages with information on substitute drugs available; selection criteria for PCA patients
Prescribe analgesic	Wrong dose (loading, PCA, constant, lock-out), route, frequency	Knowledge deficit; mental slip; wrong selection from list; information about drug not available	Overdose; under-dose; ADR	4	3	12	CPOE with decision support; clinical pharmacy program; standard PCA protocols
	Proper patient monitoring not ordered	Knowledge deficit; mental slip	Failure to detect problems early to prevent harm	4	3	12	Standard PCA order sets with monitoring guidelines
	Prescribed on wrong patient	Similar patient names; patient identifier not clear; name does not appear on screen when ordering medications	Wrong patient receives inappropriate drug and dose; ADR; allergic response	3	3	9	Match therapy to patient condition; alerts for look-alike patient names; visible demographic information on order form or screen
	No order received	Unable to reach covering physician	Poor pain control	2	2	4	Proper physician coverage and communication channels

(Source: tidyforms.com)

When to Use FMEA

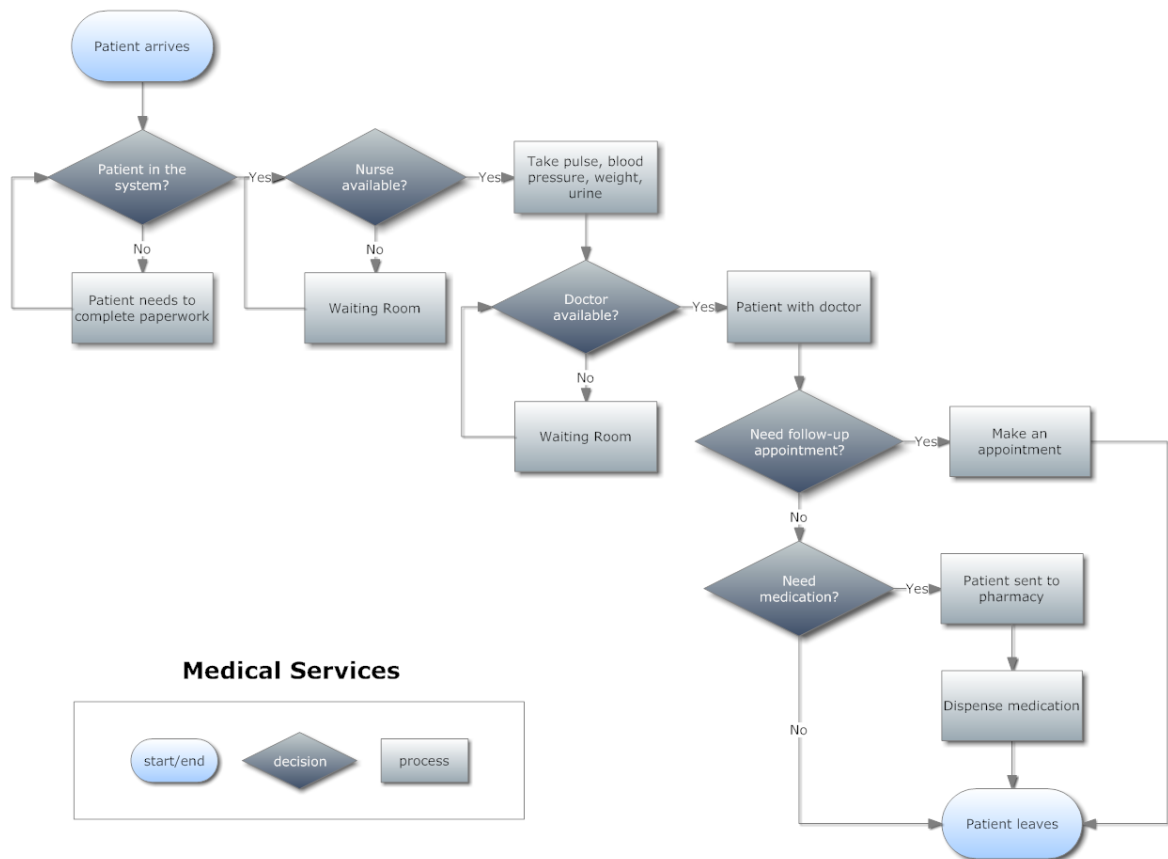
- When a process, product or service is being designed or redesigned, after quality function deployment.
- When an existing process, product or service is being applied in a new way.
- Before developing control plans for a new or modified process.
- When improvement goals are planned for an existing process, product or service.
- When analyzing failures of an existing process, product or service.
- Periodically throughout the life of the process, product or service

Flow Chart:



When to Use a Flowchart

- To develop understanding of how a process is done.
- To study a process for improvement.
- To communicate to others how a process is done.
- When better communication is needed between people involved with the same process.
- To document a process.
- When planning a project.



(Source: smartdraw.com)

Smart Tool: (Specific, Measurable, Agreed Upon, Realistic and Time-based)

What is a Smart Tool? Once you have planned your project, turn your attention to developing several goals that will enable you to be successful. Goals should be S M A R T — Specific, Measurable, Agreed Upon, Realistic and Time-based.

A goal might be to: 1) hold a weekly project meeting with the key participants [Team] and/or 2) organize and run a continuous test program throughout the project. The acronym S M A R T has a number of slightly different variations, which can be used to provide a more comprehensive definition for goal setting:

- **S — specific, significant, stretching.**
SPECIFIC: well defined. Clear to anyone who has a basic knowledge of the project
- **M — measurable, meaningful, motivational.**
MEASURABLE: Known if the goal is obtainable and how far away completion is known when it has been achieved
- **A — agreed upon, attainable, achievable, acceptable, action-oriented.**
AGREED UPON: Agreement with all stakeholders what the goals should be
- **R — realistic, relevant, reasonable, rewarding, results-oriented.**
REALISTIC: Within the availability of resources, knowledge and time
- **T — time-based, timely, tangible, trackable.**
TIME-BASED: Enough time to achieve the goal. Not too much time which can affect project performance

Ask WHY to get to Root Cause

Define the Problem

Why is this happening? Ask WHY 5 times.

- 1) WHY is that?
- 2) WHY is that?
- 3) WHY is that?
- 4) WHY is that?
- 5) WHY is that?

Root Cause Analysis

DEFINITION: Root cause analysis (RCA) is a class of problem solving methods aimed at identifying the root causes of problems or events. The practice of RCA is predicated on the belief that problems are best solved by attempting to correct or eliminate root causes, as opposed to merely addressing the immediately obvious symptoms. RCA is a critical feature of any safety management system because it enables answers to be found to the questions posed by high risk, high impact events (including near misses) — what happened, why it occurred, and what can be done to prevent it from happening again.

WHEN SHOULD RCA BE USED? RCA is normally only performed on high risk, high impact events, such as sentinel events. A reportable near miss sentinel event is managed using the same processes as an actual event. **Sentinel Events** are relatively infrequent, clear-cut events that occur independently of a patient's condition that result in unnecessary outcomes for patients. An **incident** is any event, occurrence, situation or circumstance, which is unusual or inconsistent with the policies, practices and routine operation of the community. An incident may be an accident or a situation, which may or may not result in bodily injury and/or property damage.

WHAT ARE THE TIMELINES FOR RCA? The RCA processes should be investigated as soon as allowable after an incident. The more time elapsed, the less reliable the account of events by people involved and important information may no longer be available.

1. An RCA team should be convened within two working days of an incident.
2. An RCA report should be signed off within two calendar months of commencing the investigation.
3. Notify the appropriate authorities (insurance companies, government agencies, and internal departments) of the occurrence of all sentinel events per their regulations. Report investigation findings and submit a risk reduction action plan.

FIVE MAJOR RCA INVESTIGATION PRINCIPLES:

1. **Thoroughness:** a complete review of all possible causes is required. Focus on systems and processes (not individual performance)
2. **Fairness:** in terms of involvement of all staff associated with the incident. (be fair, thorough and efficient)

3. Efficiency: the time taken to undertake the investigation should be consistent with the significance of the problem being investigated. (focus on problem solving)
4. Independence: include independent team members to help reduce the impact of bias (overcome the fear to present information others may not want to hear)
5. Use a scale of effectiveness to develop recommendations. (use recognized analytical methods)

ELEVEN MAJOR STEPS IN AN RCA INVESTIGATION:

1. Verify the incident and define the problem
2. Commission the RCA investigation
3. Map a timeline (event and causal factor chart)
4. Identify critical events
5. Analyze the critical events (cause and effect chart)
6. Identify root causes
7. Support each root cause with evidence
8. Identify and select the best solutions
9. Develop recommendations
10. Write and present the report
11. Develop an action plan to prevent similar or same events from occurring in the future

1.3.3 Performance Improvement/Quality Improvement Plan Development

DEFINITION: A QI plan is a detailed, and overarching organizational work plan for a healthcare organization's clinical and service quality improvement activities. It includes essential information on how the organization will manage, deploy, and review quality throughout the organization. A QI plan is generally developed by executive and clinical leadership and, in most organizations, must be approved by the organization's governing body such as a board of directors. It is updated regularly (usually annually) to reflect what the organization is doing to improve quality. A QI plan generally outlines the specific clinical focus areas for the current and subsequent calendar years. Often, it is developed as an outgrowth of the evaluation of the previous year's QI activities, organizational priorities and organizational program requirements. (Source: HRSA.gov)

Prior to developing the PI/QI Plan, it is essential to have a complete understanding of the organization by completing an assessment that helps to determine areas of vulnerability. Certain measures for reporting have been determined by regulatory bodies and should be included in the plan, for example, core measures, care measures and HCAHPS. Further discussion regarding these metrics will be covered in **Chapters 3 and 4** of the Basic Field Guide.

It is important to query each regulatory agency, albeit State and Federal as well as additional accrediting bodies such as the Joint Commission (TJC), AAHHS, DNV that may have specific requirements. Once the mandatory requirements are identified, the second step is to determine areas of vulnerability and prioritize the opportunities for improvement. It is important to consider how meaningful the opportunities are that will have the most impact versus selecting all opportunities. Many organizations select too many opportunities which ultimately affect the ability to improve performance and sustain results. Be selective in choosing opportunities that are meaningful, can improve performance, and are manageable in quantity.

1.3.3.1 Writing the QAPI Plan

Most performance/quality improvement processes are cyclical in nature with a starting point of identifying performance measures to improve, measuring performance, analyzing and comparing against internal and external data and benchmarks, identifying opportunities for improvement, ongoing monitoring of performance, and then beginning the process again.

One example of the content of a QAPI includes the following headings:

1. Mission statement
2. Vision statement
3. Values statement
4. Fundamentals of Performance Improvement:

Key elements: Organizational performance that achieves and sustains high quality care and services is a complex, interdependent process.

Key elements of the success of this PI plan include the following:

- a) Leadership that is competent, committed and stable
- b) Reliable capital and operational funding sufficient to achieve the mission
- c) Human resources – stable staff

- d) An inclusive process supported by all stakeholders
- e) Selective, focused performance improvement initiatives
- 5. Limits of the QAPI plan: Like all plans, this plan is an expression of intent that outlines a philosophy and a process for self-improvement. As such, this plan is intended to be flexible and to accommodate timely and appropriate adjustments to address seen and unforeseen circumstances, while adhering to the fundamental mission, vision and values of the organization.
- 6. Effective performance improvement efforts will focus on the development, maintenance and periodic improvements in systems that influence organizational outcomes. Systems will be designed and modified to achieve reliable, effective, and efficient outcomes.
- 7. Objectives of the QAPI Plan
 - a) Improve quality of care thereby enhancing the quality of life
 - b) Improve quality of work environment
 - c) Achieve improved outcomes that exceed regulatory standards
- 8. QAPI Plan Participants and Responsibilities
 - a) Board of directors/governing body
 - (i) Proactive role
 - (ii) Oversight and direction
 - b) Facility leaders
 - (i) Key leaders
 - (ii) Performance improvement coordinator
 - c) Performance improvement committee
 - (i) Role of committee and relationship to other committees
 - (ii) Members and participants
 - (iii) Meetings and record keeping
- 9. Identify Potential Areas for Improvement
 - a) Clinical care/services opportunities
 - (i) Quality of care
 - b) Non-clinical care opportunities
 - (i) Environment of care

- (ii) Organizational performance
- c) Government, accreditation and professional requirements
 - (i) Respective State agency
 - (ii) CMS
 - (iii) Accreditation standards

10. Prioritize Opportunities to Improve

- a) Staff and customer participation
 - (i) Include those who can view the process with a different perspective.
 - (1) Identifying the opportunities for improvement (What is the problem?)
 - (2) Before making a change to the process, participants will need to know the whole process from start to finish.
 - (3) Identifying how the process begins
 - (4) Examining the path of the process for weakness and potential problems
 - (5) Brainstorming
 - (6) Basic rules in brainstorming: Allow participants freedom to express their ideas. Open discussions motivate other views and ideas.

11. Selecting the Best Opportunities for Improvement

- a) Prioritizing the weaknesses; factoring the number of events and level of risk
 - (i) Examples:
 - (1) Collect data
 - (2) Analyze data collected
 - (3) Develop actions from the analysis of data. Actions are focused on preventing problems and strengthening weaknesses.
 - (4) Prioritize the process change, or revision of the process
 - (ii) Outcome: Have the revisions or changes in the process made a positive impact on outcomes?

(iii) Sustainability: Performance improvement is an ongoing cycle of measuring outcomes.

(1) Monitoring results is essential.

(2) Participants should continually look for new ways of improving the process.

12. Sources and Collection of Data that Yields Meaningful Information

a) What to Monitor

(i) Satisfaction levels of important constituents

(ii) Safety-related parameters

(iii) Effectiveness of important programs, systems processes

(iv) Factors that influence compliance with regulations

(v) Organizational effectiveness and efficiency

(vi) Organizational effectiveness and efficiency

(vii) Organizational culture

(viii) Regulatory requirement items to monitor

13. Sampling: What and How to Sample

a) Reliable and valid tools

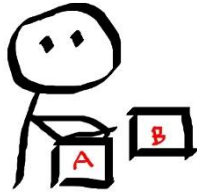
b) Sample by observation

14. Analysis of Data and Information Gathered

15. Confidentiality of Data, Information, Findings and Reports

16. Education

Generally speaking, one of the biggest problems associated with continuous improvement and problem solving is the selection of the most appropriate performance measures or performance metrics.



Choosing the Right Indicator

Start with the End in Mind

- What are you trying to improve?
- Can performance be measured directly?
- If performance cannot be measured directly is there a proxy indicator?
- Does indicator give you enough information to drive improvement?
- Is this a lead or a lag indicator?

Definition: Lead indicator is a measure preceding or indicating a future event used to drive and measure activities carried out to prevent and control injury. For example: safety audits, types of ergonomic opportunities.

Definition: Lag indicator measures incidents in the form of past accident statistics. For example: worker's comp cases, injury with frequency and severity.

- What drill down indicators will help you meet your goal?

THINK ROOT CAUSE ANALYSIS

STARTING AN RCA INVESTIGATION: The ultimate responsibility for responding to serious incidents lies with an executive position that has primary responsibility for the delivery of clinical care. This individual becomes the executive for the RCA program in verifying the incident and defining the problem. To brief the commissioning executive and focus the RCA effort, the RCA coordinator must first define and determine the level of significance of the problem that is to be investigated.

Defining the problem provides a clear understanding of:

1. The problem the RCA team is required to address
2. The scope of the investigation
3. The consequences of the incident

FORMING THE RCA TEAM

1. A small group of staff who has expertise either in RCA methodology or in an area relevant to the incident conducts the RCA investigation. It is wise to try to keep the size of the team manageable. Between three and six members is ideal.
2. A skilled RCA facilitator is responsible for conducting the RCA investigation. This includes forming the team, mapping the event, ensuring the team meetings occur and follow the agreed process, and facilitating team meetings. This person might also be the Chief Quality Officer/Quality Director/Quality Manager.
3. A team member is usually the Department Manager of the clinical unit involved or another staff member. Their role involves ensuring clinical participation, supporting the facilitator at meetings, and ensuring the clinical content is relevant and appropriate.
4. RCA team members are those staff who participate in the team meetings and assist with data gathering. They provide relevant expertise and should be able to provide impartial input. Team members do not need to be clinical staff. Organizations should involve staff who are familiar with work practices and systems (for example, biomedical engineering, security, consumer liaison, and administrative staff).
5. Others: Involve staff who were directly involved with the incident only if their ability to **remain objective** is not compromised.

WRITING ROOT CAUSE STATEMENTS: Root cause statements are written as conclusions. Conclusions can be either:

1. Cause and effect statements Example: Cause and effect - The lack of staff training on the management of patients with chest pain resulted in the patient being discharged without appropriate investigations being completed, which contributed to the patient's readmission and subsequent cardiac arrest.
2. Prophetic statements (predictions) Example: Prophetic - The unavailability of guidelines for the management of chest pain in the emergency department will continue to contribute to the delivery of sub-optimal care.

THE FIVE RULES OF CAUSATION

1. Causal statements must clearly show the cause and effect relationship. When describing why an event has occurred, show the link between the root cause and the undesirable outcome.
2. Negative descriptors are not used in causal statements. To force clear cause and effect descriptions (and avoid inflammatory statements) do not use negative descriptors.
3. Each action cause must have a corresponding conditional cause. For every human error in the causal chain, there must be a corresponding condition cause that combined to contribute to the undesired effect.
4. Each procedural deviation must have a preceding cause. Identify the cause of a procedural violation, not the violation.
5. Failure to act is only causal when there was a pre-existing duty to act. The duty to perform might arise from standards and guidelines for practice or other duties to provide patient care.

PREPARING RECOMMENDATIONS AND REPORTS

1. Formulating Recommendations

- a) The investigation team writes recommendations after the solutions have been evaluated for the likelihood of their effectiveness. Recommendations are suggested actions that management will consider after the investigation report has been presented to the executive sponsor.
- b) The Chief Quality Officer/Quality Director/Quality Manager will need to consider who to consult when developing recommendations and be aware of the wider system implications of actually putting recommendations in place.

To be credible, recommendations should be evaluated against:

1. The root cause (conclusion) statement
2. The RCA method used
3. The level of associated risk
4. The hierarchy of control
5. Achievability
6. The perceived value to the organization

Writing a RCA report:

1. Reports are written to communicate to management the findings, conclusions and recommendations pertaining to the initial problem the RCA team was requested to investigate. The report's comprehensiveness depends on the significance of the investigation findings. The report is written after recommendations have been evaluated for effectiveness.
2. Regardless of the reporting format chosen, the report should include these three elements:
 - a) Executive summary
 - b) Event and causal factor chart
 - c) Conclusions, supporting evidence and recommendations

RCA POST-INVESTIGATION RESPONSIBILITIES:

After signing off the RCA report, it is:

1. The Chief Quality Officer/Quality Director/Quality Manager's responsibility is to develop and implement a risk reduction action plan to manage the risks identified by the RCA team
2. The Chief Quality Officer/Quality Director/Quality Manager is responsible for:
 - a) Arranging for the findings to be presented to the people involved in the incident
 - b) Ensuring organizational reporting requirements are met
 - c) Completing governmental reporting requirements
3. The team executive (usually the Chief Nursing Officer for clinical issues) is responsible for:
 - a) Ensuring a risk reduction action plan is prepared and implemented
 - b) Monitoring the progress and outcomes of risk mitigation strategies

DEVELOPING THE RISK REDUCTION ACTION PLAN The causal statements developed in the RCA investigation need to be converted into risk statements. This should be done in conjunction with staff responsible for organizational risk management. It requires an assessment of the level and analyses of the risk. The risk reduction action plan should include a description of:

- a) Who is accountable for the risk
- b) What action is to be taken
- c) Who is responsible for the action
- d) When the action is to be completed
- e) A measurable performance target

RCA DOCUMENT MANAGEMENT (Note: If investigations were not protected by legal or professional privilege, all documents are subject to disclosure)

1. Keep an RCA investigation register to provide a record of the investigations undertaken, when they were done, what problem they were commissioned to solve, and which staff participated.
2. Keeping a copy of all completed reports, risk reduction action plans and the outcomes achieved is necessary in case a similar problem occurs and the organization needs to identify which strategies were ineffective.
3. Documenting risk reduction action plans in a risk register or other action tracking system is necessary to ensure the monitoring and outcome loop is closed.

Data Plan

1. What problem(s) are you trying to solve by collecting this data (What is your AIM)?
2. Who helped to identify this problem? Was your staff involved?
3. Does your Aim / Project / Goal impact:
 - Only your department?
 - Multiple departments / individuals
 - Providers
4. Name of Indicator?
5. Who will collect data?
6. How often will data be collected?
 - Daily
 - Weekly
 - Monthly
 - Quarterly
 - Other – please list
7. Who will analyze data?
8. How often will data be analyzed?
9. Who will report data?
10. How often will data be reported? And to whom?
11. What is the sample size? (Sample size must be at least 30 for each reporting period. If less than 30 may use rolling average to obtain sample size of 30.)
 - 100% Random sample (If random – please indicate how sample will be obtained)
 - Other
12. What is the numerator and denominator including inclusions and exclusions? It is critical to be as clear as possible.
 - Numerator:
 - Denominator:
13. What is your baseline data – if available?
14. What is the external benchmark/target if available?
15. What is your target?
16. Will you make any changes if indicator does not meet your target?

Additional Resource(s):

www.hrsa.gov/quality/toolbox/508pdfs/developingqiplan.pdf

1.3.3.2 Evaluating the QAPI Program

It is important to determine how you will evaluate whether the QAPI Program has been a success or not. Clearly, success needs to be defined by the organization and agreed upon by participants. Success may involve the development of discreet improvements by percentage(s), or by outcomes or preferably both. Since numbers can always be manipulated to look favorable, outcomes are an essential component for comparison relative to improvement. Comparing against national benchmarks as well as against one's own organizational performance should be included. Seeking best practices as a method of continual improvement that can be incorporated into the QAPI, and determining how that fits within one's organization can be part of the evaluation process.

Evaluation means using information you collect to make informed decisions about changes and improvements. It's about asking questions:

- Is what we're doing working? What didn't work? And why?
- Did we do what we planned to do?
- Do others think what we're doing is appropriate and meets their needs?
- Are there ways of improving what we do?
- How will we use information to plan and develop future work?

Evaluation is critical to quality improvement. If you don't evaluate, you won't know what impact your improvement work is having, or if it is having an impact at all. Evaluation highlights the good that has been accomplished and helps to identify the opportunities for improvement. Evaluation provides the data that is crucial in helping to make the best decisions for the future.

Types of Evaluation Measures:

Capacity measures: Capacity refers to the ability of a group, program, or organization to carry out the intended services. It covers infrastructure and resources, such as sufficient staff, training, facilities, and finances. This would also include the extent to which the QI committee infrastructure is sufficient to support the QI plan and representation of staff on the QI council and on QI projects.

Example measure: 10 percent of all agency staff will be trained in QI methods and able to participate in a QI project by "x" date.

Process measures: Process refers to actions that are undertaken by defined individuals or groups as part of providing intended services. Process measures examine implementing aspects of the QI plan, performing procedures, or holding meetings; implementation of QI projects, the number and type, the extent to which implemented projects match the QI plan prioritization process, and lessons learned; and leadership and staff satisfaction with QI projects and the QI plan.

Example measure: 100 percent of QI teams initiated by the organization will follow the PDCA cycle, develop AIM statements, and focus on projects that can be completed within six months of the start date of the team.

Outcome measures: Outcome refers to a change, or lack of change, in the status of the indicator or process under review.

Example measure: 80 percent of QI team projects will be related to strategic priorities.

EVALUATION PLANNING TABLE

Evaluation Topic	Type of Measure	Indicator	Data Collection Method(s)	Timeline
QI Council	Process	Council member satisfaction with operations and perception of the effectiveness of the council	Survey of QI council members	
QI Projects	Process	Number of projects initiated/completed.	Document review	
	Outcome	Extent to which projects achieved AIM statements* and sustained Improvements		
External Customers	Process	Percent of external customers satisfied with specific improvements; general satisfaction with agency services	Survey of governing bodies, public, etc.	
Internal Customers	Process	Awareness of QI plan; satisfaction with improvements from specific QI projects and QI plan effectiveness	Survey of agency staff and leaders, QI participants	
QI Education	Capacity, Process	Staff improved knowledge and skills and perceived confidence to conduct QI projects	Survey of QI education participants	
Overall QAPI	Capacity, Process, Outcome	Progress toward meeting annual goals/objectives	Document review	

*An AIM statement, referenced in the table, is a description developed by teams that explicitly defines their problem and the intended goal or outcome resulting from their group work.

Evaluation of any program or plan causes one to develop a large number of potential questions that could be pursued to examine the effectiveness of the QAPI plan. When developing questions, it is important to prioritize those questions which are essential to the evaluation of the QAPI. There are two major issues to be considered when prioritizing evaluation questions:

1. Who are the key stakeholders for the evaluation? What are they interested in knowing? Stakeholders should be users of the QAPI plan evaluation results. They should include the QI council and agency leaders and managers. If the QAPI plan is developed to meet accreditation standards, a comprehensive review of the quality management standards should be accomplished. It is important to note that QAPI Plans are not developed and executed solely for accreditation; the Plan is implemented to improve outcomes, improve performance, and must provide meaningful data.

2. What resources (budget, etc.) are available to conduct QI plan evaluation activities? Once questions have been prioritized and data collection methods identified, the cost of and resources needed to collect and summarize needed data should be calculated. Typically, there are insufficient resources to pursue all evaluation questions of interest at a given time. Examining the costs to conduct various evaluation activities is an additional opportunity to prioritize and streamline these activities. *(Source: www.astho.org)*

1.4 Roles & Responsibilities

1.4.1 Leadership

- Equipping the board with tools and information to provide appropriate oversight of the patient safety/quality strategy
- Involving the entire senior leadership team in the patient safety/quality strategy
- Engaging the medical staff as meaningful partners in the development and implementation of the patient safety/quality strategy
- Rigorously seeking out and applying best practices
- Providing open communication and demonstrating a commitment to transparency
- Adopting IT systems that effectively support the patient safety/quality strategy

1.4.2 Governing Body

- Must be increasingly involved in quality monitoring because of the direct effect quality has on the financial viability of the organization
- Medical Staff are responsible to the board for quality of care and patient safety, therefore suggesting the board has oversight of clinical care
- Quality metrics are an important component of reimbursement; financial exposure can be significant
- The board is the ultimate authority over physician credentialing, peer review decisions and quality

Example: The hospital recruits Dr. Knee Joint, an orthopaedic surgeon, who they hope will generate substantial volume and money for the hospital. The hospital pays Dr. Joint a hefty salary. Part of his contract states that he is responsible for credentialing and peer review for the orthopaedics department. There are some indicators that Dr. Joint and his partner's clinical performance is below national standards. One indicator suggests that he performs more hip replacements than other surgeons in your 3-state area. Data also suggest that Dr. Joint is very productive and has a very large referral base throughout the region.

Question: Should the board do anything about this situation?

- Ask management to monitor clinical performance of Dr. Joint?
- Review of performance by Medical Staff?
- Ask for an outside reviewer to evaluate Dr. Joint's clinical performance through a quality audit?
- What if the board does nothing about Dr. Joint's performance?

Potential Risks for the board:

- Malpractice exposure—negligent credentialing
- False Claims Act (FCA) claim—whistleblower?
- Administrative sanctions
- Reputation—quality statistics decline—loss of VBP, shared savings or P4P dollars
- Claims against board members for breach of fiduciary duties
- Scope of False Claims Act exposure based on quality of care
- Claims based on lack of medical necessity are increasing
 - Growing number of claims/settlements for unnecessary care or care that puts patient's lives at risk
 - For the future, possible FCA claims may be based on:
 - Hospital acquired conditions
 - Failure to meet quality standards
 - Adverse events

Additional Resources:

ASTHO: Accreditation and Performance

ASTHO's site has resources and guidance related to PHAB accreditation and the National Public Health Performance Standards as well as tools and case studies for quality improvement and performance management.

CDC: Performance Management and Quality Improvement

This page on the CDC website contains a glossary of key terms and resources about quality improvement and performance management.

Center for Public Health Quality

The center conducts state and local QI training programs. Its site has a QI Step by Step Guide and QI testimonials.

NACCHO: Accreditation Preparation and Quality Improvement

Resources available from NACCHO include accreditation and QI webinars, an accreditation preparation toolkit, a QI toolkit, an Organizational Culture of Quality Self-Assessment Tool, the Roadmap to a Culture of Quality Improvement, and a guide to engaging a QI consultant.

National Network of Public Health Institutes: Accreditation and Performance Improvement Resources

This site contains links to the Public Health Performance Improvement Toolkit, storyboards, QI webinars, and the Community of Practice for Public Health Improvement Open Forum meeting materials, a rich source of the latest information about QI and performance management from state and local practitioners.

The Public Health Accreditation Board (PHAB) Version 1.0 Standards and Measures

Public Health Foundation: Performance Management and Quality Improvement

This Public Health Foundation site offers many QI and performance management resources, including trainings, a QI Quick Guide and Tutorial, state and local agency QI case studies, and accreditation preparation.

Chapter 2: The Chief Quality Officer (Quality Director/Quality Manager)



2.1 Role of the Chief Quality Officer/Quality Director/Quality Manager

The ever-increasing emphasis on assuring safe care delivery, quality from value-based purchasing to readmission penalties, has made quality a number one priority. As a result, more and more healthcare organizations have created a Chief Quality Officer (CQO)/Quality Director/Quality Manager position or raised the level of the quality position to the Senior Team level. In the Joint Commission standards, the Chief Nursing Executive is responsible for the day-to-day quality of care delivered, however embedded throughout the standards the responsibility for quality care delivery rests with the Medical Staff, organization leadership and ultimately the governing body. Likewise, CMS does not place the responsibility for quality on one person; a culture of quality and patient safety rests with everyone.

Regardless of the size of the organization, the CQO/Quality Director/Quality Manager's primary responsibilities rest with the task of collecting data that is highly accurate and can demonstrate the organization's standard of quality, and that demonstrates high-quality outcomes through patient centered care, which translates to reimbursement as evidenced in high HCAHPS scores.

Some of the key responsibilities associated with the CQO/Quality Director/Quality Manager role include:

- Leading continuous improvement programs throughout the organization and helping to develop a culture of continual improvement and excellence
- Collaborating with executives and engaging with leaders and clinicians throughout the organization in a hands-on fashion to build quality, efficiency, effectiveness and a sense of shared accountability
- Taking a clinical leadership role in evaluating care delivery and developing the infrastructure for improvement
- Strengthening the data and information capabilities of the organization and championing a data-driven environment

The CQO/Quality Director/Quality Manager position is not an easy one, however it is one of great satisfaction when outcomes improve, HCAHPS scores improve, there is visible integration of the culture of safety, and risk is mitigated.

2.1.1 Reducing/Managing Risk/Enterprise Risk Management

DEFINITION: Risk is the possibility that something bad or unpleasant (such as an injury or disease or a loss[death]) will happen; someone or something that may cause something bad or unpleasant to happen. *(Source: Merriam Webster Dictionary. 2015)*

DEFINITION: Enterprise Risk Management (ERM) in healthcare promotes a comprehensive framework for making risk management decisions which maximize value protection and creation by managing risk and uncertainty and their connections to total value. *(Source: Developed by ASHRM's ERM Task Force (now an Advisory Committee and adopted by the Board of Directors Sept. 19, 2012))*

In 1999 the Institute of Medicine (IOM) released their report, *To Err is Human*, which revealed to the public the number of deaths caused by healthcare errors. Unfortunately, the message from the IOM was missed. The writers intended to focus on creating patient safety measures, not errors. The second message was that there was a need to improve systems to include:

1. Prevention
2. Recognition
3. Mitigating harm from error

One of the IOM committee's goals was to eliminate blaming individuals who made mistakes and learn from the mistakes in an effort to prevent the mistakes from reoccurring. In addition, the Institute for Healthcare Improvement (IHI) created the 100,000 lives campaign. The goal of the campaign was to save lives. The number of saving 100,000 lives was taken directly from the IOM report that 44,000 to 98,000 lives were lost annually based on medical errors. Data suggests that there have been improvements regarding patient safety, yet some healthcare organizations are not realizing risk improvement.

The Role of Healthcare Risk Managers

Risk managers are educated to manage a variety of issues to include finance, claims management, emergency preparedness and clinical. The duties a risk manager undertakes are ultimately determined by the organization.

Healthcare managers identify and evaluate risks as a means to reduce injury to patients, staff members, and visitors within an organization. Risk managers

work proactively and reactively to either prevent incident or to minimize the damages following an event.

The Importance of Risk Assessment & Management Planning

In order to mitigate risk, a risk assessment plan around areas of concern should be developed. One easy way to accomplish such an assessment may be to determine where there are opportunities for improvement with the National Patient Safety Goals (NPSG) or where vulnerabilities have been identified in the past from complaints or grievances or litigation.

Each organization experiences unique challenges, therefore one approach to determine risk is unlikely. Some areas that should be included in a risk assessment plan are:

- Patient safety
- Mandatory regulations
- Current and future legislation
- Areas at higher risk for error (OR, ED, OB)

It is important to be proactive in defining potential risks through the use of risk assessment plans since the implications of not being proactive can have serious consequences to an organization. A risk assessment plan should identify the level of organizational risk with a scale of negative effects. For example, a simple scale of 1-3 could be used with the following:

Risk Issue	Level of Risk 1=minimal risk; 2=moderate risk; 3=high risk
Urinary catheter use	3—high incidence of use; UTIs above the national norm by 50%
Medication errors	3—2 sentinel events based on medication errors
Anesthesia notes incomplete	2—quality initiative in place for 4 quarters indicating 100% completion over 4 quarters

Developing Risk Assessment Plans

Risk managers should conduct organization-specific risk analyses to determine potential risks. The analysis should identify:

- What might happen?
- How likely could something happen?
- What kind of outcome could be anticipated?
- Can we mitigate the risk by anticipating a potential problem?
- What actions can be taken to mitigate risk?
- Are there risks where mitigating actions cannot be taken proactively.

Comprehensive risk management plans in patient care can not only facilitate patient safety initiatives but also reduce readmissions. A vigorous risk management assessment requires multidisciplinary input as a means of preparing and implementing a comprehensive plan along with consistent monitoring.

2.1.2 Legal Aspects of Quality/Performance Improvement

The only real mistake is the one from which we learn nothing.

--John Powell

This section includes the definitions of commonly used terms in healthcare law. It is unrealistic to cover all of the legal aspects of risk management due to the changing nature of the topic.

Torts -- a civil wrong, other than a breach of contract. Torts include negligence, false imprisonment, assault, and battery. The elements of a tort are a legal duty owed by the defendant to the plaintiff, a breach of duty, and damage from the breach of duty. A tort may be constitutional, in which one person deprives another of a right or immunity guaranteed by the Constitution; personal, in which a person or a person's reputation or feelings are injured; or intentional, in which the wrong is a deliberate act that is unlawful. Many other kinds of torts exist. *(Source: Mosby's Medical Dictionary, 9th edition. © 2009, Elsevier.)*

Civil law -- The branch of legislation dealing with the rights and duties of citizens rather than with criminal acts. *(Source: Medical Dictionary for the Health Professions and Nursing © Farlex 2012)*

Criminal law -- A body of rules and statutes that defines conduct prohibited by the government because it threatens and harms public safety and welfare and that establishes punishment to be imposed for the commission of such acts. *(Source: The Free Dictionary)*

Negligence -- The failure or alleged failure on the part of a physician or other healthcare provider to exercise ordinary, reasonable, usual, or expected care, prudence, or skill that would usually and customarily be exercised by other reputable physicians treating similar patients in performing a legally recognized duty, resulting in foreseeable harm, injury or loss to another; negligence may be an act of omission, i.e., unintentional, or commission; i.e., intentional, characterized by inattention, recklessness, inadvertence, thoughtlessness, or wantonness. Negligence, required elements:

1. **Duty:** A recognized relationship between patient and physician
2. **Breach:** Failure of a medical practitioner to practice in accordance with standard of care
3. **Proximate cause:** The plaintiff must show that injury is reasonably connected to physician's action
4. **Damages:** Plaintiff must show that alleged loss or damage has a quantifiable value such that a monetary payment can be made
(Source: McGraw-Hill Concise Dictionary of Modern Medicine. © 2002 by The McGraw-Hill Companies, Inc.)

Malpractice -- Any professional misconduct, unreasonable lack of skill or fidelity in professional duties, or illegal or immoral conduct. Malpractice is one form of negligence, which in legal terms can be defined as the omission to do something that a reasonable person, guided by those ordinary considerations which ordinarily regulate human affairs, would do, or the doing of something that a reasonable and prudent person would not do. In medical practice, nursing practice, and allied health professions malpractice means bad, wrong, or injudicious treatment of a patient professionally; it results in injury, unnecessary suffering, or death to the patient. The court may hold that malpractice has occurred even though the practitioner acted in good faith. Malpractice and negligence may occur through omission of a necessary act as well as commission of an unwise or negligent act. *(Source: Miller-Keane Encyclopedia and Dictionary of Medicine, Nursing, and Allied Health, Seventh Edition.)*

Defamation -- Any intentional false communication, either written or spoken, that harms a person's reputation; decreases the respect, regard, or confidence in which a person is held; or induces disparaging, hostile, or disagreeable opinions or feelings against a person. *(Source: The Free Dictionary)*

Slander -- Making a false spoken statement that causes people to have a bad opinion of someone. (Source: Merriam Webster Dictionary)

Libel -- The act of publishing a false statement that causes people to have a bad opinion of someone. (Source: Merriam Webster Dictionary)

Assault -- An attempt to injure someone, and in some circumstances can include threats or threatening behavior against. (Source: FindLaw)

Battery -- The intentional offensive or harmful touching of another person without their consent. Under this general definition, a battery offense requires all of the following:

1. Intentional touching
2. The touching must be harmful or offensive
3. No consent from the victim (Source: FindLaw)

False imprisonment -- The state of being imprisoned without legal authority. (Source: Oxford Dictionaries)

Standard of Care -- A diagnostic and treatment process that a clinician should follow for a certain type of patient, illness, or clinical circumstance. In legal terms, the level at which the average, prudent provider in a given community would practice. It is how similarly qualified practitioners would have managed the patient's care under the same or similar circumstances. (Source: Medicinenet.com)

Respondeat superior -- [Latin, Let the master answer.] **A common-law doctrine that makes an** employer liable for the actions of an employee when the actions take place within the scope of employment. (Source: The Free Dictionary)

Confidence in and the development of a professional relationship with your healthcare, general, and/or labor attorney is essential as a risk manager. No question is inane, since the goal is to mitigate risk. Attendance at seminars offered by your risk insurer is one way to become familiar with the law, and the responsibilities associated with the role of Risk Manager.

It is prudent to have your insurer conduct in-service programs for all staff as a means of assuring that staff are aware of the potential risks, know strategies to mitigate the risks, and are able to identify the reporting structure for communication of potential risks. Such education should be at least an annual mandatory program.

2.2 Partners in Quality: Patient, Physician, IT, Risk, Finance, Utilization, Compliance, HR, Bedside Care Providers

Without collaboration and commitment from all disciplines and departments, quality initiatives will never be completely successful.

Max Weber, a German sociologist, said there are nine things that motivate and drive people to change. These nine levers must be implemented together, not in isolation.

1. Discover a Common Purpose
2. Reframe Values and Beliefs
Accountability for quality must be promoted for both the system and the individual.
3. Segment the Engagement Plan
At the very beginning of the implementation of the quality initiative, identify and activate champions. Don't overlook participants who may not have a senior title, as many clinicians who aren't department chairs or in any type of management role still hold a position of influence within the community.

It's important to educate and inform structural leaders, such as department heads or medical directors. Show them the evidence and be transparent about the data because these leaders have the authority, given the nature of their positions, to influence change.

4. Provide Support and Education
The development of project management skills in these leaders can be provided by support and education, and not only for them, but for the rest of the staff as well.
5. Engage Everyone's Intellect
Help everyone understand why the changes are taking place, how they fit into the process and why they are important to the success of the initiative as a means of increasing the level of engagement and support.
6. Use "Engaging" Improvement Methods
It's important to not only understand how the change will be implemented, but also the best way to gather support and commitment. Data must be used sensibly with a focus on the system's performance first, not the individual's performance. All protocols that are changed need to be implemented in an open and transparent manner, making it easy to do the right thing while allowing for change as the initiative progresses. Nothing is written in stone.
7. Build Trust
Building trust is the most important piece of the process. Communicate often and candidly. Address concerns and issues in a timely and obvious manner.

Identify and overcome barriers to engagement. The administration and leadership within the organization must be very responsive.

8. Show Courage

Sometimes personnel don't feel it's really safe to change due to doubts of the commitment and support of senior leadership or lack of proper resources. It is important that personnel understand that their requests for resources are not falling on deaf ears. Leaders must have the courage to ask, especially if the request is in the best interest of the patient.

9. Adopt an Engaging Style

Because the underlying supposition is that improving patient care will allow for fewer mistakes, reducing waste, and providing patients the right care at the right time in the right place. Working with the real leaders and early adopters, the early majority will come and follow. Don't waste time on the laggards because they may never get on board. Spending more time and energy engaging the leaders and early adopters will move the entire curve.

Choose the messages and messengers carefully to ensure the message is delivered in a positive manner that encourages engagement. Communicate early, candidly, and often. Demonstrate that everyone's time is valuable.

The **patient** has expectations of the healthcare organization and care providers. It is critical to clarify with patients what their expectations are, and how best to meet them. Oftentimes, organizational leaders are reluctant to seek patient's comments because there is fear that expectations cannot be met. Instead of fear, this is an opportunity to have an exchange of ideas and come to a mutual ground that is satisfying for all constituents.

In order to improve quality, keep patients safe and reduce waste, hospitals will need to engage **physicians**. Physicians guide processes and decisions that are made inside and outside the hospital walls, and are therefore instrumental to buy into continual improvement strategies. Physicians determine 75 to 85 percent of the decisions that drive quality and cost. Gallup reported that at one health system whose physicians were in the top quartile for engagement increased outpatient volume by 17.5 percent, while disengaged physicians in the bottom quartile saw their outpatient volume decline by -11.7 percent.

The importance of **Information Technology (IT)** and respective systems has grown exponentially over the last 5 years, and is on the verge of exploding due to the need for data analytics as it relates to population health and the continued maturation of the electronic health record. For the CQO/Quality Director/Quality Manager, IT professionals can assist in making one's life simpler through the use of electronic data collection, ability to analyze and aggregate data, ease of reporting information that is essential in critical

decision making, and reducing time and personnel required to do pencil-and-paper data collection which translates to dollars.

The **risk manager** must maintain the process, structure, energy, progress and outcomes for work groups. After all, it is likely that work groups who do not normally work together may need assistance in gathering data, analysis of data, and the development of a work plan. Additionally, the risk manager will need to assure that there is no violation of any laws or ethical concerns that would jeopardize the organization.

Finance must be involved in work groups for a few reasons. First, they are part of the organization and need to support a quality culture; second, they must control the financial bottom line for the organization, and finally, their differing perspectives shed a different twist to a workgroup that can positively impact outcomes.

From the clinical perspective, **utilization** can offer information specifically around patient care, patient needs, throughput from the emergency department to other areas of the hospital, and educate others about their role.

The **Compliance** Officer assures that work groups are not implementing new processes that may conflict with the legal aspects of the healthcare business. **(Please refer to the ICAHN–HealthTechS3 Basic Field Guide to Healthcare Compliance for in-depth information about compliance.)**

Human Resources personnel have a global perspective of the personnel within the organization that includes their needs, desires, and concerns. They will help work groups in educating staff, and assure that all aspects of “people” are incorporated into and considered when promulgating new processes.

Those who are the **bedside care providers**, nurses, techs, aides, must be engaged in order to accomplish quality goals and improve work processes. They must buy-in to the changes that are recommended since they are instrumental in implementing clinical changes. Bedside care providers are the closest to the patient, and are most familiar with gaps in care and the potential for errors. Front line teams are well-equipped to devise creative solutions and often recommend the best solutions. Taking action on the team's ideas builds a culture of trust and engagement. **See shared Governance Model in Chapter 3, 3.1.3.4.**

 **CREATING A CULTURE OF
ENGAGEMENT**

SENIOR LEADERSHIP



- Patient is the North Star
- Candor & Transparency
- Communicate, Communicate, Communicate
- Solicit Feedback
- Actively Listen

CREATE TRUST WITH PHYSICIANS

- Discover a Common Purpose
- Reframe Values & Beliefs
- Segment the Engagement Plan
- Provide Support & Education
- Engage the Physician's Intellect
- Use "Engaging" Improvement Methods
- Build Trust
- Show Courage
- Adopt an Engaging Style



ENGAGE NURSES EARLY & OFTEN



- Streamline Protocols, Standardize Order Sets
- Culture of Transparency
- Data & Analytics Drive Continuous Improvement
- No More Blame Game
- Commitment from Senior Leaders

TOOLS & RESOURCES FOR FRONTLINE STAFF

- Freedom to Speak Openly
- Data as a Tool for Improvement
- Commitment from Senior Leaders
- Celebrate! Celebrate! Celebrate!
- Mentoring & Career Development



ENGAGED TEAM = HAPPY PATIENTS



(Source: Health Catalyst)

2.3 Celebrating Mistakes and Successes

The healthcare paradigm has shifted from traditional models to innovation. If one remembers the discussion about high reliability organizations (HRO), one way to achieve that designation is to encourage all personnel to be innovative and take calculated risks even if proposed expectations are not met or mistakes occur, provided the mistakes do not negatively impact the health and well-being of internal and external customers.

QAPI focuses on continual improvement through prospective, retrospective and preferably concurrent reviews in an effort to identify opportunities for improvement through data analysis and development of action plans. A secondary goal of the QAPI program is not to lay blame for errors, but rather for creating and continually reevaluating systems that prevent errors and improve health outcomes.

Celebrating organizational innovations and successes is very important. A team must receive positive reinforcement to feel a sense of accomplishment. A celebration energizes others to become involved in quality initiatives. QAPI work is not easy if done correctly, so it is important that there is an acknowledgement of accomplishments and creativity.

Additional Resources:

www.ashrm.org/pubs/files/white_papers/SSE%20White%20Pape_10-5-12_FINAL.pdf

Shaw, P. L. & Elliott, C. *Quality and Performance Improvement in Healthcare*. AHIMA. 5th ed.

www.jblearning.com/.../57144_CH15_470_493

Chapter 3: Creating the Quality Program

3.1 Quality Management System

DEFINITION: A quality management system (QMS) is a set of policies, processes and procedures required for planning and execution (production/development/service) in the core business area of an organization. (i.e. areas that can impact the organization's ability to meet customer requirements.) (Source: *businessdictionary.com*)



(Source: *independencetube.com*)

A QMS is nothing more than good business sense. QMS integrates the various internal processes within the organization and intends to provide a process approach for project execution. A process based QMS enables the organization to identify, measure, control and improve the various core business processes that will ultimately lead to improved business performance.

3.1.1 Requirements

The quality management principles/requirements are:

1. customer focus
2. leadership
3. engagement of people
4. process approach
5. improvement
6. evidence-based decision making
7. relationship management

The foundation of a quality management system is an integrative element, which marries diverse aspects of an organization into a unified purpose of delivering services the best way possible. An effective quality management system should be viewed as a key component in achieving success. Quality management systems have key elements such as:

1. Being centered on the customer or consumer of the service, and actively providing the customer with the best value possible.
2. A defined process of continual improvement which suggests that nothing is ever perfect, and that implies there are always approaches to improve effectiveness, efficiencies and outcomes.
3. Maximizing resources and eliminating waste.
4. Senior leaders will support quality initiatives and provide the necessary resources to achieve desired goals.
5. The QMS provides clarity between and among all constituents, e.g. physicians, leaders, staff.
6. Provide all those who must execute the quality system with detailed, understandable, and workable instructions which define both expectations and actions to achieve the stated quality goals.
7. Data collection and measurement are integrated into process(es) review.
8. Documentation of correct approaches is part of the foundation of the QMS.

3.1.2 Aligning Quality with Strategic Plan

And the answer is...strategic planning drives quality initiatives. The strategic planning process is completed by senior leaders and the governing body/board of directors. In turn, consumers of the healthcare organization's services place the onus of high quality services on these individuals. Oftentimes, data are collected utilizing a process called **SWOT analysis** which is an assessment that leaders, the governing body, and consumers of services participate in to sometimes guide the strategic planning process. The acronym SWOT stands for:



Strengths

Weaknesses

Opportunities

Threats

Strategic planning is the process an organization uses to prioritize and focus the energy of all constituents on the same initiatives and the implementation plan. When an organization is involved in strategic planning, it is a method to predict, anticipate and take the necessary action as a purposeful reaction to the changing healthcare landscape. Healthcare organizations must develop their niche in the marketplace that differentiates them from others who provide similar or the same services as a means of maintaining or expanding their market share. The final product and goal of the organization is creating value for customers and to maintain their reputation. The only way to accomplish this is to make quality a top priority for everyone in the organization from the governing body to the CEO and the senior team to physicians to middle managers to staff in a visible way.

3.1.2.1 Benchmarking

DEFINITION: A management approach for implementing best practices at best cost. It is a continuous process by which an organization can measure and compare its own processes with those of organizations that are leaders in a particular area. (*Source: ahrq.gov*)

Benchmarking is often viewed as just comparing indicators, however it can be an integral part of your QAPI, particularly comparing oneself against similar organizations. Conditions for successful benchmarking essentially focus on careful preparation of the process, monitoring of the relevant indicators, and staff involvement.

The demand by many groups, particularly the government and consumers, to improve healthcare performance is due to three factors which have contributed to the increased use of benchmarks:

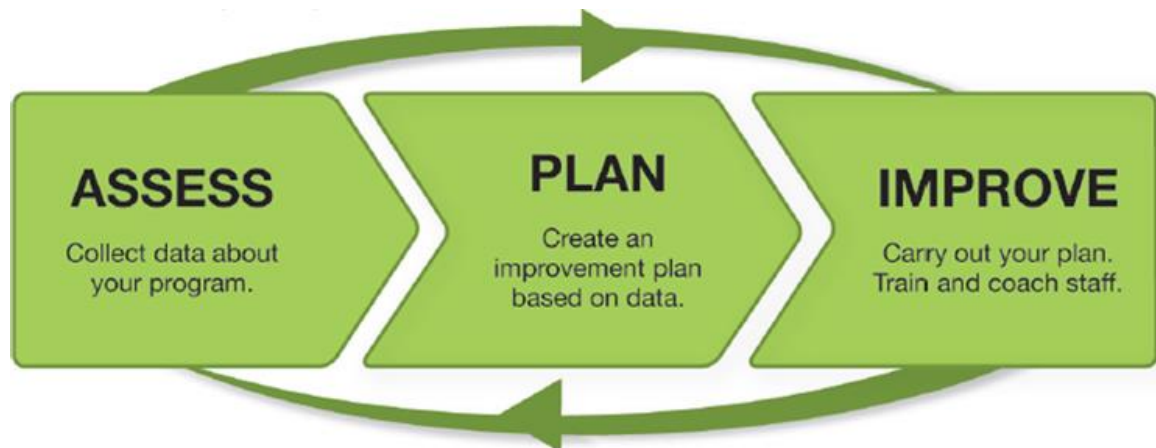
- a. The imperative to control healthcare costs
- b. The need to structure the management of risk and quality of care
- c. The need to satisfy patients' expectations

It is important to benchmark one's organization against one's own performance as well as seeking national benchmarks. The rationale is clear that this is the best method for comparing the same metrics for an identical organization (yours) which will definitely provide valuable comparative data on progress. Real-time benchmarking, that is, frequently checking individual progress to determine improvement or no-improvement, provides the opportunity to course-correct quickly rather than waiting for the annual evaluation.

3.1.3 Defining and Prioritizing Quality Initiatives

3.1.3.1 Quality Assessment

DEFINITION: Quality assessment is the evaluation of the overall precision and accuracy of individual data, after running the analyses. An evaluation should be conducted regarding the extent to which a trial's design and management are likely to have prevented systematic errors and biases. Variations in quality often explain differing results in trials asking the same question when examined under the systematic review (meta-analytical “microscope”). More rigorously designed trials are more likely to yield results that are closer to the “truth”. (Source: *Segen's Medical Dictionary.*)



(Source: *cypq.org*)

Additional Resource:

Baldrige Assessment Tool: www.nist.gov

Sample Quality Assessment: (Source: smartkpis.com)

Perspective	Objective	Strategy	Measure	Data					
				Actual Performance		Targets			
				Baseline	2011-12	2012-13	2013-14	2014-15	2015-16
DOH/MQA Goal: Public Health, Wellness, Prevention, and Protection									
1.0 Internal	1.1 License expeditiously all healthcare professionals who meet statutorily mandated minimum standards of competency 1.2 Enforce healthcare standards through timely discipline, education, and remediation of healthcare professionals found in violation of the law	1.1.1 Provide an efficient licensure process that meets statutory requirements 1.2.1 Provide an efficient enforcement process that meets statutory requirements 1.2.2 Reduce the length of time to issue emergency actions from the date of the event to the date the order is issued	Average number of days to issue an initial license Average number of days to renew a license online Average number of days from legal sufficiency to final order for non-priority cases Percent of emergency actions issued in 30 days or less	69	73	70	65	60	55
				10	5	4	3	2	1
				503	503	475	450	425	400
2.0 Customer	2.1 Inform stakeholders and consumers to enable them to make health care decisions and promote accessible health care	2.1.1 Ensure customers are informed of, have confidence in, and value MQA services	Percent of public record requests completed within 5 days from receipt of request Percent of external customers satisfied with services provided by MQA	53%	53%	75%	80%	85%	95%
				93%	96.8%	97%	98%	99%	99%
DOH/MQA Goal: Organizational Development									
3.0 Learning and Growth	3.1 Motivate the workforce to achieve excellence	3.1.1 Recruit, hire and retain skilled and motivated employees that will exemplify MQA mission, vision and value	Percent of Employee Satisfaction	89.4	90	92	94	95	95
4.0 Financial	4.1 Minimize licensure fees through cost effective regulation	4.1.1 Conduct annual analysis on renewal fees and cash balance projections	Average cost of regulation per licensee Average number of licensees per FTE	\$72.02	\$59.52	\$60	\$60	\$60	\$60
				1506	1,779	1,800	1,800	1,800	1,800

3.1.3.2 Governing Body Responsibility and Accountability

**Boards need to be as close to quality issues
as they are to financial issues.**

Donald M. Berwick, MD, MPP

DEFINITION: Governance is the oversight of organizational strategy, planning and evaluation. (Source: *dictionary.com*)

Once again, reference is made to the IOM Report, *To Err is Human*, where the group renewed attempts to hold healthcare organizations accountable for quality. Governing bodies are legally accountable for quality of care, and have an important role to play in overseeing quality improvement efforts and patient safety initiatives. Please note that the governing body has **oversight**, not operational responsibility for ensuring quality and patient safety. Governing bodies can potentially play a leadership role by establishing quality and safety as organizational priorities, allocating resources to support quality improvement efforts and patient safety initiatives, revising executive compensation and performance evaluation criteria to include quality and safety components, and fostering a corporate culture that values quality and safety.

Board composition is important, however there are some noticeable challenges that make it difficult for board members to fulfill their oversight responsibility around quality, for example:

1. Few board members possess healthcare backgrounds or clinical expertise.
2. Board members are often selected on the basis of their business experience, professional skills, and/or community ties.
3. There are generally two quality committees that boards face, a hospital QIC and a medical staff quality committee, both charged with improving quality of care and service which complicates oversight.
4. The board information packet is complicated, full of information (data), and it is difficult for members to determine necessary actions or any action around improving quality.
5. Board members spend considerable time rehashing what has occurred since their last meeting rather than being forward thinking visionaries.

Accountabilities:

1. Fiduciary-fulfilling the mission of the organization (Familiar with Sarbanes-Oxley Act)
2. Legal-Duty of care, loyalty and obedience
3. Ethical and moral-potential conflict of interest, doing the right thing for the right reason
4. Voluntary-those that are not mandated by regulation. For example, accreditation by TJC
5. Appropriate use of resources-safe staffing, financial expenditure

Accountability Questions for the Governing Body

<p>How does the system and its local organizations determine the needs and expectations of the people in their service areas?</p>	<p>Has the board and its management team considered and adopted the use of contemporary social media to strengthen the bonds of communication and understanding with key stakeholders? If not, why not?</p>
<p>How are these needs and expectations prioritized and by whom? Is the board involved in this process and are the outcomes employed in shaping the system's strategic plans?</p>	<p>Are the system's quality and cost targets and its performance in relation to these targets and to external benchmarks shared and explained in a transparent manner?</p>
<p>Are these priorities and plans made available to the public and, if so, are feedback and questions sought and welcomed?</p>	<p>Does the board understand it is accountable to the communities and populations its system serves? If so, has the board adopted a formal policy statement on its accountability to these communities and populations and has it established system-wide policies and mechanisms to meet its commitments? If not, why not?</p>

(Source: The American Hospital Association. Center for Healthcare Governance. The Evolving Accountability of Nonprofit Health System Boards. 2013)

3.1.3.3 Basic Responsibilities of Governing Body Members

1. Determine your organization's mission and purpose. It is the board's responsibility to create and review a statement of mission and purpose that articulates the organization's goals, means, and primary constituents served.
2. Select the chief executive. Boards must reach consensus on the chief executive's responsibilities and undertake a careful search to find the most qualified individual for the position.
3. Support the chief executive and evaluate his or her performance generally on an annual basis. The board should ensure that the chief executive has the moral and professional support he or she needs to further the goals of the organization.
4. Ensure effective planning. Boards must actively participate in an overall planning process and assist in implementing and monitoring progress on the plan's goals.
5. Monitor and strengthen programs and services. The board's responsibility is to determine which programs are consistent with the organization's mission and monitor their effectiveness.
6. Ensure adequate financial resources. One of the board's foremost responsibilities is to secure adequate resources for the organization to fulfill its mission.
7. Protect assets and provide proper financial oversight. The board must assist in developing or approving the annual budget and ensuring that proper financial controls are in place.
8. Build a competent board. All boards have a responsibility to articulate prerequisites for candidates, orient new members, and periodically and comprehensively evaluate their own performance.
9. Ensure legal and ethical integrity. The board is ultimately responsible for adherence to legal standards and ethical norms.
10. Enhance the organization's public standing. The board should clearly articulate the organization's mission, accomplishments, and goals to the public and garner support from the community. *(Source: The Bridgespan Group. Board Source. & Ingram, Richard T. Ten Basic Responsibilities of Nonprofit Board Members: Second Edition.)*

What the Governing Body Is NOT Responsible For

Governing body members oftentimes confuse what their responsibilities are and what they should not be involved in. For clarity sake, governing body members need to avoid becoming involved in operations and focus instead on the areas of strategic direction, policy, oversight, and evaluation. If governing body members are allowed to become involved in operational activities, there is the risk that operations will take over the board's agenda and leave little or no time for important governance matters.

Additional Resources:

www.americangovernance.com
The Governance Institute

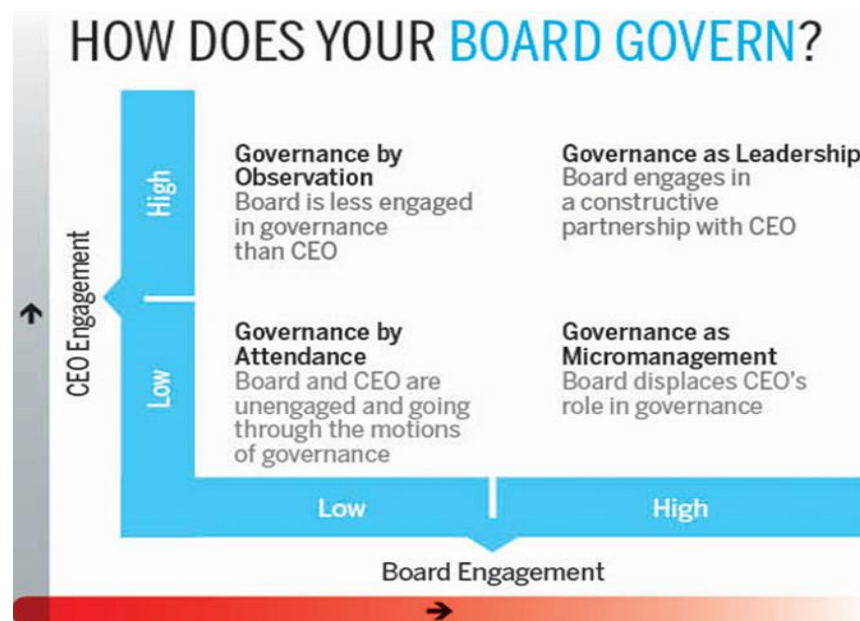
3.1.3.4 Governance Models for the 21st Century and Beyond

The continual transformation of healthcare subsequently requires governance models to change as well. The healthcare setting requires rapid decision-making that does not always allow one to obtain **all** the data, involve **all** stakeholders, or assuring that the bureaucratic maze is followed. What is required consists of establishing trust through actions, hiring the right talent for the right job, empowering staff through shared governance, and educating **all** who have skin in the game, particularly the governing body who may know little to nothing about healthcare.

Taking the transformational healthcare journey requires considerable commitment by the governing body, which includes time, transparency, learning and questioning, and doing what is right for the organization. A number of considerations should come to mind to assure transformation:

1. Composition of the board – a logical mix to include other industry leaders, physicians, mid-level practitioners and other individuals who have demonstrated a commitment to the organization's well-being. Careful thought is instrumental in determining board leadership. The Chair should be a catalyst; not the best friend of the best friend or the most popular person. He/she is the *get it done* person who energizes the rest of the board.
2. Size does matter – determining the appropriate size of the board to accomplish what needs to be done in an expeditious manner. Smaller organizations do not need 15 board members, yet a large health system is probably comfortable with that number.

3. Term limits – every group needs the injection of new ideas, and the governing body is no different. Participating on a board for one's life can be detrimental to making progress and fostering positive change.
4. Structure – assessing the number and types of committees and who participates is a very important move. For example, having a banker or business person as chair of the finance committee is probably a smart choice.
5. Clarify roles – mitigating redundancy in committee structures and providing clear roles and responsibilities will lead to greater productivity.
6. Education – provide education to new board members and refresh tenured board members assists in maintaining boundaries between board responsibilities and operations. Being strategic and not operational is an important message.
7. Performance Assessment – an annual (minimally) assessment of board performance, similar to current performance reviews for employees, should be accomplished as a means of continual improvement.
8. Communicate effectively – it is better to over-communicate than assume that information is clear or that board members know what is happening with the organization. The best metaphor to remember is that “they don't know what they don't know.”
9. Avoid reactive decisions – being proactive instead of reactive is a designation that boards should strive for.



(Source: asaecenter.org)

Striving for a shared governance model where exchange of information from the top down, bottom up, and in between can help an organization become a **high-reliability organization** (See Chapter 1: 1.3.2). Authority, accountability and responsibility are the keys to a high-functioning organization, and in a shared governance model, there is clarity around each of these elements at all level of the organization. Coupled with authority, accountability and responsibility are the following levels of board involvement and the areas involved in each: (Source: static.squarespace.com)



There are many models to choose, however the decision rests with the best model that meets the current healthcare environment, the trajectory of the organization, and the expediency of achieving goals in a meaningful way through collaboration and commitment at all levels.

3.1 Quality Metrics

3.1.1 CMS Quality Measures-Inpatient and Outpatient

Due to the annual revision of CMS Inpatient and Outpatient Quality Measures, the link to the Final Rules is provided in **Chapter 8**.

3.1.2 HCAHPS

The HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) Survey is a standardized survey instrument and data collection methodology that has been in use since 2006 to measure patient's perspectives of hospital care. The data collected provides a national

standard for collecting and reporting information, thus making the data valid. The HCAHPS sampling protocol is designed to capture uniform information on hospital care from the patient's perspective. Three broad goals shape the HCAHPS Survey. First, the survey is designed to produce comparable data on patients' perspectives of care that allows objective and meaningful comparisons among hospitals on topics that are important to consumers. Second, public reporting of the survey results is designed to create incentives for hospitals to improve quality of care. Third, public reporting serves to enhance public accountability in healthcare by increasing transparency. With these goals in mind, the HCAHPS project has taken substantial steps to assure that the survey is credible, useful, and practical. This methodology and the information it generates are available to the public. Value-based purchasing (VBP) is directly connected to HCAHPS and vice versa since hospitals can be rewarded for good performance, but can be penalized for poor performance. At this point, critical access hospitals are exempt from VBP, however that may not be a long-lived exemption.

The HCAHPS survey is broadly intended for patients of all payer types that meet the following criteria:

- 18 years or older at the time of admission
- At least one overnight stay in the hospital as an inpatient
- Non-psychiatric MS-DRG principal diagnosis at discharge
- Alive at the time of discharge

It is important to note that oftentimes family members/significant others or friends may complete the HCAHPS survey.

There are a few categories of otherwise eligible patients who are excluded from the sample. They include:

- Patients discharged to hospice care
- Patients discharged to nursing homes and skilled nursing facilities
- Court/Law enforcement patients (i.e., prisoners)
- Patients with a foreign home address
- Patients who are excluded because of rules or regulations of the state in which the hospital is located

The basic sampling procedure for HCAHPS is the drawing of a random sample of eligible discharges on a monthly basis. Smaller hospitals should survey all HCAHPS-eligible discharges. Data are collected from patients throughout each month of the 12-month reporting period. Data are then aggregated on

a quarterly basis to create a rolling 4-quarter data file for each hospital. The most recent four quarters of data are used in public reporting.

Ten HCAHPS measures are publicly reported on Hospital Compare:

Composite Topics
1. Nurse Communication (Question 1, Q2, Q3)
2. Doctor Communication (Q5, Q6, Q7)
3. Responsiveness of Hospital Staff (Q4, Q11)
4. Pain Management (Q13, Q14)
5. Communication About Medicines (Q16, Q17)
6. Discharge Information (Q19, Q20)
Individual Items
7. Cleanliness of Hospital Environment (Q8)
8. Quietness of Hospital Environment (Q9)
Global Items
9. Overall Rating of Hospital (Q21)
10. Willingness to Recommend Hospital (Q22)

To ensure that differences in HCAHPS results reflect differences in hospital quality only, HCAHPS survey results are adjusted for patient-mix and mode of data collection. Only the adjusted results are publicly reported and considered the official results. Several questions on the survey, as well as items drawn from hospital administrative data, are used for the patient-mix adjustment. (Source: cms.gov)

Additional Resources:

<http://www.hcahponline.org/home.aspx>

<http://www.cms.gov/HospitalQualityInits/downloads/HCAHPSCostsBenefits200512.pdf>

<http://www.hcahponline.org/>

<http://www.hospitalcompare.hhs.gov/>

3.1.3 PQR—Physician Quality Reporting

The 2105 Physician Quality Reporting System, or PQR, is a CMS incentive based system that began with a carrot, and is now using negative payment adjustments, as a stick to encourage eligible healthcare professionals (EPs) to report on specific quality measures. CMS has already begun levying penalties in 2015 for EP's who did not report beginning in 2013 (1.5%).

Under this program, EP's are defined as those covered under the Medicare Physician Fee Schedule (MPFS) and bill under their own NPI number - OR - who have reassigned their benefits to a CAH that bills at a facility level, such as Method II billing. However, if you are an EP providing professional services at an RHC or an FQHC, you are not eligible to participate in this program.

Eligible Professionals:

- Physicians (MD, DO, DPM, OD, DDS, DC)
- Practitioners (PA, NP, CRNA, CNM, CSW, RD, Audiologist)
- Therapists (PT, OT, ST)

Quality Measures:

The PQR program quality measures are broken into 6 Domains for 2015. They are: Patient Safety, Person and Caregiver-Centered Experience and Outcomes, Communication and Care Coordination, Effective Clinical Care, Community and Population Health, and Efficiency and Cost Reduction.

Individual EP's, or Group Practices can both report under the PQR system and must report on at least nine (9) measures covering at least three (3) of the above domains, and measure at least 50% of the EP's Part B patients eligible for each measure. As there are more than 250 possible measures to choose from, it is important to select your measures carefully to ensure you have a valid sample size.

CMS PQR Quality Measures can be found at:

http://www.cms.gov/apps/ama/license.asp?file=/PQRS/Downloads/PQRS_2015_Measure-List_111014.zip

There are several possible methods for reporting your PQRS measures for 2015. Reporting providers are free to choose the methodology that works best for them:

- Medicare Part B Claims Data
- Qualified PQRS Registry
- Direct Electronic Health Record (EHR) using Certified EHR Technology (CEHRT)
- CEHRT records via a Data Submission Vendor
- Qualified Clinical Data Registry (QCDR)

Rules for submitting under each of these methodologies are available under the CMS PQRS Overview site:

https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/PQRS_OverviewFactSheet_2013_08_06.pdf

This program, along with Meaningful Use (MU), Value Based Payment Modifiers (VBFM) is slated to be replaced in 2017 with the Merit-based Incentive Payment System, otherwise known as MIPS which will roll all of the reporting mechanisms of the previous programs under one structure. So, even with the PQRS system likely coming to an end, the data reporting requirements will not.

Additional Resources:

CMS' PQRS main page:

<https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/index.html>

PQRS Implementation Guide:

https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/pqrs/downloads/2015_pqrs_implementationguide.pdf

MIPS:

<https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-MIPS-and-APMs.html>

(Source: Written by Michael Lieb. HTS3 RVP & Director, Practice Management. HTS3)

3.1.4 Structure, Process, Outcome

Donabedian's Quality Framework



(Source: implementationcentral.com)

The framework can be used to modify structures and processes within a healthcare department, physician practice setting, ambulatory surgical center to improve patient flow or information exchange.

The context (**structure**) in which care is delivered **affects processes and outcomes** – (If the facility is an unpleasant place to be, people won't come, workers won't do a good job, and there is a moderate to high probability that patients will be readmitted).

Outcomes indicate the combined effects of **structure and process** – (Readmission rate is low as compared to national benchmarks).

Structure and process are readily measured – (Is the patient's room clean, waiting room clean, the nurse polite?).

Only structure and process can be manipulated!

- Structure: Physical equipment and facilities
- Process: How the system works; providing services
- Outcome: The final product, results; is there a difference

Structure and process are easier to measure; outcome is more important.

Example: Identify which statement is either structure, process, outcome or structure and process.

Try answering before referring to the answer key at the bottom of the page.

1. OR capacity to manage additional patient flow
2. Number of ED patients seen for COPD this quarter
3. Percentage of children receiving immunizations
4. If there is a natural disaster in your community, are there enough beds available to receive casualties
5. Percentage of staff who have received the flu vaccine
6. How many of Dr. Smith's diabetic patients are receiving annual foot exams
7. The number of Dr. Jones' patients who have successfully quit smoking

3.1.5 Patient Centered Medical Home (PCMH) Metrics

DEFINITION: A medical home is an approach to providing comprehensive and high quality primary care. A medical home should be the following:

- Accessible: Care is easy for the child and family to obtain, including geographic access and insurance accommodation.
- Family-centered: The family is recognized and acknowledged as the primary caregiver and support for the child, ensuring that all medical decisions are made in true partnership with the family.
- Continuous: The same primary care clinician cares for the child from infancy through young adulthood, providing assistance and support to transition to adult care.
- Comprehensive: Preventive, primary, and specialty care are provided to the child and family.
- Coordinated: A care plan is created in partnership with the family and communicated with all healthcare clinicians and necessary community agencies and organizations.
- Compassionate: Genuine concern for the well-being of a child and family are emphasized and addressed.

Answers: 1. S & P; 2. O; 3. O; 4. S; 5. O; 6. P; 7. O

- Culturally Effective: The family and child's culture, language, beliefs, and traditions are recognized, valued, and respected (*Source: American Pediatric Association. National Center for Medical Home Implementation.*)

The nine milestones (metrics) identified by CMS that the PCMH must achieve include:

- Create a budget forecast using a CMS template to show where Comprehensive Primary Care (CPC) initiative money is reinvested.
- Demonstrate how the practice empanels and provides case management for high risk patients with metrics, plan, and implementation methodology. An advanced primary care strategy (behavioral health integration, self-management support, and medication management and review) is implemented for patients in higher risk categories.
- Providers must have access to patient data even when the office is closed so they can continue to participate in care decisions with their patients. Patients should have access to the care team 24/7.
- Demonstrate improvement in patient experiences via completion of a patient experience survey or alternatively by demonstrating evidence of Patient and Family Advisory Council (PFAC) that meets at least once per quarter. Practices must specify the changes to the practice that have occurred during each reporting period as a result of, or influenced by a patient survey of PFAC activities.
- Demonstrate that data was used on a continuous basis to guide patient care at provider/team level via utilization of quality management projects.
- Review payer data to identify a high cost area and a practice strategy to reduce cost while maintaining or improving quality.
- Demonstrate active engagement across the medical neighborhood by measures of choice. Measures include: emergency room follow-up within one week, hospital follow-up within 72 hours, and care compacts with at least two specialists.
- Improve patient shared decision making capacity by using and tracking at least three decision aids.
- Participate in regular learning sessions and market based collaboratives. (*Source: CMS Innovation Center*)

Additional Resources:

<https://pcmh.ahrq.gov/>

<http://www.commonwealthfund.org/publications/in-the-literature/2014/oct/patient-centered-medical-home-initiatives-expanded>

<https://www.pcpcc.org/resource/medical-homes-impact-cost-quality>

[American Academy of Family Physicians: Patient-Centered Medical Home](#)

[American College of Physicians: Patient-Centered Medical Home](#)

[American Medical Association: Medical Home Demonstration Project](#)

[Chronic Care Model](#)

[Future of Family Medicine Project \(2004\)](#)

[Ideas from IBM: The Medical Home Model](#)

[Joint Principles of the Patient-Centered Medical Home](#)

[National Center for Medical Home Implementation \(American Academy of Pediatrics\)](#)

[National Committee for Quality Assurance](#)

Chapter 4: Requirements

4.1 External Drivers

There are many online sources of consumer “report cards” on healthcare quality. In addition to federal websites such as hospital compare, a variety of states require additional information to be reported. Further discussion about other agencies requiring data is included below with the descriptions of each.

4.1.1 Reporting Requirements

Hospitals are required to report volumes of collected information that includes financial, clinical, inpatient, outpatient, utilization, staffing, infection rates, some state-specific data, claims, and the list continues depending on the organization's involvement in research or other quality initiatives. An example of some of the reports are included in **Appendix 1**.

Appendix 2 provides a reference listing of some of the Rules associated with completing the reporting information.

4.1.2 CMS

(Source: Excerpted from cms.gov/medicare/quality/initiatives)

The vision of the CMS Quality Strategy is to optimize health outcomes by improving quality and transforming the healthcare system. In order to accomplish this transformation, the strategy encompasses the following:

1. Lead quality measurement alignment, prioritization, and implementation and the development of new, innovative measures
2. Guide quality improvement across the nation and foster learning networks that generate results
3. Reward value over volume of care
4. Develop, test, and implement innovative delivery system and payment models to improve care and lower costs
5. Collaborate across CMS, HHS, and with external stakeholders
6. Listen to the voices of beneficiaries, patients and their families, consumers, and those who provide healthcare in all settings
7. Foster an environment that creates the capacity for state Medicaid/CHIP agencies and health plans to improve quality through use of locally generated data and local innovations in care delivery

8. Be a model of effective business operations, customer support, and innovative information systems that excel in making meaningful information available
9. Develop CMS staff, create high-functioning teams, foster pride and joy in work at all levels, continuously learn, and strive to improve.

The CMS Quality Strategy Goals

This Quality Strategy delineates objectives and outcomes to guide action to realize six broad and interrelated goals. The CMS Quality Strategy goals reflect the six priorities set out in the National Quality Strategy:

Goal 1: Make care safer by reducing harm caused in the delivery of care.

Goal 2: Strengthen person and family engagement as partners in their care.

Goal 3: Promote effective communication and coordination of care.

Goal 4: Promote effective prevention and treatment of chronic disease.

Goal 5: Work with communities to promote best practices of healthy living.

Goal 6: Make care affordable

4.1.3 Regulatory Agencies

4.1.3.1 The Joint Commission (jointcommission.org)



The most recognized name in healthcare accrediting agencies is The Joint Commission aka TJC. The mission of TJC is to “continuously improve healthcare for the public, in collaboration with other stakeholders, by evaluating healthcare organizations and inspiring them to excel in providing safe and effective care of the highest quality and value.” TJC still believes that having their accreditation is the “gold seal” of best organizations. TJC surveys all types of healthcare organizations nationally and internationally. The National Patient Safety Goals (NPSG) were established by TJC in 2002, and are reviewed and updated annually. There are a number of certification program that are offered through TJC; for example, primary stroke care, diabetes care, memory care, VAD, COPD, and the most recent, Healthcare Staffing Services. In 2011, TJC developed the Primary Care Medical Home model. There are some reporting requirements for those organizations accredited by TJC that include, ORYX, core and care measures, and sentinel events.

4.1.3.2 DNV (dnvglhealthcare.com)



Different from all the other accrediting bodies, DNV Healthcare surveys acute hospitals and critical access hospitals annually. Those who are using DNV as their deemed surveying body find this to be beneficial since the organization must be continually ready, and there is no sudden uptick of preparation close to the 36-month survey from other agencies. A second differentiation for DNV as compared to other accreditation agencies is that organizations can seek ISO 9001 certification or accreditation in their 4th year. The ISO standards are similar to the Baldrige criteria (nist.gov). Surveys are highly collaborative and do not dictate policies and templates, and instead trigger the talent and know-how of the organization's dedicated staff to find the absolute best way to do things. The NIAHO standards reflect those of the Medicare Conditions of Participation (CoPs) whereas other accreditation agencies have added standards of their own. DNV Healthcare accredits organizations nationally and internationally.

4.1.3.3 HFAP

Recently acquired by AAHHS.
See information below under 4.1.3.5



4.1.3.4 CIHQ (cihq.org)

The Center for Improvement in Healthcare Quality (CIHQ) is one of the nation's newest accreditation providers approved by CMS to deem acute care hospitals as meeting Medicare Conditions of Participation. Their goal is to ensure that patients receive care in organizations that exceed minimum standards set forth by the federal government, and state on their website that they "are committed to helping hospitals improve the quality of care rendered in their community by providing the tools and support they need in a collegial, respectful, educational, and cost-effective manner." CIHQ is located in McKinney, TX.

4.1.3.5 AAHHS (aahhs.org)



AAHHS, Accreditation Association for Hospitals and Health Systems, is the newest accreditation group to receive deemed status by CMS. Their specific focus is on critical access and rural hospitals along with small surgical hospitals. AAHHS espouses that the surveys they conduct are "collaborative and consultative rather than prescriptive or dictatorial". According to their website, they are focused on "raising the bar on the care" provided rather than trying to be punitive. AAHHS states that they integrate a consultative conference call with your organization prior to the survey they conduct as a "value-added part

of the process.” Prior to becoming an accreditation agency, AAHHS consulted with smaller hospitals to assure that their approach was designed specifically for this cohort.

4.1.3.6 Leapfrog (leapfroggroup.org)



The Leapfrog Group assists organizations to improve safety, quality and affordability in the following ways:

- a. Supporting informed healthcare decisions by those who use and pay for healthcare
- b. Promoting high-value healthcare through incentives and rewards

The Group works with healthcare organizations on assuring transparency and access to healthcare information as an essential element in achieving quality care. According to the Leapfrog Group, their “Hospital Survey is the gold standard for comparing hospitals’ performance on the national standards of safety, quality, and efficiency that are most relevant to consumers and purchasers of care.” There is evidence that hospitals that work with the Leapfrog Group realize improvements in patient safety, quality and resource utilization which translates to financial rewards. Over 1500 hospitals have participated in the Leapfrog Hospital Survey in the most recent past.

4.1.3.7 National Database of Nursing Quality Indicators (NDNQI)



The National Database of Nursing Quality Indicators® provides valid and reliable evidence to support the importance of nursing’s contribution toward quality and patient safety. More than 2,000 U.S. hospitals and 98% of Magnet® recognized facilities participate in the NDNQI program. The participants measure nursing quality, improve nurse satisfaction, strengthen the nursing work environment, assess staffing levels, and improve reimbursement under current pay for performance policies. Nursing-sensitive structure, process and outcomes measures and monitors relationships between quality indicators and outcomes, including hospital-acquired conditions and adverse events. NDNQI drills down to unit-specific data as a means of pinpointing where opportunities for improvement can be achieved.

4.1.3.8 QualityNet (Qualitynet.org)

Healthcare Quality reporting programs have helped to provide for a safe, efficient exchange of information regarding their care.

Established by the Centers for Medicare & Medicaid Services (CMS), QualityNet, aka QNet, provides healthcare quality improvement news, resources and data reporting tools and applications used by healthcare providers and others.

The Hospital Inpatient Quality Reporting (IQR) Program is intended to equip consumers with quality of care information to make more informed decisions about healthcare options. It is also intended to encourage hospitals and clinicians to improve the quality of inpatient care provided to all patients. The hospital quality of care information gathered through the program is available to consumers on the [Hospital Compare](#) website. The Hospital IQR Program requires Medicare subsection (d) hospitals to submit data for specific quality measures for health conditions common among people with Medicare that typically result in hospitalization. Quality measures are tools that help us measure healthcare processes, outcomes, and patient's perceptions associated with the ability to provide safe, high-quality healthcare. In addition to encouraging hospitals to take steps toward making care safer for patients it also provides hospitals with a financial incentive to report the quality of their services. *(Source: Written by Jennifer Davis, VP for Quality, Iberia Medical Center & excerpted from QualityNet.org and Medicare.gov)*

4.1.3.9 PEPPER Reports (pepperresources.org)



The Program for Evaluating Payment Patterns Electronic Report or commonly referred to as PEPPER is a comparative data report that summarizes the Medicare claims data statistics for one provider in areas that have been identified as at-risk for improper Medicare payment. These comparisons can help you understand how your statistics compare to those of other groups, and whether there might be a need to be concerned about the context of the data. CMS is required to protect Medicare from fraud, waste, and abuse, thus employing some strategies to meet this goal, which include provider education and early detection through medical review and data analysis. CMS considers PEPPER to be an educational tool to support this goal. PEPPER Reports are used by both acute and critical access hospitals.

4.2 Mandatory Reporting Requirements

Consult individual state requirements through your respective state regulatory body. Federal requirements can be obtained on the CMS website.

Additional reporting may be required if your organization is participating in special projects such as Leapfrog, NDNQI, etc.

4.3 Third Party Payers

Accurate data collection and submission is essential for a number of reasons, however the most important aspect for third party payers is the “dropping of clean bills” to assure that organizations are paid for services provided. As a new Chief Quality Officer/Director of Quality/Quality Manager, time should be spent in the Business Office to understand the processes on a global level that are in place for billing.

Another important participant to connect with is the Director of Case Management/Care Management/Care Coordination and the coders who generally meet on a daily basis to discuss patient status, discharge plans, and medical necessity criteria so that coding is completed correctly. Some coders work in the HIM department, others may report to the Director of Case Management/Care Management/Care Coordination, but coordination between clinical experts and coders is critical once again so that clean bills are dropped and organizations are paid for service(s) provided.

4.4 Professional Quality Organizations

National Association of Healthcare Quality (NAHQ)—focuses their efforts on education, leadership, a code of ethics, and preparing Quality professionals for the essentials of their role. This is the organization that credentials Quality professionals in healthcare quality with the CPHQ exam.

Center for Improvement in Healthcare Quality (CIHQ)—previously discussed in the earlier section of **Chapter 4**. CIHQ, like NAHQ, established the first and only national professional certification solely dedicated to demonstrating competency in the CMS survey and certification process.

National Advisory Council for Healthcare Research and Quality (NAC) – provides advice and recommendations to Agency for Healthcare Research & Quality (AHRQ) director and to the Secretary of the Department of Health and Human Services (HHS) on priorities for a national health services research.

Agency for Healthcare Research & Quality (AHRQ) – their mission is to produce evidence to make healthcare safer, higher quality, more accessible, equitable, and affordable, and to work within the U.S. Department of Health and Human Services and with other partners to make sure that the evidence is understood and used.

National Committee for Quality Assurance (NCQA) – provides policy makers and healthcare stakeholders a clear understanding of the issues to their constituents to improve quality. NCQA is akin to the gold standard for accrediting bodies for physician practices and third party insurers. NCQA was founded in 1990 and since then has been improving the quality of healthcare through measurement, transparency and accountability.

American Society for Quality (ASQ) – is a global community of people dedicated to quality who share the ideas and tools that make our world work better. With individual

and organizational members around the world, ASQ has the reputation and reach to bring together the diverse quality champions who are transforming the world's corporations, organizations and communities to meet tomorrow's critical challenges. ASQ provides the quality community with training, professional certifications, and knowledge to a vast network of members of the global quality community.

Baldrige Performance Excellence – the Program is the nation's public-private partnership dedicated to performance excellence. The Baldrige Program:

- Raises awareness about the importance of performance excellence in driving the U.S. and global economy
- Provides organizational assessment tools and criteria
- Educates leaders in businesses, schools, healthcare organizations, and government and nonprofit agencies about the practices of best-in-class organizations
- Recognizes national role models and honors them with the only Presidential Award for performance excellence (*Source: nist.gov*)

National Quality Forum (NQF) – is a not-for-profit, nonpartisan, membership-based organization that works to catalyze improvements in healthcare. NQF's role is to:

- Convene working groups to foster quality improvement in both public- and private-sectors
- Endorse consensus standards for performance measurement
- Ensure that consistent, high-quality performance information is publicly available
- Seek real time feedback to ensure measures are meaningful and accurate.

This list highlights the most commonly referred to organizations, and is not all-inclusive.

Additional Resources:

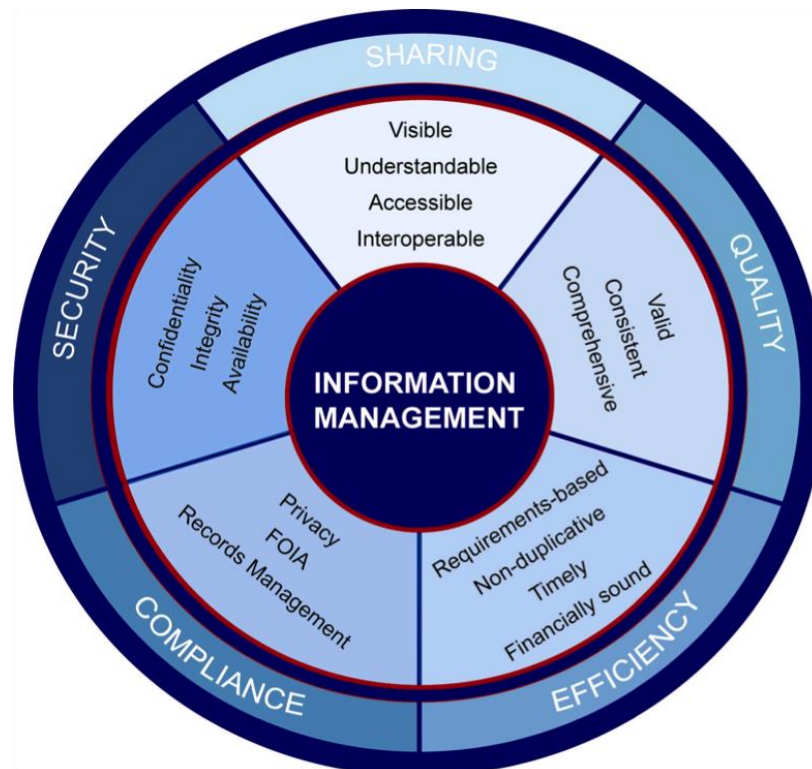
<https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/qualityinitiativesgeninfo/downloads/cms-quality-strategy.pdf>

www.baldrigepe.org

Chapter 5: Using Technology

5.1 Information Management

DEFINITION: The collection and management of information from one or more sources and the distribution of that information to one or more audiences. This sometimes involves those who have a stake in, or a right to that information. Management means the organization of and control over the structure, processing and delivery of information.



(Source: en.wikipedia.org)

DEFINITION: Health Information Management (HIM): the collection and analysis of healthcare data to provide information for healthcare decisions involving patient care, institutional management, healthcare policies and planning, and research; formerly known as medical records management. (Source: *Medical Dictionary for the Health Professions and Nursing 2012*)

DEFINITION: Data Quality Management: The business processes that ensure the integrity of an organization's data during collection, application (including aggregation), warehousing, and analysis.

DEFINITION: Data Quality Measurement: A quality measure is a mechanism to assign a quantity to quality of care by comparison to a criterion. Quality measurements typically focus on structures or processes of care that have a demonstrated relationship to positive health outcomes and are under the control of the healthcare system. (Source: *mitiq.mit.edu*)

5.2 Data Aggregation/Collection

DEFINITION: Data aggregation is any process in which information is gathered and expressed in a summary form, for purposes such as statistical analysis. A common aggregation purpose is to get more information about particular groups based on specific variables such as age, profession, or income. (Source: *whatis.com*)

5.3 Data Analysis

DEFINITION: Data Analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data. Refer back to **Chapter 1 and Chapter 5, 5.5**. For further information, continue to **5.4 Data Analytics** and **5.9 Population Health**. (Source: <https://ori.hhs.gov/education>)

5.4 Data Analytics (DA)

DEFINITION: The science of examining raw data with the purpose of drawing conclusions about that information. Data analytics is used in many industries to allow companies and organization to make better business decisions and in the sciences to verify or disprove existing models or theories. The Healthcare Analytics Adoption Model provides:

- A framework for evaluating the industry's adoption of analytics
- A roadmap for organizations to measure their own progress toward analytic adoption
- A framework for evaluating vendor products (Source: *HealthCatalyst*)

HealthCatalyst was instrumental in the development of the **Analytics Adoption Model**. The intent of the model is to encourage and enable healthcare organizations to create and understand how to use analytics in order to improve quality of care, lower costs and improve provider and patient satisfaction.

Healthcare Analytic Adoption Model

Level 8	Cost per Unit of Health Reimbursement & Prescriptive Analytics	Contracting for & managing health
Level 7	Cost per Capita Reimbursement & Predictive Analytics	Taking more financial risk & managing it proactively
Level 6	Cost per Case Reimbursement & Data Driven Culture	Taking financial risk and preparing your culture for the next levels of analytics
Level 5	Clinical Effectiveness & Population Management	Measuring & managing evidence based care
Level 4	Automated External Reporting	Efficient, consistent production & agility
Level 3	Automated Internal Reporting	Efficient, consistent production
Level 2	Standardized Vocabulary & Patient Registries	Relating and organizing the core data
Level 1	Data Integration – Enterprise Data Warehouse	Foundation of data and technology
Level 0	Fragmented Point Solutions	Inefficient, inconsistent versions of the truth

(Source: HealthCatalyst)

Additional Resources:

<https://www.healthcatalyst.com/healthcare-analytics-adoption-model/?gclid=CMbgvM6C1ckCFcwYHwodj1sFrw>

<http://www.healthcareitnews.com/resource/haam-healthcare-analytics-adoption-model-framework-roadmap>

5.5 Statistical Tools

Many of the statistical tools were previously discussed in **Chapter 1**. There is software that will assist you in analyzing and presenting data effectively. Partnering with the Chief Information Officer/Director of Information Technology is indispensable. Another important message is that data and the analysis must be presented in a manner that is meaningful to one's audience.

Seven Most Important Methods for Statistical Data Analysis:

1. Mean – the arithmetic mean, more commonly known as “the average,” is the sum of a list of numbers divided by the number of items on the list. The mean is useful in determining the overall trend of a data set or providing a rapid snapshot of your data. Another advantage of the mean is that it's very easy and quick to calculate. **Caution:** Taken alone, the mean can be a dangerous tool. In some data sets, the mean is also closely related to the mode and the median (two other measurements near the average). However, in a data set with a high number of outliers or a skewed distribution, the mean simply doesn't provide the accuracy you need for a decision.

2. Median – is the "middle" value in the list of numbers. To find the median, your numbers have to be listed in numerical order. For example, the following has 9 numbers listed, therefore the middle or median will be $9 + 1 \div 2 = 10 \div 2 = 5$ th number which is 14 and is the median.

13, 13, 13, 13, 14, 14, 16, 18, 21

3. Mode – is the value occurring most often. In the example above, that would be 13.
4. Standard deviation – is the measure of a spread of data around the mean. A high standard deviation signifies that data is spread more widely from the mean, where a low standard deviation signals that more data align with the mean. The standard deviation is useful for quickly determining dispersion of data points. **Caution:** Just like the mean, the standard deviation is deceptive if taken alone. For example, if the data have a very strange pattern such as a non-normal curve or a large amount of outliers, then the standard deviation won't give you all the information you need.
5. Regression – is the relationships between dependent and explanatory variables, which are usually charted on a scatterplot. The regression line also designates whether those relationships are strong or weak. Regression is commonly taught in high school or college statistics courses with applications for science or business in determining trends over time. **Caution:** Regression is not very nuanced (not enough detail or meaning or not taking into account outliers). Sometimes, the outliers on a scatterplot (and the reasons for them) matter significantly. The nature of a regression line, however, tempts you to ignore outliers.

DEFINITION: Dependent variable – is a mathematical variable whose value is determined by that of one or more other variables in a function.

DEFINITION: Explanatory variable – often more aptly called the **independent variable** which is the variable that is manipulated by the experimenter to determine its relationship to an observed phenomenon; the independent variable is the “cause,” while dependent variable is the “effect” of the independent variable.

Example: You are trying to develop a way to prevent patients from falling, and have decided that all patients over 65 will have a bed alarm. That is your **independent variable**. Once you have the bed alarms in place, you observe, the **dependent variable**, whether your intervention prevents these patients from falling.

6. Sample Size Determination – when measuring a large data set or population, you don't always need to collect information from every member of that population – a sample does the job just as well. The trick is to determine the right size for a sample to be accurate. Using proportion and standard deviation methods, you are able to accurately determine the right sample size you need to make your data collection statistically significant. Once you determine the sample size, use the table of random numbers to select your sample. **Caution:** When studying a new, untested variable in a population, your proportion equations might need to rely on certain assumptions. However, these assumptions might be completely inaccurate. This error is then passed along to your sample size determination, and then onto the rest of your statistical data analysis.

Example: Take the example used in #3 about reducing falls. The assumption was that all patients over the age of 65 would have a bed alarm because they will get out of bed and fall. The inaccurate assumption may be the age of 65.

7. Hypothesis Testing – commonly referred to as a **t-test**. Hypothesis testing assesses if a certain premise is actually true for your data set or population. In data analysis and statistics, you consider the result of a hypothesis test statistically significant if the results could not have happened by random chance. Hypothesis tests are used in everything from science and research to business and economics. **Caution:** hypothesis tests need to watch out for common errors. For example, the placebo effect occurs when participants falsely expect a certain result and then perceive (or actually attain) that result. Another common error is the Hawthorne effect (or observer effect), which happens when participants skew results because they know they are being studied.

Example: Again take the example in #3 about reducing falls. You explain to all patients who are 65 that they have an alarm on their bed that will alarm when they try to get out of bed. You instruct all patients who are 65 to ring their call bell and someone will help them up. Your control group, however, has the bed alarm on the bed, but the alarm is turned off. The placebo effect is that your control group always rings the call bell for assistance even though the alarm will not go off.

In this example, you have told your patients who are 65 what will happen if they get up, so there is evidence that the control group and potentially the test group will always ring their call light because they know the alarm will ring.

5.6 Reporting Methodologies

5.6.1 Balanced Scorecards

DEFINITION: Balanced Scorecards (BSC) – is a way to handle strategy management. It centers one's vision and strategy around four distinct measures: Customer, Internal Processes, Financial, and Learning/Growth. The Balanced Scorecard focuses the whole team on the same page with organizational goals in a clear and understandable way.

The BSC is a strategic planning and management system that is used to align service/business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organization performance against strategic goals. (Source: *ahrq.gov*)

Generally, there is a five-step method for developing a BSC which consists of the following:

1. **Build Your Purpose Statement.**
A purpose statement clearly communicates how you'll be different from competitors, and it should include three different aspects: Objective + Advantage + Scope. The purpose statement tells everyone what you're going to do (your objective), how you're going to win (your advantage), and where you're going to do it (your scope).
2. **Design Your Change Agenda.**
If the purpose statement looks outward, the change agenda looks inward. What is needed to make things better in your organization to achieve your purpose statement? What can you do to drive the needed change? The change agenda is a simple graphical representation of the changes that will occur in the organization by implementing strategy.
3. **Make a Map.**
Without a map to guide you to your destination, it's very easy to make lots of wrong turns on your way to strategy execution. A strategy map is a simple, one-page visual representation of your strategic objectives, with cause and effect linkages. It paints a picture of your strategy so everyone can understand it.
4. **Create Great Measures.**
Once you have your map, it's time to think about measures. Measures do two things: They help you manage (understand what's not working), and they help you motivate (people respond to what's being measured, even if

there's not compensation tied to it.) Choose the measures that help you drive your strategy.

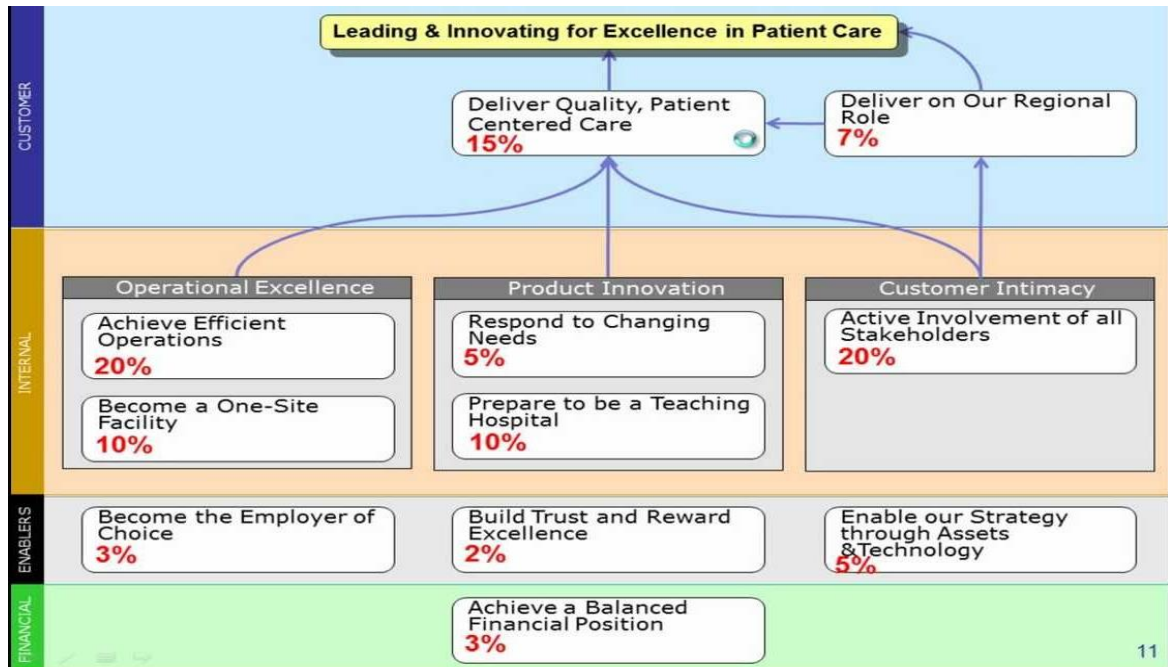
5. Launch Some Initiatives.

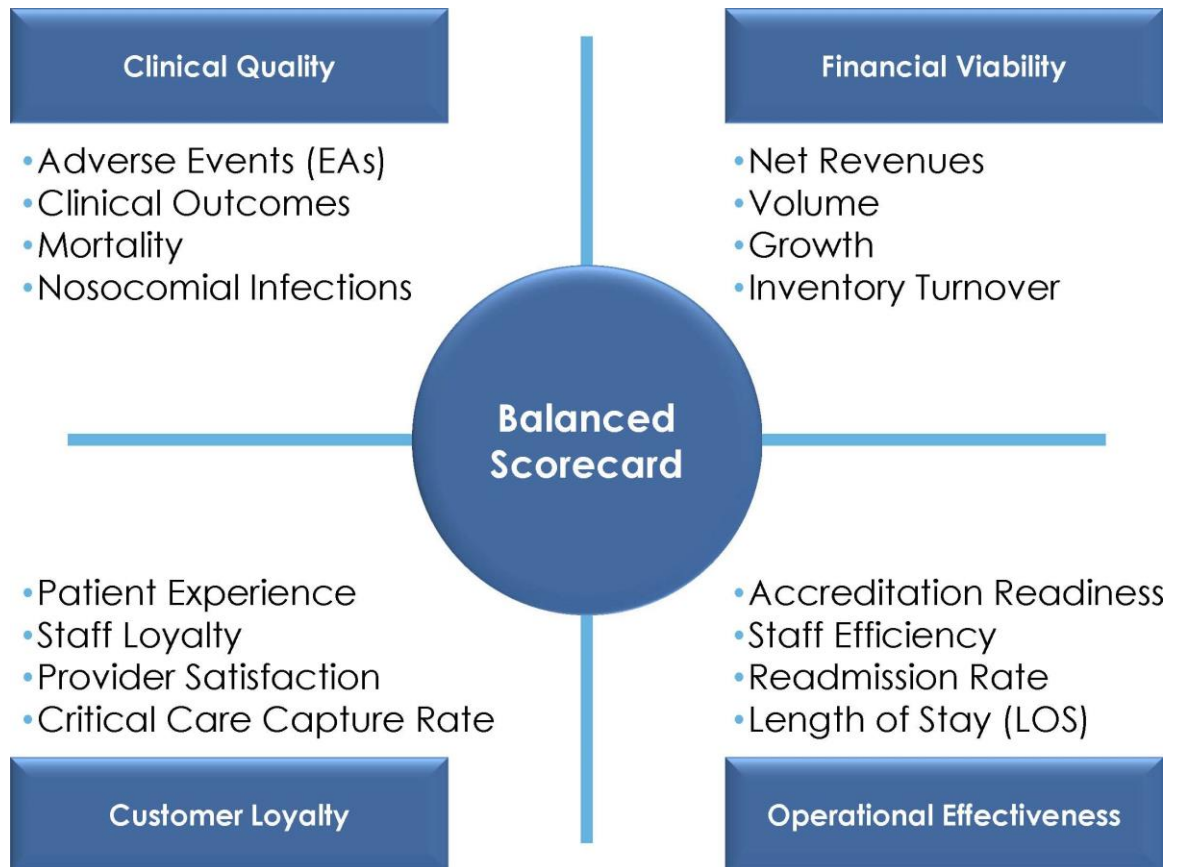
Initiatives (or projects) are where your strategy comes to life. What projects do you need to kick off in order to execute this strategy? What things are you going to stop doing in order to focus on your strategy? Keeping a close eye on these projects will drive success.

The implementation of a Balanced Scorecard process in small rural hospitals is different. These differences include:

- Overall framework aligned around strategy to achieve a mission and vision as opposed to meeting the requirements of shareholders
- Customer complexity – role of patients, physicians, and payers must be reflected in process and measures
- Scope – process must fit resource availability of providers; affordability and ease of implementation are critical.

Examples:



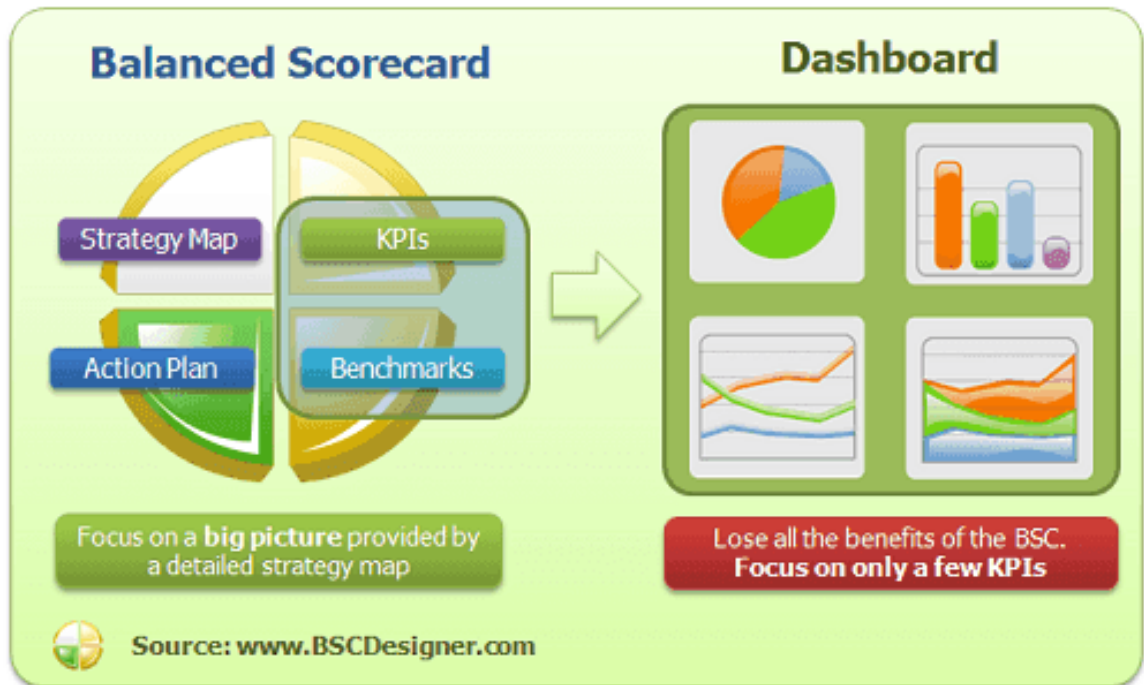


There can be confusion about what the difference is between a balanced scorecard and a dashboard. They have a tendency to confuse people and get used interchangeably. **Scorecards and dashboards are not contradictory. They both display measurements, but they serve different purposes. Scorecards are intended to be strategic. Dashboards are intended to be operational.**

A limitation with dashboards is that they do not communicate why something matters, why someone should care about the reported measure or what the impact may be if an undesirable declining measure continues. Dashboards report what can be measured. In contrast, a balanced scorecard provides the information lacking in dashboards. Scorecards do not start with the existing data, but rather they begin with identifying what strategic projects to complete and core processes to improve and excel in.

DEFINITION: A Key Performance Indicator (KPI) is a specific measure of an organization's performance in some area of its business. (Source: www.wisgeek.org)

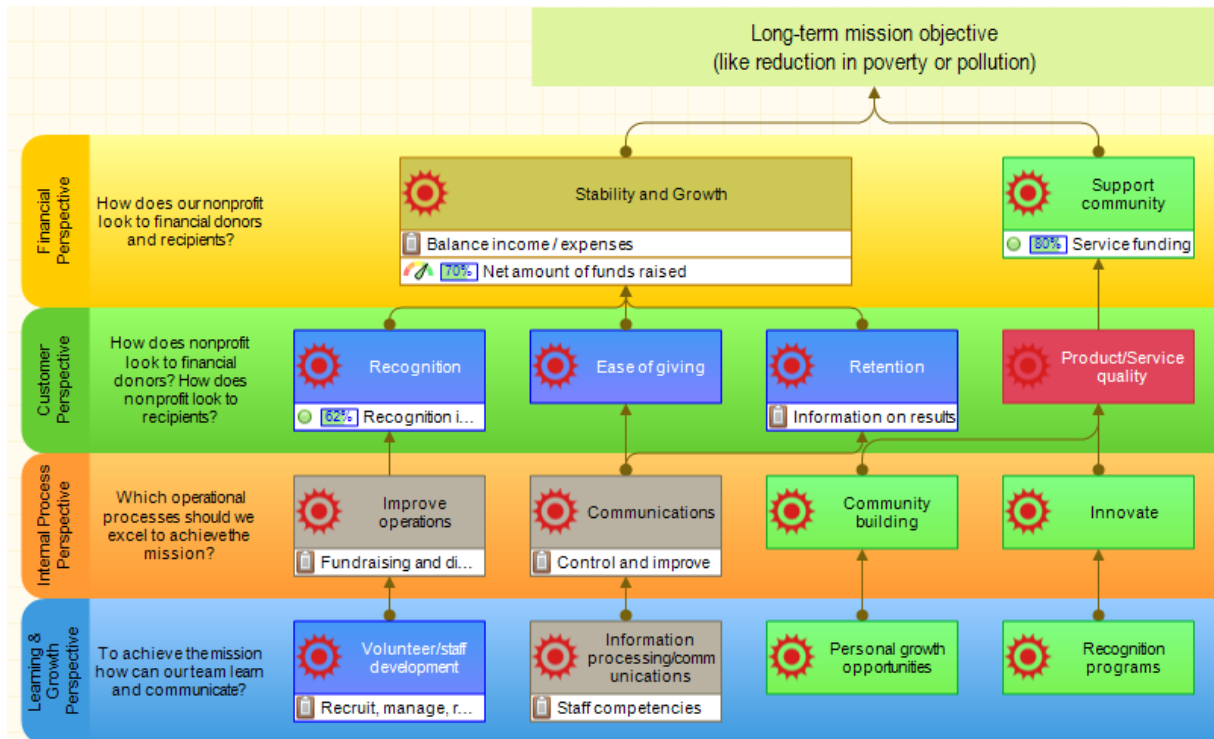
KPIs of the Balanced Scorecard on the Dashboard



Here are some guidelines for understanding the differences between scorecards and dashboards:

- Scorecards monitor the progress toward accomplishing strategic objectives. A scorecard displays periodic snapshots of performance associated with an organization's strategic objectives and plans. Process improvement, innovation and change are critically important. Strategy is all about change and not just doing the same things better.
- Dashboards monitor and measure processes and outputs. A dashboard is operational and reports information typically more frequently than scorecards. Each dashboard measure is reported with little regard to its relationship to other dashboard measures. Dashboard measures do not directly reflect the context of strategic objectives. Dashboard information should be more real-time in nature. A dashboard should ideally be linked directly to systems that capture events as they happen, and it should warn users through alerts or exception notifications when performance against any number of metrics deviates from the norm or what is expected.

Example:



(Source: bscdesigner.com)

Executive Dashboard



(Source: dashboardspy.com)

Additional resources:

www.clearpointstrategy.com

Bisbe, J. and Barrubés, J., 2012. The Balanced Scorecard as a Management Tool for Assessing and Monitoring Strategy Implementation in Healthcare Organizations. [on-line]. *Rev Esp Cardiol.*, 65(10). [cit. 2013- 03-01].

<http://www.revespcardiol.org/en/the-balancedscorecard-as-management/articulo/90155071/>

Chow, C. W., Ganulin, D., Haddad, K. and Williamson, J., 1998. The Balanced Scorecard: A Potent Tool for Energizing and Focusing Healthcare Organization Management. [on-line]. *Journal of Healthcare Management*, 43(3). [cit. 2013-03-01].

<http://www.biomedsearch.com/article/BalancedScorecard-Potent-ToolEnergizing/54586623.html>

Balanced Scorecards for Small Rural Hospitals: Concept Overview & Implementation Guidance. HRSA. cms.gov. HRSA Information Center 22815 Glenn Dr. #103 Sterling, VA 20164 703-902-1325

Balanced Scorecard Online: www.BSCol.com
Balanced Scorecard Article - What is a Balanced Scorecard:
www.activitybasedmgmt.com/Balanced_Scorecard.htm

Six Sigma and the Balanced Scorecard:
www.healthcare.isixsigma.com/me/balanced_scorecard

www.applicationperformancemanagement.org/performance
www.ap-institute.com
www.klipfolio.com

5.6.2 Reports

5.6.2.1 Report Writing

Information relayed to many different constituents on healthcare quality is complicated, so the focus should be on presenting this information as simply and clearly as possible. Information is clear if the audience for that information can understand it. This simple rule poses a real challenge since audiences vary. In addition, the deliverer of the information must be well-versed in the data since questions always arise and explanations must be able to clarify content as simply as possible so that it is understandable.

The ability of a reader to understand the information in a performance report depends upon many factors, including:

- The simplicity of words and sentence structure.
- The clarity and cohesiveness of explanatory text.
- The reader's background knowledge and cultural perspective.

Skilled readers may be unfamiliar with many common healthcare terms, especially those related to quality measurement. It is critical to use words that are familiar to readers and as simple as possible. Use words that your readers would use themselves since healthcare may not have the same meaning. Avoid using acronyms in conversation and in writing.

Example: When explaining hospital accreditation, one might explain it this way:

"Accreditation means that a national, independent organization has approved the quality-related structures, processes, and performance of a healthcare organization. It is like a stamp of approval, letting you know that the hospital meets national standards related to quality."

Sometimes, one can relate such a term to that which the audience knows, such as ISO 9001, since many people in industrial settings understand this source of quality management systems.

Most readers will focus on visual displays versus written work. For the written part of the report, be succinct; leave out flowery adjectives, use bullet points and numbering, utilize bolded headlines, organize material so it has a logical flow, and have another person or persons read the report to make sure they understand the presentation. Get to the point quickly, and place your key points at the beginning. At the end, summarize your key points.

Additional Resources:

Style: Lessons in Clarity and Grace (9th Edition) by Joseph M. Williams.

Elements of Style, Fourth Edition by William Strunk, Jr., and E.B. White.

http://www.cms.gov/WrittenMaterialsToolkit/06_ToolkitPart04.asp#TopOfPage

5.6.2.2 Discoverability

DEFINITION: Discoverable – in civil litigation, discoverable information generally falls under Civil Rule 26(b). In a civil action a party to the suit may obtain discovery regarding any non-privileged matter that is relevant to any party's claim or defense. Parties acquire discoverable information through interrogatories, document production requests, depositions, etc. Just because a piece of information is discoverable does not mean it is admissible at trial. In addition to an objection based on privilege, information is discoverable only if it is reasonably believed to lead to admissible evidence.

A category of procedural devices employed by a party to a civil or criminal action, prior to trial, to require the adverse party to disclose information that is essential for the preparation of the requesting party's case and that the other party alone knows or possesses. *(Source: The Free Dictionary by Farlex)*

Due to the complexity of the legal aspects of documents and information that is reportable and subsequently discoverable, the best advice is to discuss with the organization's healthcare counsel. Some States laws govern the discoverability of documents as well.

Important Note: Advise those who are required to document information that the best rule of thumb is to write or type with the intent that all information is discoverable as a means of minimizing risk to the individual writer and the organization. It is much easier for an attorney to defend an individual and/or organization with excellent information instead of documentation that has gaps.

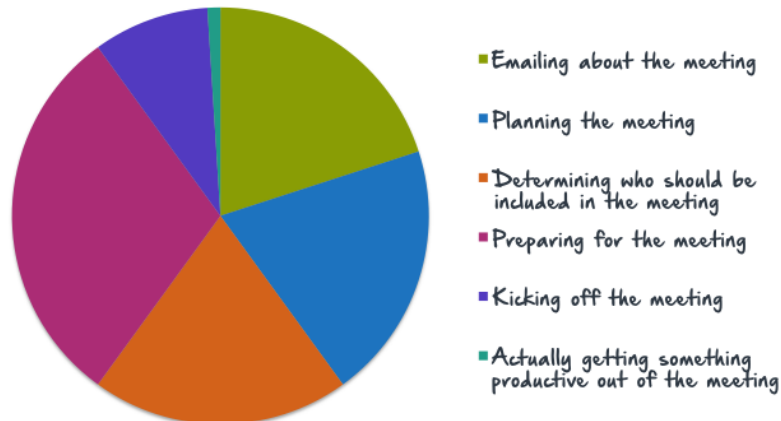
Additional Resources:

<https://quizlet.com/22033451/chapter-12-legal-aspects-of-healthcare-flash-cards/>

5.6.3 Meeting Management

Your effectiveness can be judged by how well you run a meeting and what you accomplish. Time is money and oftentimes participants do not believe that meetings use their time wisely or that anything is accomplished.

BREAKDOWN OF TIME SPENT ON MEETINGS



(Source: pinterest.com)

Based on these comments and the pie graph displaying how time is spent in meetings, what can the facilitator do to manage time, select the right participants, and realize outcomes and action items that demonstrate the value of a meeting.

THIS?



OR THIS?



Organizers conduct meetings by selecting the right participants, developing agendas, establishing ground rules, practicing efficient time management and, finally, closing out the meeting. Preparing before the meeting and taking notes during is also recommended.

Selecting participants: Determining who to invite to a meeting is contingent on what you are attempting to accomplish. With that in mind, the following ideas are offered:

- Don't go solo on determining who should participate. Ask others.

- Communicate with potential participants to determine if they can attend and why their attendance is important based on a brief discussion of the goal(s) of the meeting.
- Send out meeting notices in plenty of time so that participants can schedule or reschedule other meetings. Include an RSVP request so you know who is attending. Notices should always include date, time, location and purpose/focus of the meeting.
- Send out a copy of the proposed agenda along with the meeting notice.

Developing agendas: The first agenda will be developed by the facilitator, however a worthwhile method of involving participants, which supports buy-in by participants, is to create the next agenda at the end of each meeting while ideas are fresh and the outcome is the focus. Structuring the agenda with what needs to be accomplished helps participants stay engaged.

- Design the agenda so that participants get involved.
- Set time estimates for addressing each topic.

At the Meeting: The average adult's attention span is reported to be around 10 minutes, therefore utilizing different approaches during the meeting will be beneficial. For example, use power point but not more than 4 slides; use visuals such as infographics or photos; use poster paper with colored and scented markers with participants being the scribes for important points; humor always helps; refreshments or a snack or chocolate can be favorite stimulants.

- Start the meeting on time; ask for a volunteer timekeeper
- Ask for a volunteer scribe, and provide an outline for minute taking
- If needed, make introductions
- Establish ground rules and post during each meeting. A reasonable question to ask to start the participants thinking may be the facilitator asking this question: What will it take for you to achieve the most benefit from this and subsequent meetings? If there is silence, you can make a simple suggestion such as, put cell phones on vibrate.
- All participants need to agree on the ground rules, and should be advised that if the group violates any of the ground rules, it is each member's responsibility to point out that this is a ground rule (for example, no side bar conversations).
- Determine whether the group will be voting or making decisions by consensus
- Provide an overview of the goal(s) of the meeting and seek buy-in by the participants

Example: Meeting Minutes

TOPIC	DISCUSSION	RESPONSIBLE PERSON(S)	DATE OF COMPLETION/ACHIEVED

Additional Resources:

<http://www.masslegalhelp.org/housing/private-housing/ch10/how-to-run-a-good-meeting>

<http://ezinearticles.com/?Monopolizing-the-Conversation-and-How-to-Stop-It&id=4848630>

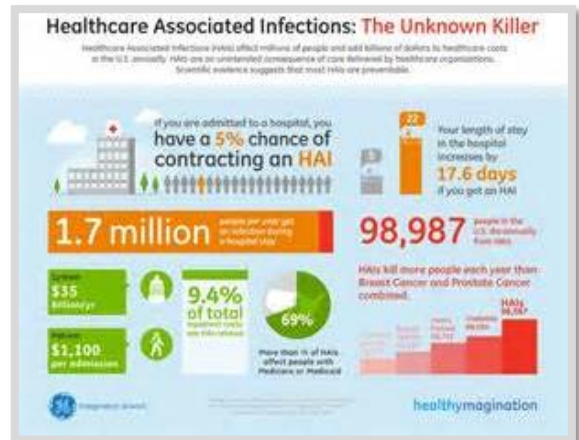
5.7 Infographics

DEFINITION: An infographic (information graphic) is a representation of information in a graphic format designed to make the data easily understandable at a glance. People use infographics to quickly communicate a message, to simplify the presentation of large amounts of data, to see data patterns and relationships, and to monitor changes in variables over time. Infographics include bar graphs, pie charts, histograms, line charts, tree diagrams, mind maps, Gantt charts, and network diagrams. Infographics are being used more and more frequently to help people understand the information contained in data. The process of creating infographics is sometimes referred to as data visualization. (Source: *Whats.com*)

Example: Early infographics (cave drawings)



Example: Current infographics



Previously mentioned under Meeting Management, the use of visual aids can be beneficial in displaying data since most people are visual learners. Marketing has been using infographics through social media for some time for branding of products and services.

Additional Resources:

<http://dailytekk.com/2012/02/27/over-100-incredible-infographic-tools-and-resources/>
<http://www.onextrapixel.com/2013/06/06/infographics-resources-tools-tutorials-and-free-infographic-elements/>

5.8 Hospital & Nursing Home Compare

This site can be accessed on cms.gov. It is important to note that the consumer is much savvier regarding the use of technology to find information that helps them make knowledgeable decisions, particularly as it relates to their healthcare. Consumers are shopping for the best service at the best cost since more people have higher deductibles and are paying more out-of-pocket expenses.

Using the excuse that the data is old, usually 9-12 months old, is not an excuse for poor quality and patient safety measures. These are the data that consumers access, and decide whether your organization can meet their needs and cost expectations. As the CQO/Director of Quality/Quality Manager, you should be checking hospital compare and current data as a way to improve your organization's report.

Popular media is accessing these data more frequently and using it to reference organizational performance.

Additional Resources:

www.cms.gov (Hospital & Nursing Home Compare)

5.9 Population Health



(Source: thinkhealthit.com)

DEFINITION: A transformational care delivery model.

The aim of population health is to provide high-value care to patient populations, with reliable, consistent, and transparent quality outcomes measured at the population level. A primary tenet of population health is the provision of services across the care continuum—a comprehensive or almost holistic approach in which programs purposely knit together distinct services, including prescribed transitional care. (Source: Jaskie, S. *Putting Population Health Strategies to Work*. Jan/Feb. 2015.)

Population health (part of the Affordable Care Act or ACA) includes the health outcomes of a **group of individuals**, including the distribution of such **outcomes** within the group. (Source: Kindig & Stoddard. *Population Health Definition*. 2003)

Who are the Groups?

These groups are often geographic populations such as nations or communities, but can also be other groups such as employees, ethnic groups, disabled persons, prisoners, or any other defined group.

Outcomes:

- Measuring health outcomes helps to coordinate the efforts of public health agencies, the healthcare delivery system, and many other entities in the community to improve health.
- These measures monitor how well we are managing a responsibility that we all share, and help to set priorities.
- Managing a shared responsibility is challenging given the many factors that influence health, no single entity can be held accountable for health outcomes.

Potential Barriers to Population Health:

1. Physicians and other providers who are independent thinkers are accustomed to managing their individual patients, individually.
2. The paradigm shift to a systems- or population-based approach is counter to the physician and provider education and traditional successful practice.
3. Information technology solutions are of particular importance in providing guidance on the adherence to agreed-upon care standards and protocols.
4. Information technology is critical in facilitating the efficient and accurate recording of clinical data.
5. Transparency in performance is not commonplace among physicians, and adding financial data to the clinical data evaluation is not intuitive.
6. Physicians and other providers who are independent thinkers are accustomed to managing their individual patients, individually.

7. The paradigm shift to a systems- or population-based approach is counter to the physician and provider education and traditional successful practice.
8. Information technology solutions are of particular importance in providing guidance on the adherence to agreed-upon care standards and protocols.
9. Information technology is critical in facilitating the efficient and accurate recording of clinical data.
10. Transparency in performance is not commonplace among physicians, and adding financial data to the clinical data evaluation is not intuitive.

Additional Requirement for Population Health: Community Health Needs Assessment (CHNA)

The ACA also adds a new IRS requirement that has the potential to leverage the strengths and resources of both the healthcare and public health systems to create healthier communities (*Source: Kuehnert, 2012*).

Hospitals must conduct a Community Health Needs Assessment (CHNA) once every three years. These reports must describe:

- The community served
- Identify existing healthcare resources
- Prioritize community health needs.

Hospitals must also develop an implementation strategy to meet the needs identified through the CHNA.

Opportunities/Strategies for Population Health:

1. Re-envision quality performance—quality will be transparent to patients; quality becomes an “everybody” responsibility.
2. Engage physicians in a *contemporary* view of what quality management looks like.
3. Solve current financial problems. For example, are some patients staying after procedures who should not be staying?
4. Traditional metrics for market share are less important— the goal is to keep people out of hospitals.
5. Convenience supersedes structure—appointments will become obsolete. Retail healthcare is surging.
6. Provider's competition are apps—technology will replace “personableness”, and care will be delivered at home, e.g. wearables.
7. Care will be provided by multidisciplinary teams—led by physicians along with greater use of nurse practitioners to augment the projected physician shortage.

8. Non-traditional partnerships will be formed—community agencies, for-profit, governmental agencies, IT providers, analytics will partner with different sized hospitals.
9. Requires consistent adherence to care standards supported by electronic medical records and frugal utilization of resources.
10. The practice of medicine has changed from an individual sport to a team sport which is an enormous shift in the healthcare delivery paradigm.
11. Requires a fundamental change in the mindset of physicians and reorganization of day-to-day operations.
12. Enhancing care transitions using new models.
13. Clinical integration of providers who coordinate and collaborate in the provision of care based on consistent guidelines, pathways, protocols, and desired outcomes.
14. Collaborate with hospitalists and physicians in the Emergency Department
15. Develop and deploy a patient pathway/protocol for areas of high patient transitions to different levels of care
16. Transition patients from hospital facilities to post-acute care *(Source: Bradley, D.K. 2015)*

Benefits of Population Health:

1. Population-based strategies are promising for improving and coordinating patient care.
2. Connecting care through purposeful transitions (patient is in the right place) can affect clinical and financial outcomes.
3. Coordinating organizationally and clinically with other providers participating in the care of the patient is more efficient and reduces cost.

Chapter 6: Clinical Integration, the Pathway to Improving Quality and Efficiency

DEFINITION: Clinical integration describes the integration of clinical information and healthcare delivery services from distinct entities. Clinical integration refers to the coordination of care across a continuum of services, including preventive, outpatient, inpatient acute hospital care, post-acute including skilled nursing, rehabilitation, home health services, and palliative care to improve the value of the care provided. (Source: GE Healthcare Camden Group).

Some other definitions include:

- “Clinical integration facilitates the coordination of patient care across conditions, providers, settings, and time in order to achieve care that is safe, timely, effective, efficient, equitable, and patient-focused. To achieve clinical integration our nation’s healthcare system needs to promote changes in provider culture, redesign payment methods and incentives, and modernize federal laws.” (Source: *Health for Life Expert Advisory Group on Clinical Integration*)
- [Clinical] integration can be evidenced by [a physician] network implementing an active and ongoing program to evaluate and modify practice patterns by the network’s physician participants and create a high degree of interdependence and cooperation among the physicians to control costs and ensure quality. This program may include: (1) establishing mechanisms to monitor and control utilization of healthcare services that are designed to control costs and assure quality of care; (2) selectively choosing network physicians who are likely to further these efficiency objectives; and (3) the significant investment of capital, both monetary and human, in the necessary infrastructure and capability to realize the claimed efficiencies.” (Source: *Department of Justice and Federal Trade Commission, Statements of Antitrust Enforcement Policy in Health Care, Statement 8 (1996)*)
- “Clinical integration is the extent to which patient care services are coordinated across people, functions, activities, and sites over time so as to maximize the value of services delivered to patients.” (Source: *Stephen M. Shortell, Robin R. Gillies, David A. Anderson, Remaking Health Care in America, 2000*)
- “In essence, clinical integration involves providers working together in an interdependent fashion so that they can pool infrastructure and resources, and develop, implement and monitor protocols, ‘best practices,’ and various other organized processes that can enable them to furnish higher quality care in a more efficient manner than they likely could achieve working independently. Such programs can enable primary care physicians and specialists of all kinds to work more closely with each other in a coordinated fashion.” (Source: *Guidelines for Clinical Integration, a Working Paper Prepared for AHA by Hogan & Harrison, LLP, April 2007*)

Previously, Clinical Integration (CI) was viewed as a future option to improve access, cost and outcomes, however, the future is here now. There were some early adopters who

took the rocky journey to navigate the requirements of developing CI. To date, it is estimated that there are 500 clinically integrated networks (CIN) nationwide. Due to the increasing number of affiliations/ partnerships/networks that are and have been developed to survive the current and future healthcare landscape, more and more healthcare executives are attempting to develop CI. There seems to be a couple of challenges that executives face as they move to clinically integrate. First, there is an infrastructure that must be developed to support the integration, that includes an integrated electronic medical record for inpatient and outpatient services, a coordinated effort for utilization management (UM), comprehensive and updated membership functionality, effective care management, management reporting systems, efficient incentive payment systems, expertise in negotiating payor contracts, and financial resources to support the capital expenditures for the CIN and second, physicians must take the leadership role in developing the CIN. (Source: Kaufman, Hall & Associates, Inc.)



(Source: info.healthdirections.com)

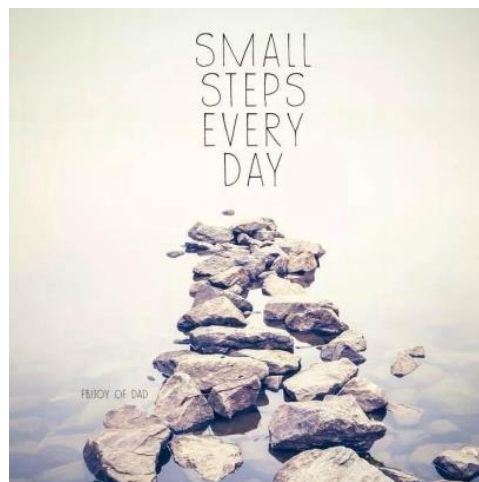
“Whether physicians are employed or independent, they are threatened by the changes in our industry. Sometimes, the health system can seem like the common enemy. That’s why it is important to educate physicians on how clinical integration can help them work together for the purpose of improving quality and access as well as managing the cost of care.”

David (Clint) Matthews, President/CEO Reading Health System.

There are three steps for success in forming a CIN: (Source: Spring, L. "Why Good CI Networks Fail—and What to Do About It." *The Advisory Board Company*. February 2014.)

1. Establishing a physician-led network – this is an essential element that is derived from the legal rules for creating a CIN. There can be collaboration between the hospital and the network, however the network must be completely independent and have physician leadership.
2. Seek third party payor participation by managing employee health – a track record of network physicians caring for employee's health along with demonstrating efficiencies and improved outcomes takes employers to the next step of engaging the payors and establishing terms for contracts.
3. Monitor financial gains and losses through shared savings – don't assume that there will always be financial success. Other initiatives may be necessary beside monetary rewards to keep physicians engaged.

Once again, one must be flexible and nimble in today's healthcare environment since status quo is no longer good enough. Innovation is tantamount to success, and hospital leaders must encourage all staff to be involved. Clinical integration is just one innovative way that encourages collaboration and participation with physicians in meeting the Triple AIM along with marked improvement in quality and improved efficiency in delivering patient-centered care. There are different approaches that can be taken by individual organizations that will lead to better outcomes because each culture, mission, vision and values are different. Further investigation into the successes of the organizations that have embraced CI and become CINs may make the sometimes unsteady path to clinical integration easier to navigate. Involving physicians brings new and better ideas to the table along with developing trusting relationships between them and administration. This transition is hard work with legal and regulatory hurdles, yet improving care delivery efficiencies and effectiveness of patient care outcomes is the goal that brings profound satisfaction. Finally, embed the current models of healthcare in your mind because within a few years you will not be able to recognize the traditional models that were once viewed as the best in the world.



Additional Resources:

Buell, John M. *Clinical Integration: The Future is Here.* Healthcare Executive. Jan/Feb 2016

Witt, Mary & Heideman, Claire. Top 10 Steps to Creating a Successful Clinical Integration Model.
GE Healthcare Camden Group. August 2009.

www.aha.org

<https://www.advisory.com/research/care-transformation-center/care-transformation-center-blog/2013/04/clinical-integration-defined>

http://truvenhealth.com/portals/0/assets/HOSP_11363_0712_ClinicalIntegration_WP_Web.pdf

Flareau, B., Yale, K., Bohn, J.M., & Konschak, C. *Clinical Integration. A Roadmap to Accountable Care.* Second Edition.

<http://www.ksg.harvard.edu/m-rcbg/hcdp/readings/Integrated%20Health%20Systems%20-%20Promise%20and%20Performance.pdf>

Chapter 7: Conclusion

The goal for writing this Basic Field Guide is to offer some basic information to help the Quality neophyte who may initially be somewhat overwhelmed with data, reporting requirements, being all things to all people as a quality "expert", and garnering the energy to engage everyone in organizational quality and patient safety initiatives. The role of the Chief Quality Officer/Director of Quality/Quality Manager is a rigorous one, yet one that is critically important to the success of the organization. These are exciting times in the tumultuous healthcare landscape, and quality professionals can be change agents and leaders for the future.

Once this Basic Field Guide is published and distributed, some of the information may already be obsolete or there is more information to be added since no writing is all-encompassing. The important note is that everything, especially Quality and Patient Safety, is evolving, and as a result everyone in healthcare must be agile every day to course correct, and take a different approach to assuring improved quality and the delivery of outstanding service to those who entrust all service providers with their lives. Never assume, always ask why, and create a sense of urgency.

A true healthcare visionary for Quality and Patient Safety, Dr. Don Berwick, has said:

"Great fragments don't necessarily add up to a great system. To make healthcare as good as we want it to be, as good as our patients and communities deserve it to be, we need to perfect not ourselves, but our interactions with each other. Doctors, nurses, other healthcare professionals, staff, executives, and managers, we are all in this together. And together, we can achieve improvements that none of us can achieve alone.

We envision a system of care in which those who give care can boast about their work, and those who receive care can feel total trust and confidence in the care they are receiving."

Best of luck to all who have accepted the quality challenge!

Chapter 8: Resources

www.juran.com

<https://www.juran.com/elifeline/quality-improvement-tools-training-kit/>

<https://www.deming.org/>

<https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/qualitymeasures/downloads/2015-national-impact-assessment-report.pdf>

<http://www.hrsa.gov/quality/toolbox/>

National Guideline Clearinghouse

<http://www.guideline.gov>

The National Guideline Clearinghouse (NGC), an initiative of the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services, is a public resource of evidence-based clinical practice guidelines.

Healthfinder.gov

<https://partnershipforpatients.cms.gov/>

<https://www.medicare.gov/>

<http://www.fda.gov/Safety/MedWatch/default.htm>

<http://www.ahima.org/>

<https://www.ecri.org/Patients/Pages/default.aspx>

www.ihl.org

The National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) works to maximize the safe use of medications and increase awareness of medication errors through open communication, increased reporting, and promotion of medication error prevention strategies.

<http://www.nccmerp.org>

<http://p4ps.net/>

<http://www.ptsafety.org/>

www.jointcommission.org

www.aha.org

Medication Safety: <http://www.ismp.org/>

Institute of Medicine: <http://iom.nationalacademies.org/>

Appendix 1: Reporting Requirements

Data Collection Guide for Emergency Department Transfer Communication Measures. A guide to the ED Transfer Communication measures, that aim to provide a means of assessing how well key patient information is communicated from an ED to any healthcare facility. (49-page PDF)

Inpatient specification manual. Developed by the Centers for Medicare & Medicaid Services and Joint Commission to provide a uniform set of national hospital quality measures to be implemented in the hospital inpatient setting to promote high quality care for patients receiving services in hospital inpatient settings.

Outpatient specifications manual. Developed by the Centers for Medicare & Medicaid Services (CMS) to provide a uniform set of quality measures to be implemented in hospital outpatient settings to promote high quality care for patients receiving services in hospital outpatient settings.

AHRQ quality indicators. Agency for Healthcare Research and Quality (AHRQ) measures of healthcare quality that make use of readily available hospital inpatient administrative data.

Healthcare Associated Infection (HAI). Operational Guidance for Acute Care Hospitals to Report on required CMS Measures for the purpose of fulfilling CMS's Hospital Inpatient Quality Reporting (IQR) Requirements.

The National Healthcare Safety Network (NHSN) Manual Patient Safety Component Manual. Includes protocol for submitting: Device-Associated Module -Central Line-Associated Bloodstream Infection (CLABSI) Event, Catheter-Associated Urinary Tract Infection (CAUTI) Event, Procedure-Associated Module- Surgical Site Infection (SSI) Event, and Antimicrobial Use and Resistance Module- Multidrug-Resistant Organism and Clostridium difficile Infection (MDRO/CDI). (335-page PDF)

The NHSN Manual Healthcare Personnel Safety Component Protocol. For submitting Healthcare Personnel Influenza Vaccination Summary data. (72-page PDF)

Hip/Knee complication. 2013 Measures Update and Specifications: Elective Primary Total Hip Arthroplasty (THA) And/Or Total Knee Arthroplasty (TKA) Risk-Standardized Complication Measure. (51-page PDF)

Medicare spending per beneficiary (MSPB) measures overview. As part of the hospital value-based purchasing program, the MSPB measure assesses Medicare Part A and Part B payments for services provided during a spending-per-beneficiary episode that spans from three days prior to an inpatient hospital.

Mortality measures overview. Publicly reporting risk-standardized, 30-day mortality measures for AMI, HF, and PN. The Centers for Medicare & Medicaid Services 30-day mortality measures assess a broad set of healthcare activities that affect patients' well-being.

Readmission measures overview. Publicly reporting risk-standardized, 30-day readmission measures for AMI, HF, PN, HWR, and THA/TKA. The CMS 30-day readmission measures assess a broad set of healthcare activities that affect patients' well-being.

Perinatal measure. Patients with elective vaginal deliveries or elective cesarean sections at ≥ 37 and < 39 weeks of gestation completed.

PSI composite measure. Patient safety for selected indicators. (1-page PDF)

Vermont Oxford Network Database. Manual of operations part 2: data definitions and data forms for infants born in 2013 release 17.0. (97-page PDF)

Appendix 2: Rules Associated with Reporting

Hospital Inpatient PPS (IPPS). <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/FY2016-IPPS-Final-Rule-Home-Page.html> FY 2016 IPPS final rule and files related to the final rule, including correction notices, tables, and additional data and analysis.

Hospital Outpatient PPS (OPPS). <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalOutpatientPPS/Hospital-Outpatient-Regulations-and-Notices.html>. This final rule revises the Medicare OPPS and Medicare ambulatory surgical center (ASC) payment system for CY 2013.

CMS timeline. This timeline denotes the process for recommending and approving quality measures designated by the Centers for Medicare and Medicaid Services. (1-page Word doc)

Appendix 3: CMS Hospital Inpatient Quality Reporting Program Measures For FY 2016 Payment Determination

Hospital IQR Program Measures: For FY 2016 Payment Determination Data submission begins with January 1, 2014 Discharges
Acute Myocardial Infarction (AMI) – Chart Abstracted - Quarterly
<ul style="list-style-type: none"> • AMI-1 Aspirin at arrival [<i>Voluntary</i>] • AMI-2 Aspirin prescribed at discharge [<i>Removed</i>] • AMI-3 ACEI/ARB for left ventricular systolic dysfunction [<i>Voluntary</i>] • AMI-5 Beta-blocker prescribed at discharge [<i>Voluntary</i>] • AMI-7a Fibrinolytic (thrombolytic) agent received within 30 minutes of hospital arrival • AMI-8a Timing of receipt of Primary Percutaneous Coronary Intervention (PCI) • AMI-10 Statin Prescribed at Discharge [<i>Removed</i>] <p>(<i>Voluntary: Data submission is voluntary for CMS</i>)</p>
Heart Failure (HF)- Chart Abstracted - Quarterly
<ul style="list-style-type: none"> • HF-1 Discharge instructions [<i>Removed</i>] • HF-2 Evaluation of left ventricular systolic function • HF-3 ACE-I or ARB for left ventricular systolic dysfunction [<i>Removed</i>]
Pneumonia (PN) – Chart Abstracted - Quarterly
<ul style="list-style-type: none"> • PN -3a Blood cultures performed within 24 hours prior to or 24 hours after hospital arrival for patients who were transferred or admitted to ICU within 24 hours of hospital arrival [<i>Voluntary</i>] • PN-3b Blood culture performed in the emergency department prior to first antibiotic received in hospital [<i>Removed</i>] • PN-6 Initial antibiotic selection for community-acquired pneumonia (CAP) in immuno-competent patient
Stroke – Chart Abstracted - Quarterly
<ul style="list-style-type: none"> • STK-1 Venous thromboembolism (VTE) prophylaxis • STK-2 Discharged on antithrombotic Therapy • STK-3 Anticoagulation therapy for Atrial Fibrillation/Flutter • STK-4 Thrombolytic therapy • STK-5 Antithrombotic therapy by the end of hospital day two • STK-6 Discharged on statin medication • STK-8 Stroke education • STK-10 Assessed for rehabilitation
Venous Thromboembolism (VTE) – Chart Abstracted - Quarterly
<ul style="list-style-type: none"> • VTE-1 Venous thromboembolism prophylaxis • VTE-2 Intensive Care Unit VTE prophylaxis • VTE-3 VTE patients with anticoagulation overlap therapy • VTE-4 VTE patients receiving un-fractionated heparin with dosages/platelet count monitoring by protocol or nomogram • VTE-5 VTE Warfarin therapy discharge instructions • VTE-6 Hospital acquired incidence of potentially preventable VTE

Hospital IQR Program Measures: For FY 2016 Payment Determination Data submission begins with January 1, 2014 Discharges	
Emergency Department (ED) Throughput Measures – Chart Abstracted -Quarterly	
<ul style="list-style-type: none"> • ED-1 Median time from emergency department arrival to time of departure from the emergency room for patients admitted to the hospital • ED-2 Median time from admit decision to time of departure from the emergency department for emergency department patients admitted to the inpatient status 	
Prevention: Global Immunization – Chart Abstracted - Quarterly	
<ul style="list-style-type: none"> • IMM-1 Pneumonia Immunization [<i>Suspended</i>] • IMM-2 Influenza Immunization 	
Surgical Care Improvement Project (SCIP) – Chart Abstracted - Quarterly	
<ul style="list-style-type: none"> • SCIP INF-1 Prophylactic antibiotic received within one hour prior to surgical incision • SCIP INF-2 Prophylactic antibiotic selection for surgical patients • SCIP INF-3 Prophylactic antibiotics discontinued within 24 hours after surgery end time (48 hours for cardiac surgery) • SCIP INF-4 Cardiac surgery patients with controlled postoperative blood glucose • SCIP INF-6 Appropriate Hair Removal [<i>Suspended</i>] • SCIP INF-9 Postoperative urinary catheter removal on postoperative day one or two with day of surgery being day zero • SCIP INF-10 Surgery patients with perioperative temperature management [<i>Removed</i>] • SCIP Card-2 Surgery patients on a beta blocker prior to arrival who received a Beta Blocker during the perioperative period • SCIP INF VTE-1 Surgery patients with recommended Venous Thromboembolism (VTE) prophylaxis ordered [<i>Removed</i>] • SCIP INF VTE-2 Surgery patients who received appropriate VTE prophylaxis within 24 hours pre/post surgery 	
Perinatal Care – Web-Based Data Submission - Quarterly	
<ul style="list-style-type: none"> • PC-01 Elective Delivery Prior to 39 completed weeks gestation: Percentage of babies electively delivered prior to 39 weeks gestation 	
Structural Measures – Web Based Annual Data Submission (April 1 thru May 15)	
<ul style="list-style-type: none"> • Data Accuracy & Completeness Acknowledgement (DACA) • Participation in a Systematic Database for Cardiac Surgery • Participation in a Systematic Clinical Database Registry for Stroke Care • Participation in a Systematic Clinical Database Registry for Nursing Sensitive Care • Participation in a Systematic Clinical Database Registry for General Surgery 	
Healthcare Associated Infection (HAI) Measures – Data Submitted to NHSN	
<ul style="list-style-type: none"> • Central Line Associated Bloodstream Infection (CLABSI) • Surgical Site Infection (SSI) • Catheter Associated Urinary Tract Infection (CAUTI) • Methicillin-resistant Staphylococcus Aureus (MRSA) Bacteremia • Clostridium difficile (C.difficile) • Healthcare Provider Influenza Vaccination 	

Hospital IQR Program Measures: For FY 2016 Payment Determination Data submission begins with January 1, 2014 Discharges
Patients' Experience of Care - Quarterly
<ul style="list-style-type: none"> Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey
Validation Results Quarters – Hospitals Selected for Validation FY 2016 Only
<ul style="list-style-type: none"> 4Q2013, 1Q2014, 2Q2014, & 3Q2014 <ul style="list-style-type: none"> Selected records and HAI validation templates must be submitted quarterly
Readmission Measures (Medicare Patients) - Claims Based
<ul style="list-style-type: none"> READM-30-AMI Acute Myocardial Infarction 30-day Risk Standardized Readmission Measure READM-30-HF Heart Failure 30-day Risk Standardized Readmission Measure READM-30-PN Pneumonia 30-day Risk Standardized Readmission Measure READM-30-HIP/KNEE Elective Total Hip Arthroplasty (THA)/Total Knee Arthroplasty (TKA) HWR-30 Hospital-Wide All Cause Unplanned Readmission READM-30-COPD Chronic Obstructive Pulmonary Disease (COPD) Readmission Rate READM-30-STK Stroke 30-Day Readmission Rate
Mortality Measures (Medicare Patients) – Claims Based
<ul style="list-style-type: none"> MORT-30-AMI Acute Myocardial Infarction (AMI) 30-day mortality rate MORT-30-HF Heart Failure (HF) 30-day mortality rate MORT-30-PN Pneumonia (PN) 30-day mortality rate MORT-30 COPD Chronic Obstructive Pulmonary Disease 30 Day Mortality Rate MORT-30 STK Acute Ischemic Stroke 30 Day Mortality Rate
Agency for Healthcare Research and Quality (AHRQ) Measures – Claims Based
<ul style="list-style-type: none"> PSI 90 Complication/Patient Safety for Selected Indicators (PSI) (composite) <ul style="list-style-type: none"> PSI-06 Iatrogenic Pneumothorax PSI-12 Post-Operative Pulmonary Emboli or Deep Venous Thrombi PSI-14 Post-Operative Wound Dehiscence PSI-15 Accidental Puncture or Laceration
AHRQ PSI and Nursing Sensitive Care – Claims-Based
<ul style="list-style-type: none"> PSI 4 Death Among Surgical Patients with Serious Treatable Complications
Surgical Complications– Claims-Based
<ul style="list-style-type: none"> Hip/Knee Complications Hospital-Level Risk Standardized Complication Rate Following Elective Primary Total Hip Arthroplasty and Total Knee Arthroplasty
Cost Efficiency Measures – Claims Based
<ul style="list-style-type: none"> Medicare Spending per Beneficiary Acute Myocardial Infarction (AMI) Payment per Episode of Care