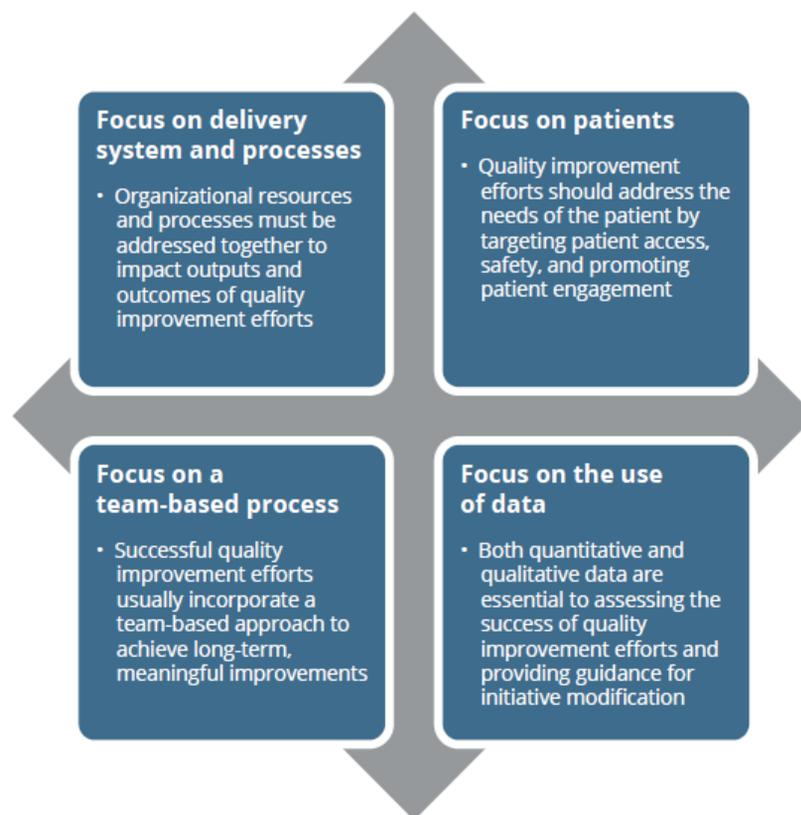


## Principles and Models of Quality Improvement

Healthcare quality and quality improvement are terms that describe discrete, yet interrelated concepts. The Institute of Medicine (IOM) defines *healthcare quality* as “a direct correlation between the level of improved health services and the desired health outcomes of individuals and populations.”<sup>1</sup> Whereas the definition of *quality improvement* places a focus on measuring change, consisting of “systematic and continuous actions that lead to measurable improvement in healthcare services and the health status of a targeted patient group.”<sup>1</sup> Quality improvement often seeks to raise the standards of care in alignment with IOM aims for improvement in outcomes for individuals and populations.<sup>2</sup>

To build a healthcare system that provides efficient, effective, and consistent care, it is important that healthcare organizations apply the principles of quality improvement in all aspects of clinical care. Following the passage of the Affordable Care Act in 2010, stakeholders in the industry are striving to improve the value of care delivery and prevent costly negative patient outcomes through quality improvement initiatives that promote care efficiency, patient-centered care, provider coordination, and clinical best practices.<sup>2</sup>

The Health Resources and Services Administration (HRSA) notes that the quality improvement model includes four key principles to support successful initiatives (Figure 1):<sup>2</sup>

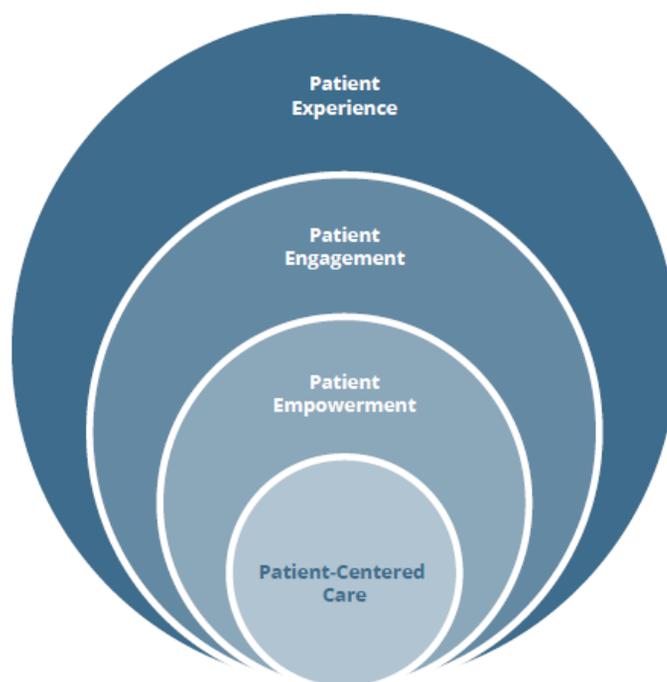


**Figure 1: Key Principles to Support Successful Quality Improvement Initiatives**

A well-defined quality improvement program consists of “systematic activities that are organized and implemented by an organization to monitor, assess, and improve its healthcare.”<sup>2</sup> The goal of quality improvement programs is to seek continuous improvement in the care delivered to the patients the organization serves.<sup>2</sup>

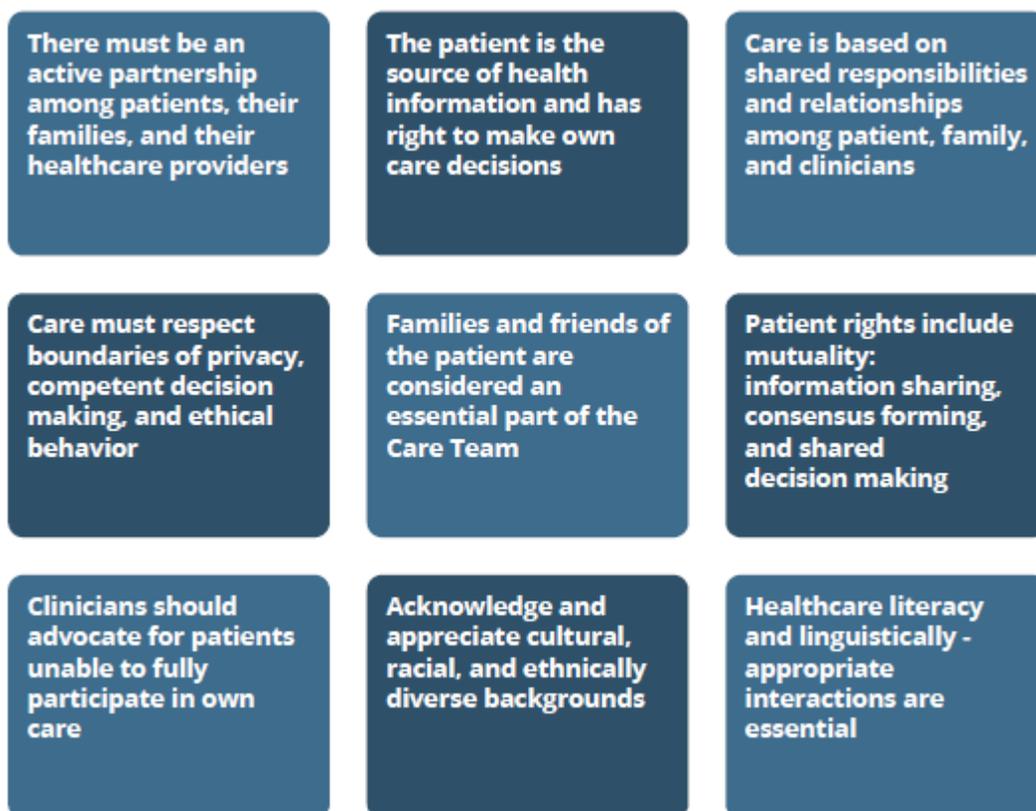
Intrinsic to the successful implementation of a quality improvement initiative is the focus on the patient. Increasingly, evidence demonstrates the positive impact patient engagement has on improving patient outcomes and reducing the cost of care. The National Quality Forum (NQF) defines patient- and family- centered care as “an approach to the planning and delivery of care across settings and time that is centered on collaborative partnerships among individuals, their defined family, and providers of care. It supports health and well-being by being consistent with, respectful of, and responsive to an individual’s priorities, goals, needs, and values.”<sup>3</sup>

The concept of patient-centered care is one that is evolving as the role of the patient becomes increasingly defined. In today’s healthcare environment, stakeholders are looking beyond assessing the quality of the patient experience and promoting activities that involve patients in their care as informed consumers. Patient-centered care may include patient engagement, activation for self-care, and shared decision-making around the determination of the appropriate course of treatment and disease management (Figure 2).



**Figure 2: Aspects of Patient-Centered Care**

In support of developing patient-centered quality and safety clinical improvements, in 2013 the Nursing Alliance for Quality Care released a list of nine core principles designed to support nurses and healthcare providers (Figure 3).<sup>4</sup> Hospitals and health systems that have been successful in promoting patient-centered care adapt principles that are very similar to those released by the Nursing Alliance for Quality Care or develop their own.<sup>5</sup> Following these principles may help incorporate aspects of patient-centered care into your practices as you implement this quality improvement initiative.



**Figure 3: Principles of Patient-Centered Care**

Additionally, online tools and health literacy resources can provide education to improve patient understanding of treatment options, thereby increasing a patient’s ability to engage in the shared decision-making process. The Institute for Healthcare Improvement (IHI) has developed a white paper reviewing best practices for providing positive patient and family experience during hospital stays. This white paper identifies primary and secondary drivers for hospitals that are associated with exceptional patient and family experience of inpatient care and provides case studies from high-performing hospitals to demonstrate application of theory. Primary drivers

include:<sup>6</sup>

- Leadership: Governance and executive leadership demonstrate that hospital culture is focused on patient- and family-centered care
- Provider Engagement: Staff and providers are fully engaged
- Respectful Partnership: All care interactions are based on a respectful partnership that anticipates patient and family needs
- Reliable Care: Hospital provides high-quality, reliable care 24/7
- Evidence-Based Care: Care Team consistently applies collaborative, evidence-based care

Examples of online tools to support patient education and engagement include the Agency for Healthcare Research and Quality (AHRQ) strategies for implementing a patient-centered medical home delivery model.<sup>7</sup> Additionally, decision-support resources for malnutrition care are also available for clinicians, such as recommendations from the Choosing Wisely<sup>®</sup> Campaign for specific patient conditions (e.g., dementia).<sup>8</sup>

## Quality Improvement Models

There are several quality improvement models and frameworks an organization can consider to promote success. One of the most widely used models is the Plan-Do-Study-Act (PDSA) Cycle, a systematic series of steps for gaining valuable learning and knowledge for the continual improvement of a product, service, or process.<sup>9</sup> It has been visually depicted using a four-step approach as indicated in Figure 4.




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**Plan:** Identify an opportunity to improve and plan a change or test of how something works within one component of the clinical workflow, including establishing metrics/indicators to assess progress toward the goal

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**Do:** Carry out the plan for improvement for the specific component of the clinical workflow. The test period may be as short as one day and be implemented on a small number of patients

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**Study:** Examine the results

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**Act:** Based on the results of the testing period, incorporate changes and establish quality improvement plans

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**Figure 4: PDSA Cycle**

Through small, rapid cycles of change and improvement, the team gains the ability to evaluate the impact of improvement tactics at regular intervals. It is important to note that a team may undergo multiple cycles through the PDSA cycle for one quality improvement concept. Cycling through the same topic more than once allows the team to test whether the change had an impact and refine the process as needed.

Other quality improvement models that your organization may currently be using or may wish to consider when implementing the MQii include the LEAN Approach and Six Sigma. Both of these models place PDSA within a specific context to provide direction to the quality improvement process and make effective use of resources. Organizations implementing the LEAN process look at healthcare quality improvement in the context of the patient, and whether particular care processes provide value. If processes do not provide value to the patient, they are targeted for improvement. Additionally, all members of the team are expected to help identify poor quality and operational and resource waste.<sup>10</sup>

Organizations initiating quality improvement using the Six Sigma model modify PDSA using the acronym DMAIC: Define, Measure, Analyze, Improve, and Control. The final step, Control, emphasizes the focus of Six Sigma on maintaining high levels of quality care and low levels of clinical practice variability and defects, and encourages users to implement a plan to continuously measure and assess the success of the quality improvement process. In the context of Six Sigma, the process of quality improvement revolves around identifying sources of variation, including defects, in clinical practice processes and strives to reduce this variation.

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<sup>1</sup> Health Resources and Services Administration Staff. Quality Improvement. Health Resources and Services Administration. Available at: <https://www.hrsa.gov/sites/default/files/quality/toolbox/508pdfs/qualityimprovement.pdf>. Accessed September 3, 2018.

<sup>2</sup> Glasgow J. May 2011. Introduction to Lean and Six Sigma Approaches to Quality Improvement. Agency for Healthcare Research and Quality. Available at <https://www.qualitymeasures.ahrq.gov/expert/expert-commentary/32943>. Accessed March 18, 2016.

<sup>3</sup> National Quality Forum. NQF-Endorsed Measures for Person- and Family- Center Care: Phase 1 Technical Report. March 4, 2015. Available at: [http://www.qualityforum.org/Projects/n-r/Person\\_and\\_Family\\_Centered\\_Care/Final\\_Report\\_-\\_Phase\\_1.aspx](http://www.qualityforum.org/Projects/n-r/Person_and_Family_Centered_Care/Final_Report_-_Phase_1.aspx).

<sup>4</sup> Sofaer S, Schumann MJ. Fostering Successful Patient and Family Engagement: Nursing's Critical Role. March 15, 2013. Available at: <http://www.naqc.org/WhitePaper-PatientEngagement>. Accessed March 18, 2016.

<sup>5</sup> Cocchi, Renee. Hospital shares 10 steps to patient-centered care. *Healthcare Business & Technology*. Available at: <http://www.healthcarebusinesstech.com/patient-centered-care/>.

<sup>6</sup> Balik B, Conway J, Zipperer L, Watson J. *Achieving an Exceptional Patient and Family Experience of Inpatient Hospital Care*. IHI Innovation Series white paper. Cambridge, Massachusetts: Institute for Healthcare Improvement; 2011.

<sup>7</sup> Agency for Healthcare Research and Quality. Patient Centered Medical Home Resource Center. Available at: <https://pcmh.ahrq.gov/page/practices-and-practice-facilitators#overlay-context=page/practices-and-practice-facilitators>.

<sup>8</sup> Choosing Wisely. American Geriatrics Society: Ten Things Physicians and Patients Should Question. February 21, 2013. Available at: <http://www.choosingwisely.org/doctor-patient-lists/american-geriatrics-society/>.

<sup>9</sup> The W. Edwards Deming Institute. The PDSA Cycle. Available at: <https://deming.org/explore/p-d-s-a>. Accessed September 17, 2018.

<sup>10</sup> Agency for Healthcare Research and Quality. Section 4: Ways to Approach the Quality Improvement Process. July 2017. Available at <https://www.ahrq.gov/cahps/quality-improvement/improvement-guide/4-approach-qi-process/sect4part2.html>.