# Quality Improvement Initiative

## Overview

Continuous quality improvement (CQI) is defined as "a culture of sustained improvement targeting the elimination of waste in all systems and processes of an organization (Loper et al., 2022). The goal of healthcare quality improvement (QI) is to achieve and sustain changes that produce better care and health systems, thus positively affecting patient outcomes. QI uses tools and methods to implement, test, and improve effective quality improvement practices.

With nurses at the frontline of patient care, we are strategically positioned to lead significant QI initiatives. We can nimbly bridge the gap between improving science research and implementing actions into patient care.

## Guiding Principles and Core Components of CQI (Loper et al., 2022)

CQI programs should be rigorous, data- and improvement-driven, collaborative, impact-focused, responsive, and based on sound evidence. Core components of CQI programs should include:

- Facilitating shared learning
- Coaching for data use and improvement
- Using data for assessment, improvement, and evaluation
- Communicating and supporting feedback loops
- Cultivating a culture of CQI

Implementation infrastructures that support CQI efforts involve the use of:

- Didactic instruction and experiential learning on CQI
- Expert faculty and coaches
- Established QI methodology
- Teams for experiential learning and CQI work

## Transformational Leadership (American Nurses Association, 2023)

Transformational leadership (TFL) empowers organizations through inspirational motivation. Transformational nurse leaders nurture a culture of respect and collaboration by:

- Being an active listener
- Addressing new and ongoing issues
- Taking responsibility for their actions, decisions, and outcomes; holding themselves accountable to the same standards that they set for others
- Leading by example
- Encouraging communication and a cooperative working environment
- Fostering a culture that embraces change and encourages shared decision-making
- Inspiring nurses at every level
- Resolving conflicts proactively
- Prioritizing mental health and supporting positive work-life balance

## Quality Improvement Teams (Institute for Healthcare Improvement, n.d.)

Team-led processes are preferable to management-led processes. Begin by reviewing the purpose of the improvement initiative and evaluating which aspects of the system will be impacted. QI teams will vary in size and composition. Here are some recommendations for setting up a QI team:

- Assemble a team that is knowledgeable about the process (subject matter experts), including leaders, managers, administrators, providers, pharmacists, nurses, point-of-care staff, and others, who know the workflow and have diverse thinking styles. Individuals who are most affected by the improvement initiative should also be represented on the team.
- Include members of the risk management and/or QI department.
- Appoint a team leader.
- Ensure convenient meeting times and locations.
- At first meeting, inform team of expectations (e.g., attendance, participation, time).
- Appoint a recorder who will document ideas and record attendance at meetings.

## Define, Measure, Analyze, Improve, and Control (DMAIC) (Monday, 2022)

DMAIC, the traditional project method for Six Sigma, is a well-established methodology for process and quality improvement that aims to create innovative, targeted solutions and influence change.

- **Define** the project objective, scope, and timeframe.
    - Develop an aims statement, describing the desired outcomes in a measurable way.
    - Perform a stakeholder analysis.
    - Complete value stream mapping (current state, ideal state, and future state map).
    - Create a process map.
    - Conduct customer-focused research.
- **Measure** data to evaluate the current process and set a baseline for comparison.
    - Establish a data collection plan.
    - Verify data accuracy.
    - Utilize statistical tools such as descriptive statistics, run charts, and Pareto charts**.**
- **Analyze** the data and identify ways to achieve goals.
    - Verify the causes of error, deviation, waste, or delay.
    - Review all data collected using charts and graphs (Pareto diagrams, histograms, Ishikawa diagrams, or 5-whys analysis).
- **Improve** standardization of the process.
    - Conduct a best practice review; identify benchmarks.
    - Brainstorm and communicate solutions.
    - Optimize the process flow based on analysis.
    - Implement changes to remove the issues leading to errors, variability, and waste.
    - Provide education and revise policies.
    - Explain the concept of Kaizen (which means “change for the better”), a philosophy that improvement is a continuous and methodical process.
- **Control**
    - Track process performance.
    - Implement control charts to monitor variation in processes.
    - Utilize visual process control, which improves efficiency and effectiveness of the process by making the steps more visible (e.g., color coding, floor signage).
    - Repeat DMAIC or Plan-Do-Study-Act cycle (see below).

## Quality Improvement Tools

Many tools are available to assist in the quality improvement process.

**Model for Improvement/Plan-Do-Study-Act (PDSA) (Institute for Healthcare Improvement, n.d.)**
PDSA is a systematic approach to reassess processes and improve outcomes. Three main questions form the improvement plan.

- What are we trying to accomplish? This sets the vision for the program.
- How will we know that a change is an improvement? This outlines the steps to achieve the desired outcome.
- What changes can be made that will result in improvement? This generates ideas for testing.

Pilot the PDSA program on a small scale, analyze the data, refine the program, and repeat until the desired outcome is achieved.

**Lean Process Improvement (Monday, 2022)**
Lean is a systematic method to improve efficiency and deliver the best product by eliminating waste. It answers the question: "What changes can we make that will result in improvement?" Key definitions include:

- Value: what the customer is willing to pay for
- Non-value added: a process that does not add value but must be done
- Waste: what the customer is not willing to pay for

**Root Cause Analysis (RCA) (SixSigma, 2024)**
RCA is a retrospective, systematic approach to pinpointing the causes of an adverse event and identifying system weaknesses that can be improved to prevent the error from occurring again. The RCA process involves:

- Defining the problem and identifying its impact
- Gathering information and data, creating a timeline of events, and documenting contributing factors.
- Identifying causal factors and determining the relationship between the factors
- Pinpointing the root cause(s)
- Implementing preventative solutions, developing a corrective action plan, allocating resources, and assigning responsibilities
- Writing a summary and sharing it with administration, staff, and all involved in the event

**Failure Mode and Effects Analysis (FMEA) (El Awady, 2023)**
FMEA is used to assess possible failures and prevent them as opposed to reacting to adverse events after mistakes have been made. It assesses individual components of a system to determine the variety of ways each component can fail, and the effect of a failure on the stability of the entire system. The analysis prompts teams to review, evaluate, and record steps in the process:

- Failure mode - What could go wrong?
- Failure causes - Why would the failure happen?
- Failure effects - What would be the consequences of each failure?

FMEA analysis includes the following (SixSigma, 2024):

- Identify the potential failures (risks).
- Identify the effect of each failure.
- Identify the root cause.

- Prioritize the failures according to the risks.
- Take action.
- Eliminate/reduce the risk.

Nurses at every level of practice should participate in QI initiatives, be aware of key elements in the QI process, promote a culture of QI, and serve on QI teams (Harkness & Pullen, 2019).

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