

# **Quality Improvement Basics:**

*A Guide to Understanding and Implementing Quality  
Improvement in Health Care Settings*



IOWA FOUNDATION  
FOR MEDICAL CARE

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## **A Guide to Understanding and Implementing Quality Improvement in Health Care Settings**

### **Goal:**

To assist participants in implementing and achieving best practices of care in their organizations through better understanding of quality improvement principles, models and implementation approaches.

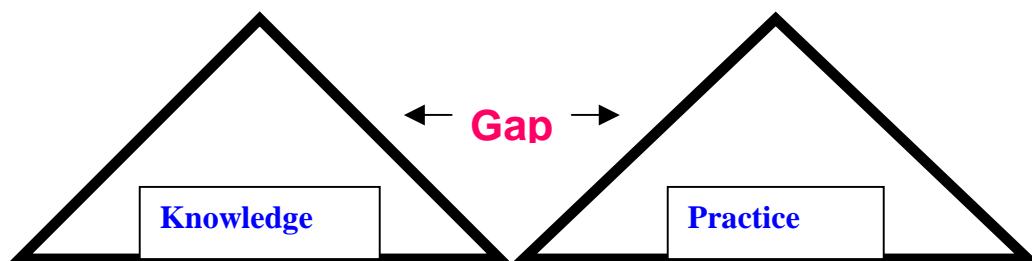
### **Learning Objectives:**

In this session you will gain an understanding of:

- Core principles of quality improvement (QI)
- Three key foundations of QI
- Laying the groundwork for QI
- One model used for QI implementation, referred to as PDSA
- How to implement quality improvements through effective interventions to change staff behavior

## Core Principles of Quality Improvement

**What is quality improvement?** Quality Improvement (QI) is a process by which an organization can apply *best practices* of care to obtain optimal levels of efficiency, effectiveness and overall performance for their customers. Best practices are those care practices, processes and approaches that, based upon research or clinical expertise, are proven effective. Essentially, QI is doing what you know works best, based upon existing practice, research and guidelines. Quality improvement is appropriate whenever there is a gap between knowledge and practice.



**Why do quality improvement?** Industries in the US have strongly focused on QI since the 1970s and 1980s, understanding that improved quality leads to decreased costs because of less rework, fewer mistakes, and better use of time and materials. Improved quality ultimately leads to better products and services, and in the case of health care, better outcomes. Research also shows a correlation between staff satisfaction and customer satisfaction. The Center for Medicare Services (CMS) and other payors are increasing their focus on QI and healthcare outcomes. Additionally, as baby boomers age, consumers are becoming increasingly sophisticated in their knowledge of health care in expected outcomes. These are all strong forces for organizations to focus on QI.

**Defining improvement.** For purposes of QI, improvement is best defined as doing the *right thing*. Well, the right thing, at the right time, EVERY time. Resources exist in home care and assisted living to help us know what the right thing is. Evidence-based practice provides us with research literature and clinical practices that have been proven effective and can provide the basis for what we define as the *right thing*. Regulatory guidelines provide minimum guidelines and evidence-based practices raise the bar above the minimum.

Other industries have relied on benchmarking for many years to measure how *well* something is being done. Benchmarking in other industries has typically

referred to identifying and studying the companies and organizations that best perform critical business functions and get the best outcomes, and then incorporating those organizations’ ideas into the firm’s operations. Home care is now "coming of age" with respect to benchmarking. With benchmarking we can now compare outcomes to that of others, learn from others and adopt strategies that have been proven to be effective.

**Quality improvement compared to quality assurance.** Historically, many organizations applied quality assurance models to their organizations. In a quality assurance model, an organization looks at performance that is already outside standard performances and *then* corrects it. The model is more reactive. In a quality improvement model an organization does not wait for performance to get to the point of being an “outlier,” but instead, intervenes and seeks change earlier. A concentration on outcomes in quality improvement puts more focus on “service” or patient care than in quality assurance. In essence, quality improvement applies *criteria* to prioritizing problem areas and focuses on those problem areas with the biggest impact. The table below compares quality assurance with quality improvement.

	QA	QI
<b>Model</b>	Monitor and correct performance outliers	Processes/systems in place that affect performance today
<b>Program Scope</b>	Focused on organizational mistakes	Focused on outcomes of organizational services
<b>Population</b>	Problem prone areas	High-risk, high-volume, problem prone areas
<b>Data Collection</b>	Retrospective data collection	Concurrent data collection Proactive risk reduction

For example, with respect to urinary tract infections (UTI), a QA approach would monitor UTI occurrence, and may not take action if the rate wasn't too high or remained stable. Conversely, a QI approach, would include a multi-step process including:

- Creating a multidisciplinary quality improvement team;
- Systematically investigating the incidence of UTI in the patient population;
- Establishing, through a team approach, a protocol or plan regarding UTI prevention, i.e., creating a patient education tool on UTIs and training nurses to comprehensively assess for UTI presence.
- Putting the plan into practice by implementing care processes to prevent patient UTI; and
- Monitoring to make sure the care processes stay in place over time and that they actually have a positive effect on patient outcome.

**Example Comparison:**

QA	QI
Tracking new occurrences of UTI	<ul style="list-style-type: none"> <li>• Create multidisciplinary team.</li> <li>• Systematically investigate patient incidence of UTI.</li> <li>• What should we be doing to prevent patient UTI?</li> <li>• Implement care processes to prevent patient UTI.</li>   <li>• Monitor practice over time</li> </ul>

**Critical components of achieving QI.** Simply stated, quality improvement is a practical approach to get to best practice. Studies conducted by the Institute of Medicine over the past five years have demonstrated a serious gap between what the American health care system provides and its full potential. There is a lot of activity around the nation centered on health care quality. There is increasing emphasis on QI across care settings, including home care. Three critical components of implementing QI include:

**1) An organized approach to QI.** Improving quality does not happen by chance, it is no accident. All QI models emphasize an organized and systematic approach. Critical components or steps to implementing QI include:

- Identifying the symptoms;
- Diagnosing the problem;
- Identifying the root cause; and
- Exploring and selecting solutions/strategies for change.

**2) Improvement philosophy adopted by leadership and the entire organization.** All QI models emphasize the need for an improvement philosophy in an organization. It requires a mindset that admits there is likely a gap between what we provide and what we are capable of providing. The philosophy of improvement needs to infiltrate all levels of the organization and needs to be strongly supported by senior leadership. Organizational goals and resources need to clearly reflect an improvement philosophy through allocation of time, people, money, external resources and internal interest. The improvement philosophy is open to other ways of doing things and learning from others outside the organizations as well as from within.

**3) Proactive risk containment approach.** Related to philosophy is the view that QI is a proactive approach to reducing risks. This is the opposite of a "reactive" approach where we respond to risks or problems that already have happened.

### **Foundations of Quality Improvement**

There are three well known and agreed upon foundations of quality improvement. As various QI models continue to develop, other foundations are emerging as well. These three principles are present in virtually every QI model. These foundations are that to improve quality, we need to:

- Focus on the customer;
- Be process oriented; and
- Have business decisions driven by data.

**1) Customer focus.** A common definition of quality is meeting or exceeding customer expectations. We need to understand the meaning of customer. Understanding who one's customers are and what their expectations are is fundamental to achieving customer satisfaction. Most people think of a customer as the ultimate purchaser or user of a product or service. For example, clients in home care are customers. Clients and caregivers are external customers. Other external customers of a home care agency include referral sources and payors.

It is also important to think about coworkers as internal customers. Every employee in a company has internal customers, people to whom we hand off work. For example, if an agency has an admitting nurse, the admitting nurse hands off work to the other staff nurses, and thus the staff nurses are the admitting nurses' internal customers. Another internal customer of every employee is the supervisor. It is almost important to strive to delight our internal customers. The work we do in an agency affects others in our agency or organization. Failure to meet the needs of and expectations of internal customers can result in a poor-quality product.

**2) Process orientation.** The second foundation of QI is to look at all the work we do as being part of a process. Health care processes and systems are very complex. Processes can be long and detailed. Often, many different disciplines are involved throughout a health care process. Virtually everything we do is part of a larger process.

Quality improvement focuses on and looks at the PROCESS - including all of the steps leading to the end product or outcome. In doing so, we seek to identify areas for improvement and areas of proficiency so that they can be replicated.

Quality improvement looks for any barriers in the process and assumes if something is not happening according to plan that the process or system is flawed, rather than immediately assuming staff are at fault.

All processes ultimately are conducted in a larger system. A systems perspective is key to QI. This means looking at an organization as a whole, and ensuring consistency and alignment of plans, processes, measures, and actions across the organization in a fully and interconnected manner.

**3) Data driven.** The third foundation in QI is that the work be data driven. When we use data to define improvement we have a common reference point. Defined measures can bring clarity around focus and goals. Any effective system depends on the measurement and analysis of performance. Many types of data and information are needed for performance management. Measurement needs to include information on health care outcomes, administrative, payor, staff, cost, and financial performance and internal and external customer satisfaction.

In using data for QI purposes, one must:

- Keep measurement for QI simple.
- Don't use "gut" reactions only.
- Ask "What data are we currently collecting that can be used?"
- Ask "Can data be collected concurrently?"

QI is a factual, data-driven approach to see if changes in care practices or processes made a difference in the outcome. If changes in care practices do make a difference one must then ask why. If not, one must ask why not and attempt to identify what other variables are playing a role. QI relates to data and gives us information in the following ways:

- **Standard Data** - QI involves consistent measurement of the same data over time.
- **Variation Data** - QI helps us to understand when our data varies from that of the reference data.
  - Variation is an opportunity for improvement. QI helps us explore what variation exists in the *process*.
  - QI helps us understand what accounts for the variance, which helps us discover the "root cause" of the variance and better understand the outcomes.
  - QI helps us define variation that is acceptable and variation that must be eliminated.

## Laying the Groundwork for QI

Certain infrastructure needs to be in place for an organization to have a focus on QI. Four critical aspects of such a structure include:

**1) Leaders.** Leaders need to set directions and create a customer focus, clear and visible values, and high expectations. Quality as an organizational mindset and individual mindset starts at the top. We cannot emphasize the importance of that enough. If an agency's staff are not motivated and focused on quality, it is probably because the leaders are not, and QI is not part of the overall strategic plan. Leaders need to ensure the creation of strategies and systems to achieve excellence and continually improve. Leaders need to inspire and motivate the entire staff and to encourage all staff focus on continual quality improvement. Leaders need to serve as role models through their behavior and involvement in review of organizational improvement.

**2) Organizational goals and priorities.** Organizational goals and priorities should reflect QI. It is important that QI direction is expressed in strategic goals, plans and/or objectives so that QI activities will naturally follow and be condoned.

**3) Staff support.** All staff need to personally invest in QI initiatives and need to have the time and capacity to focus on improvement. Improvement cannot be seen as separate and apart from daily work. Embedded in the work culture of an organization must be a philosophy to continually review and improve day-to-day processes. QI work must be built into job descriptions and incorporate issues of importance to staff. If QI projects are separate, they will be the first to get dropped off the work plan.

**4) Team work.** When implementing quality improvement, organizations usually create special teams and follow a formal approach to plan, test and implement new methods to reach unprecedented levels of performance. With the focus on processes in quality improvement and with health care processes involving multiple disciplines, teams are critical to improving quality. When forming a team to improve a process, be sure to identify all stakeholders and have them represented on the team. Seek out people with interest and accountability and who represent and interact well with peers.

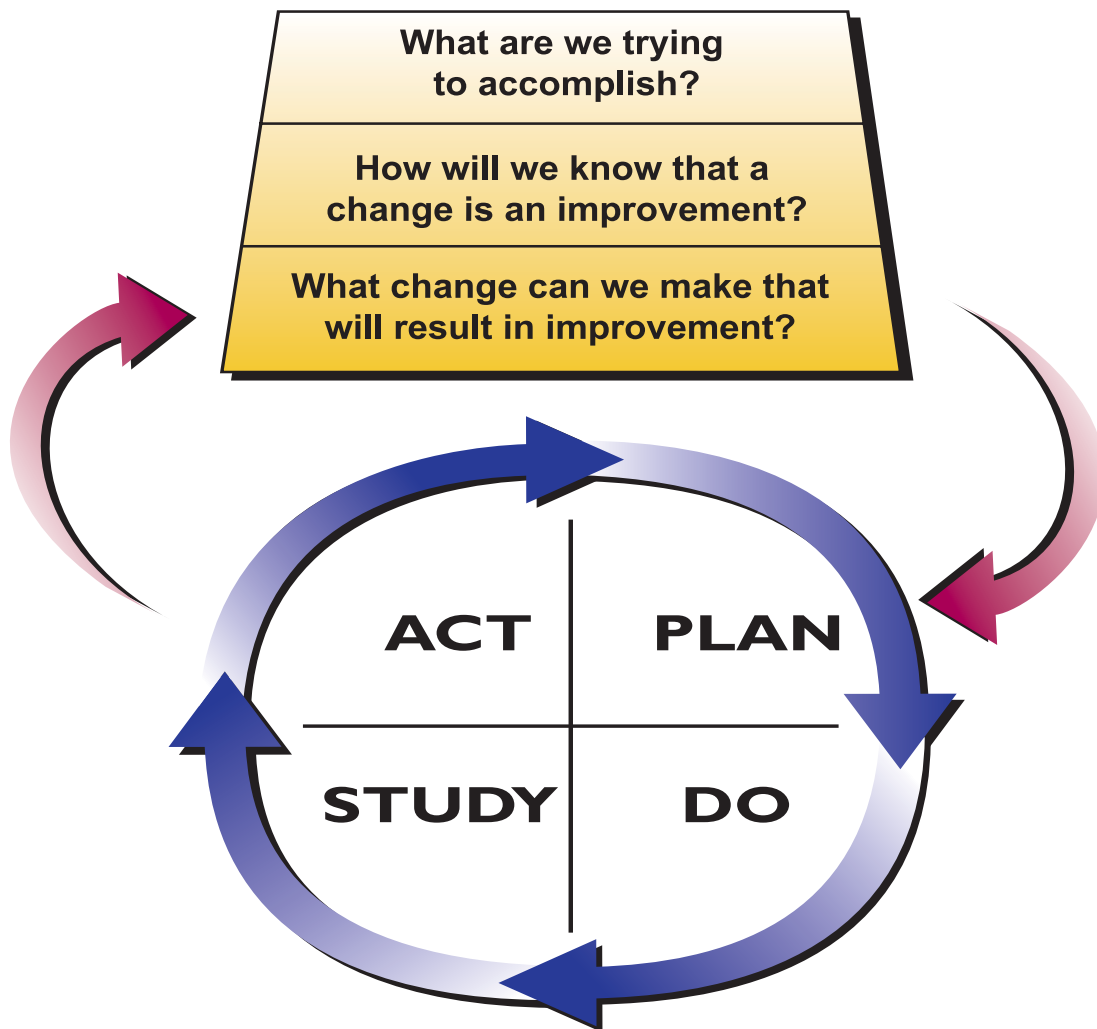
The team leader guides and manages the day-to-day activity of the team. The leader needs to make sure the team stays focused and on track and follows up on all agreed upon activities. The leader needs to assure that good decision-making processes are used and must address conflicts effectively.

The team needs to establish a communication plan so that it share information promptly with stakeholders who are not on the team and with all staff. The teams should also record successes and lessons learned so that these can be shared with other staff, and so that future teams can learn from these lessons. In summary, when establishing a team, the following guides may be helpful:

- Involve representatives from all disciplines, sites and functions who touch the process.
- Designate a leader.
- Assure that the team has a common understanding of purpose and focus.
- Assure that the team commits to working interdependently.
- Assure that the team shares information with all staff.

## A Model for Quality Improvement

**Plan, Do, Study, Act (PDSA) Cycle of Improvement** - Also known as the *Plan, Do, Study, Act* cycle of improvement. W. Edwards Deming, founder of the *Total Quality Management* movement, developed the cycle to assist organizations in making changes to improve their performances. First, an organization *Plans* what it wants to improve and how to improve it. It tests the improvement in a pilot phase in the *Do* cycle. During the *Study* cycle, it analyzes performance data to determine if the change resulted in an improvement. If an improvement was made, then the organization implements the change fully in the *Act* cycle. The cycle is continuous until optimal performance is reached.



The PDSA Model works well for quality improvement programs because it does several things. The model:

- Encourages learning by testing change on a small scale.
- Eliminates studying the problem to death. The PDSA model encourages a relatively short timeframe between planning and actually setting the action or changes in place. It moves the team from analysis to action quickly, which allows changes to take place at a quicker pace.
- Minimizes data collection/data overload. Minimizing data overload is especially important in today's high technology environment where a massive amount of data is available.
- Works well with "small numbers," which is an important factor, especially for smaller agencies.

The PDSA model for improvement has 4 continuous steps

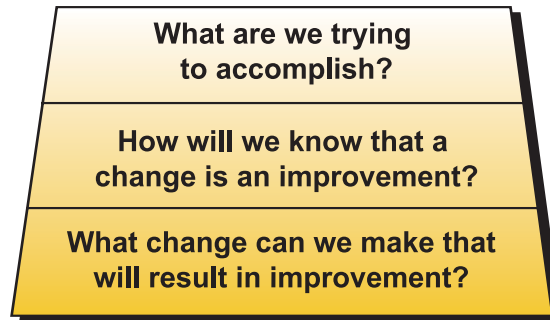
1. PLAN a change
2. DO it on a small scale
3. STUDY the results
4. ACT to refine as needed

Then the cycle begins again until the change is ready for implementation. More specifics of each stage of the model are set forth below:

- **PLAN:** plan the improvement process and plan a test of the selected improvement. This involves four questions:
  1. What change are we testing - what is the objective of the test?
  2. Who is included in the test - who will be involved in the testing process (nurses, QI team, staffing) and on whom will the test be conducted (patients with urinary incontinence)?
  3. When are we testing (start and end date)?
  4. Where are we testing?

- **DO:** involves completing the test and collecting the data for analysis. When first using the PDSA cycle, start with a very small project so that you can complete it in a relatively short period of time. For example, if you are implementing a new practice, start with a selected FEW staff first. The first time through, you will likely discover changes you will want to make on the next cycle. Specifically, the DO stage consists of:
  - Doing the test.
  - Collecting data for analysis - complete the chart audits, collect whatever data is needed to help complete the quality picture.
  - Carrying out the Change - work the plan.
  - Documenting problems - note any problems encountered along the way. This will assist you in analyzing this cycle and in avoiding problems in the future.
  - Collecting Data - what information are you finding as you work the plan?
  - Beginning Analysis - make observations and begin analyzing the findings and continue to document expected and unexpected observations along the way.
  
- **STUDY:** study the results. Did the test validate or contradict the theory? In this phase an organization should study the data and determine what was learned. At a minimum, one should draw some conclusions and compare the data to initial predictions. List out problems, successes and surprises specifically so that you can substantiate your conclusions and have the list as a resource for future QI cycles.
  
- **ACT:** act upon the results. Either implement the improvement or go back to selecting the improvement process (PLAN stage). In this stage an organization should adopt what worked well; adapt what worked partially (to make it work well); abandon what did not work; and determine whether the pilot can be expanded and how improvements can be sustained. It is important at this stage to set up a specific plan with detailed action steps that will help maintain or hold any gains and that improvements continue over time. In the ACT stage, organizations also should establish a new plan for next PDSA cycle and begin the cycle over again.

## Summary of PDSA

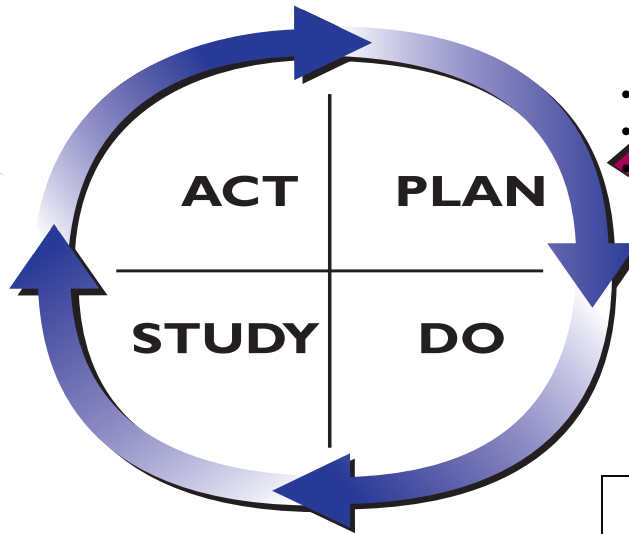


## ACT

- Refinements
- Next steps:
  - Increase size of the test
  - Build on successful strategies
  - Broaden circle of support and participation
- Monitor over time for progress toward aim

## PLAN

- What change are we testing?
- Who is included in the test?
- When are we testing?
- What do you expect to happen?
- Process Measure
  - Improvement will impact the outcome
- Outcome Measure
  - Is the change helping to achieve the aim?
- What data are we already collecting?
- What other data do we need?
- What is our plan?



## STUDY

- What was learned?
  - Problems
  - Successes
  - Surprises

## DO

- Implement the change
- Collect process data
- Make observations

## **Implementing Quality Improvements Through Effective Interventions to Change Staff Behavior**

Staff behavior is critical to and has to change to make an improvement. Any current system and process is set up perfectly to get the results that it currently gets. So to change a process in order to improve, staff need to change their behavior and do things differently. Once the first steps in the QI process are completed, the agency must take steps to get staff to implement the new processes.

Prerequisites to changing behavior include:

- **Need for change recognized by staff.** Before staff can change behavior they must know about the clinical practice change.
- **Desired change identified and communicated.** The desired change must be identified for staff and communicated on a regular basis to facilitate needed changed behavior. As adult learners, on average, we need to see or hear things seven times to remember them. Communication tools should accomplish seven repetitions to assure it is internalized by staff. For example, in communicating a new practice, it would be useful to distribute policies related to the change, provide new learning material, set up competency testing related to the change, have a peer review program related to the change, send out memos, post visual reminders *and* leave voice messages or email messages.
- **Education and data sharing.** Education and data sharing is critical to assure staff not only know about the desired change, but understand its purpose. Staff need the opportunity to perform the new skill or use the new information. They need the opportunity to ask questions and demonstrate understanding and be permitted to practice in a non-threatening environment. For example, they must be allowed ample time to perform the new skill in a lab setting rather than on an actual patient or resident.
- **Organizational support.** Staff must also have needed resources, supplies, equipment, and resource persons to successfully carry out the change. For example, if one change is to weigh all clients with the diagnosis of Congestive Heart Failure, staff must have access to a well-maintained scale.

## Keys to QI Success

As organizations approach quality improvement, they should remember the following basics to facilitate successful quality improvement:

- Start small.
- Keep it simple.
- Be thoughtful about what you do.
- Focus on: *What Is the Question?*
- Don't get lost in the data.
- Importance of leadership.
- Use of data to show progress.
- Empowerment and involvement of staff.
- All work is part of a process.
- Strive to meet/exceed customer expectations.
- When using data for the Plan of Action, data should be:
  - Precise
  - Understandable
  - Practical for clinicians providing the care

Finally, it is important to remember, that as health care professionals, we have been practicing Quality Improvement for most of our professional lives, we just did not label it as such.

In every day practice we assess your patients, compile objective measurements of physiologic signs (range of motion, levels of assistance required), analyze the assessment findings and determined the key problems that one could address to improve or resolve the patient's/resident's condition. We then focus on the problem, develop and implement a treatment plan to fix the problems, and monitor the patient's progress. If improvement occurs, we continue the interventions. If improvement does not occur, we develop new plans and new interventions. Collectively, we are successfully schooled and practiced in quality improvement. In quality improvement, we are simply formalizing existing practice with more standardization and quantitative measurement.

## **Self-Check Questions Regarding Quality Improvement**

- 1. When is it appropriate to implement quality improvement?**
- 2. What are some differences between quality assurance and quality improvement?**
- 3. List three foundations of QI.**
- 4. What is an appropriate way to start a QI project?**
- 5. List at least four prerequisites to changing staff behavior when implementing QI.**