QUALITY MANAGEMENT FUNDAMENTALS

Learning Objectives

After completing this chapter, you should be able to

- describe the vital role of management in achieving quality patient and client health services;
- differentiate among key healthcare quality characteristics, common approaches to quality improvement, and total quality principles; and
- recognize management practices and traits as organizations mature along the quality continuum.

A mother arrives at the pediatrician’s office for her daughter’s six-month well-child checkup. As she has for previous checkups, she arrives ten minutes early. Her daughter’s scheduled appointment time of 10:00 a.m. passes, and she is still waiting at 11:30 a.m. The front desk receptionist politely tells the mother that the pediatrician has been called to an emergency, saying, “I’m sure you understand. If it was your child, you would want the doctor to attend to her.” Although the mother understands the reason for the delay, this explanation does not change the fact that she has to pick up her son from preschool at noon. The mother asks if her daughter can at least get the immunizations today and have the rest of her checkup at another time. A clinic nurse hurriedly administers the child’s immunizations while quietly complaining to the mother that she is often too busy to get a lunch break.

Dissatisfied with the hours wasted at the pediatrician’s office and disappointed with the need to return to finish her daughter’s checkup, the mother begins to investigate other healthcare options for her children. While the doctor at her current pediatric clinic seems highly trained and knowledgeable, the mother has concerns about the organization in which the doctor practices. The organizational aspects of the pediatric clinic are not meeting the mother’s expectations. In the broadest definition, an organization is a structured system designed to accomplish a goal or set of goals. In this example, the care providers and office staff are a pediatric health services organization designed to deliver healthcare to children.
This book focuses on managing the quality of the structured system in which health services are delivered. As in any organization, the structured system in the pediatric clinic is a by-product of numerous variables that affect the design and execution of many interrelated factors. What are the specific goals of the healthcare organization and how are they determined? Does everyone in the organization understand and agree with these goals? How are patient appointments, office workflow, and staff hours scheduled to enable the practice to meet these goals? How are patient and family needs and expectations taken into account? How are clinic employees recruited, hired, trained, and evaluated? Does the pediatrician devote all of her time to the office or does she also have hospital commitments? How is the pediatrician compensated for services? How does reimbursement influence the office structure and work systems? Does the practice operate according to a budget? Does the practice employ an office manager? If so, how is the manager’s role defined? How do the pediatrician and the staff communicate with each other and with patients and their families?

These are just some of the questions that influence managerial decisions about how the structured system will operate. In the example, the mother’s experience resulted from how her pediatrician’s practice addressed such organizational questions. This mother’s perception of quality had nothing to do with the quality of the medical care. It had everything to do with the organizational quality of the health services. The focus of this text is on managing the structured systems of health-related services—within and between organizations—to provide the highest-quality and safest healthcare.

Why Focus on Managing Systems?

Providing the medical care (e.g., performing cardiac surgery) and producing the service (e.g., maintaining a clean environment) are functions of the clinical and technical professionals. Creating and managing the structured system in which clinical and technical professionals work is the role of management. The manager’s perspective and tactics may vary depending on his organizational level (e.g., senior administrative, middle management, frontline supervisory) and his scope of responsibilities (e.g., team, project, department, division, agency, organization-wide). Regardless, all persons holding management responsibilities in an organization are charged with finding ways to carry out, coordinate, and improve organizational functions.

As illustrated by the mother’s experience at the pediatric clinic, patients may not receive the benefits of good medical care when the system of delivery is poorly managed. Quality is not simply the obligation of clinical and technical professionals. The task of achieving quality outcomes from healthcare organizations is a shared responsibility belonging to those who provide medical care and...
produce services and the management professionals who oversee the system. The importance of this collaboration became even more apparent during the 2020 COVID-19 pandemic. Management determines how and what organizational goals are set; how human, fiscal, material, and intellectual resources are secured, allocated, used, and preserved; and how activities in the organization are designed, carried out, coordinated, and improved. The material presented in this book is intended to assist managers in the decision-making processes related to quality and safety in health services organizations.

What Are Quality and Safety?

A widely accepted definition of quality as given by the Institute of Medicine (IOM) is this: “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge” (Lohr 1990, 21). To further clarify the concept of quality, the IOM (2001) identified the key components of quality care: safe, effective, patient centered, timely, efficient, and equitable. Patient safety, a key component of quality care, is defined as “prevention of harm to patients” (IOM 2004, 5). Reliability, another component of quality healthcare services, is defined as the “measurable ability of a health-related process, procedure, or service to perform its intended functions in the required time under commonly occurring conditions” (Weick, Sutcliffe, and Obstfeld 1999, 82).

The way managers in health services organizations define and prioritize quality in the context of their daily responsibilities is often influenced by their own background and experiences. For example, a physician manager may emphasize the importance of achieving optimal patient outcomes through implementation of evidence-based medicine. A nurse manager or pharmacist may stress the importance of interpersonal skills, teamwork, and patient-centered care. A manager with public health credentials may take a population-based approach to improving healthcare quality. Likewise, the educational focus of nonclinical managers may influence the preferred quality definition and priorities. A manager educated in a business school may emphasize operations management, whereas someone trained as an accountant may focus on how quality affects the financial bottom line. A manager with a health services administration background may stress the importance of organizational structures, reliability, and stakeholder relationships.

These examples illustrate the assortment of perspectives and preferences about health services quality and the numerous ways quality concerns may be expressed in healthcare organizations. The multifaceted nature of quality poses several additional questions and challenges for healthcare managers: What is quality in healthcare? Which approach is best? How are the approaches related?
Since the early 1970s, Avedis Donabedian’s work has influenced the prevailing medical paradigm for defining and measuring quality. In his early writings, Donabedian (1980) introduced the two essential components—the technical and the interpersonal—that comprise quality medical care. He also identified three ways to measure quality (structure, process, outcome) and the relationships among them. Donabedian (1980, 79, 81–83) described the measures in the following way:

I have called the “process” of care . . . a set of activities that go on within and between practitioners and patients. . . . Elements of the process of care do not signify quality until their relationship to desirable health status has been established. By “structure” I mean the relatively stable characteristics of the providers of care, of the tools and resources they have at their disposal, and of the physical and organizational settings in which they work. . . . Structure, therefore, is relevant to quality in that it increases or decreases the probability of good performance. . . . I shall use “outcome” to mean a change in a patient’s current and future health status that can be attributed to antecedent healthcare. The fundamental functional relationships among the three elements are shown schematically as follows: Structure → Process → Outcome.

For example, in a family medicine group practice, the number and credentials of physicians, nurse practitioners, physician assistants, nurses, medical technicians, and office staff are considered structure measures. The percentage of elderly patients who appropriately receive an influenza vaccine is considered a process measure, and the percentage of elderly patients who are diagnosed and treated for influenza is considered an outcome measure for this practice. The staff members in the office (structure) influence the ability of the practice to appropriately identify patients for whom the vaccine is indicated and to correctly administer the vaccine (process), which in turn affects the number of patients developing influenza (outcome). If a process measure has a clearly demonstrated link to an outcome, the process measure may be used as a proxy measure for an outcome (Parast et al. 2015).

When the IOM recognized patient-centered care as a key component of twenty-first-century healthcare quality in 2001, the Donabedian model for measuring quality expanded to include patient experience. Patient experience measures are a subcategory of outcomes that represent the voice of patients or enrollees— their “report of observations of and participation in health care, or assessment of any resulting change in their health” (AHRQ 2018).

For example, a family practice clinic may have a good process for identifying patients needing an influenza vaccine and qualified staff to correctly administer the vaccine, yet patients may report their experience to be unsatisfactory if caregivers do not listen to their concerns and adequately answer questions about the vaccination.
An emerging context for health services organizations is high-reliability organizations (HROs), defined as “organizations with systems in place that are exceptionally consistent in accomplishing their goals and avoiding potentially catastrophic errors” (Hines et al. 2008, 5). In an HRO context, all individuals are encouraged to actively look for interdependencies in the system and to aggressively seek to know what they do not know (Roberts and Bea 2001). An HRO context influences managerial functions, as managers in HROs “design reward and incentive systems to recognize costs of failures as well as benefits of reliability . . . [and] consistently communicate the big picture of what the organization seeks to do and try to get everyone to communicate with others about how they fit in the big picture” (Roberts and Bea 2001, 71).

While a health services manager can easily become overwhelmed by the complexity and extensive range of views on the topic of healthcare quality, she may also consider this array of perspectives as a vast pool from which to draw quality-related knowledge and lessons.

Creating a Common Understanding of Quality Methods

As with most elements of management, the subject of quality in healthcare organizations has been the object of numerous trends, fads, and quick-fix attempts. Because departments and professionals with “quality” responsibilities may change their job titles with the latest trend, managers must understand what is behind the label; in other words, they must understand the philosophy and actions used to promote quality in an organization. The first step for managers is to develop a common understanding of quality terminology. Definitions of frequently used terms to describe quality are provided in this section. Exhibit 1.1 provides a summary of these quality-related terms and the influence these concepts have on the actions of healthcare managers.

**Quality Control**
Mostly used in the manufacturing setting, quality control (QC) encompasses “the operational techniques and activities used to fulfill requirements for quality” (American Society for Quality [ASQ] 2020). In health services, quality control activities usually refer to equipment maintenance and calibration, such as for point-of-care and laboratory testing, imaging machines, and sterilization procedures.

**Quality Assurance**
A quality assurance (QA) approach is focused on the outputs of a process. Products are inspected after they are produced, and imperfect products are
discarded. In some cases, the defect may not be readily noticeable and is replaced at a later time, as with a new automobile warranty. In service organization fields such as healthcare, defects refer to unsatisfactory or defective outputs from a received service. The quality of the service is inspected after it is received; if it is not acceptable, the customer may ask for the service to be repeated. For example, when the customer discovers that a retail pharmacy includes only half the number of tablets in a prescription refill, he asks for the refill to be corrected. Sometimes the service defect is not readily noticeable, as in the case of a surgical sponge left in a patient after an operation. As the patient’s condition deteriorates, tests are performed to identify causes of the defective output. The patient must return to surgery for the defect to be corrected.

Hearing QA and QC used interchangeably when “referring to the actions performed to ensure the quality of a product, service or process” is not uncommon (ASQ 2020).

**Quality Improvement**

A quality improvement (QI) approach, also referred to as continuous quality improvement (CQI), is focused on the ongoing improvement of processes...
as a way to improve the quality of the outputs (i.e., reduce the number of defective outputs). Preoperative checklists, sponge counts, and team briefings are examples of operating room process improvements designed to prevent defective outputs or surgical complications. By implementing incremental and breakthrough improvements, QI seeks to produce defect-free outputs and provide consistent high-quality services.

**Total Quality**
The term **total quality (TQ)**, also referred to as **total quality management (TQM)**, is often used interchangeably with QI and CQI. This tendency can cause students and managers to be confused by the two related but different concepts. Total quality is “a philosophy or an approach to management that can be characterized by its principles, practices, and techniques. Its three principles are customer focus, continuous improvement, and teamwork. . . . Each principle is implemented through a set of practices. . . . The practices are, in turn, supported by a wide array of techniques (i.e., specific step-by-step methods intended to make the practices effective)” (Dean and Bowen 2000, 4–5).

As shown by this definition, TQ is a strategic concept, whereas CQI is one of three principles that support a TQ strategy. Numerous techniques—including performance management, Six Sigma, and Lean—are available for managers to implement the principles of CQI on tactical and operational levels. The following section briefly describes these techniques; subsequent chapters offer more detail.

**Performance Management**
The business literature defines **performance management** as “an umbrella term that describes the methodologies, metrics, processes and systems used to monitor and manage the business performance of an enterprise” (Buytendijk and Rayner 2002). Performance management is also referred to as **enterprise performance management (EPM)**, **corporate performance management (CPM)**, and **business performance management (BPM)**.

**Six Sigma**
**Six Sigma** is a rigorous and disciplined approach using process improvement tools, methods, and statistical analysis. Its precepts are based on the philosophy “that views all work as processes that can be defined, measured, analyzed, improved and controlled” (Muralidharan 2015, 528). **Six sigma** is a statistical term referring to the goal of achieving zero defects or failures. Six Sigma quality is considered a “rate of less than 3.4 defects per million opportunities, which translates to a process that is 99.99966 percent defect free” (Spath 2018, 134). Although the technique originated in manufacturing, the use of Six Sigma is...
Being encouraged in health services organizations as a way of achieving high reliability (Chassin and Loeb 2013).

**Lean**

Sometimes called *Lean thinking*, Lean “is about finding and eliminating waste in all processes” (Black 2016, 6). This quality philosophy and set of tools, which also originated in manufacturing, is used to remove wasted effort from healthcare processes without compromising quality (Chassin and Loeb 2013). Lean techniques have helped health services organizations increase patient staff satisfaction, create more efficient processes, lower expenses, reduce patient wait times, improve capacity management, and make many other value-added, customer-focused enhancements (Black 2016).

**Organizational Effectiveness**

Several models or definitions of effectiveness in management literature exist, and the meanings are derived from the values and preferences of evaluators (Cameron 2015). From the perspective of TQ, *organizational effectiveness* means accomplishing goals.

**Change Management**

Whether quality improvement is aimed at reducing defects, removing wasteful process steps, or achieving better patient outcomes, the work people do in the organization will be modified in minor and sometimes major ways. Change management is a “systematic approach that prepares an organization to accept, implement, and sustain the improved processes” (Chassin and Loeb 2013, 481). A structure for managing the changes that result from quality improvement efforts is essential for ensuring that quality does not deteriorate as time passes, staff turnover occurs, and new priorities emerge. Components of this strategy can include human resources planning, financial and resource management, and implementation of a control system that involves measurement and oversight of performance results (McLaughlin and Olson 2017). A phrase often associated with change management is “sustain the gains.”

Continuously improving products and services to achieve better performance is often referred to as *quality management*. In this book, the term *quality management* is used to describe the manager’s role and contribution to organizational effectiveness. Quality management, for our purposes, refers to how managers working in various types of health services organizations and settings understand, explain, and continuously improve their organizations to allow them to deliver quality and safe patient care, promote quality patient and organizational outcomes, and improve health in their communities.
Three Principles of Total Quality

Total quality is based on three principles: customer focus, continuous improvement, and teamwork. While later chapters explore these topics in depth, this section briefly introduces the principles.

**Customer**

A customer is defined as an “actual or potential user of your organization’s health care services. Customers include the direct users of your health care services (patients), as well as those who pay for your services, such as patients’ families, insurers, and other third-party payors” (Baldrige Performance Excellence Program [BPEP] 2019, 47).

External customers are the parties outside the organization. The primary external customers for health services providers are patients, families and partners, clients, insurers and other third-party payers, and communities. An internal customer is a user inside of the organization. Internal customers have been described as “someone whose inbox is your outbox.” For example, in a hospital, when patient care is handed off from one provider to another at shift change, the incoming provider is considered the internal customer of the outgoing provider. Completing the requisite shift responsibilities in a timely manner, communicating relevant information, and leaving a tidy workspace demonstrate one’s recognition of coworkers as internal customers.

The contemporary view of quality management expands the concept of “customer” to include stakeholders and markets in which the organization operates. The term stakeholder is used to refer to “all groups that are or might be affected by an organization’s services, actions or success” (BPEP 2019, 52). In healthcare organizations, key stakeholders may include “customers, the community, employers, health care providers, patient advocacy groups, departments of health, students, the workforce, partners, collaborators, governing boards, stockholders, donors, suppliers, taxpayers, regulatory bodies, policy makers, funders, and local and professional communities” (BPEP 2019, 52).

Customer-focused quality means that key patient and other customer requirements and expectations are identified and drive improvement efforts (BPEP 2019). Defining customers and stakeholders is a prerequisite to determining their requirements and, in turn, designing organizational processes that meet these requirements.

**Continuous Improvement**

When the manager of an environmental services department in a large nursing care facility picks up something from the hallway floor and throws it away in the nearest trash can, her action exemplifies the principle of continuous improvement. While other facility employees might walk past the trash, the...
environmental services manager realizes the importance of being committed to continuous improvement for her department and for the facility; if at any time the manager sees something that needs fixing, improving, or correcting, she takes the initiative. If managers want to achieve continuous improvement in their organizations, they must demonstrate continuous improvement through their everyday actions.

The principle of continuous improvement may also be expressed through managers’ execution of their managerial functions. Managing by fact and depending on performance data to inform decisions is requisite to this principle. Though they might vary according to the nature of the work and the scope of management responsibility, performance data may be reported at various time intervals. For example, a shift supervisor for the patient transportation service in an 800-bed academic medical center watches the electronic dispatch system that displays a minute-by-minute update on transportation requests, indicators of patients en route to their destinations, and the number of patients in the queue. By monitoring the system, the supervisor is immediately aware when a problem occurs and, as a result, is able to act quickly to resolve the problem. If the number of requests unexpectedly increases, the supervisor can reassign staff breaks to maximize staff availability and minimize response times.

Each day, the supervisor posts the total number of transports performed the previous day, along with the average response times. This way, the patient transporters are aware of the department’s statistics and their own individual statistics, which helps the transporters take pride in a job that is typically under-appreciated by others in the organization. The daily performance data also enable the supervisor to quickly identify documented complaints and address them within 24 hours, which in turn increases employee accountability and improves customer relations. Each month, the department manager and shift supervisors review the volume of requests by hour of the day to determine whether employees are scheduled appropriately to meet demand. The manager also reviews the statistics sorted by patient unit (e.g., nursing unit, radiology department) to identify any issues that need to be explored directly, manager to manager. The manager reviews the monthly statistics with his administrator, and the annual statistics are used in the budgeting process. A performance management system such as this promotes continuous improvement, which is defined as steady, incremental improvement in the organization’s overall performance.

**Teamwork**

When the terms teamwork and quality are used together, management is usually referring to cross-functional or interdisciplinary project teams. Healthcare organizations seeking to make changes in complex processes or activities that involve more than one discipline or work area often use a team approach.
Quality improvement is fundamentally a team process in which significant and lasting improvements rely on the “knowledge, skills, experience, and perspectives of different individuals” (Health Resources and Services Administration [HRSA] 2011, 3).

In relation to quality management, managers should also consider teamwork when they carry out functions inherent in the managerial role—particularly organizational design, resource allocation, and communication. Designing and implementing decision making, documentation, and communication processes (which ensure individuals and teams have the information they need, when they need it, to make effective and timely clinical and organizational decisions) reflect a manager’s understanding of the quality management principles. For example, in one ambulatory surgery center, the manager of the materials management department negotiates with a supplier to obtain surgical gloves at a discounted rate compared with the rate of the current supplier. The decision is based on vendor and financial input. The first time the new gloves are used, however, the surgeon rips out the fingers of the gloves while inserting her hand. Had the manager embraced the concept of teamwork in his approach to decision making, he would have sought out information and input from the patient care team—the people who actually use the product and know the advantages and disadvantages of different brands of gloves.

**Quality Continuum for Organizations**

Quality management is not a single event; rather, it is an organizational journey. Progress along the journey may be viewed on a continuum, with one end representing traditional or early attempts at quality and the other end representing more mature approaches (exhibit 1.2). Regulatory, accreditation, and cost-control pressures, as well as consumer activism, are accelerating the quality journey of health services organizations. These external factors are described in more detail in chapter 2.

Although a healthcare organization may occupy a point anywhere along this maturity continuum, the goal of quality management is to continuously strive toward the most mature end of the continuum. An understanding of the quality continuum in health services organizations begins to explain differences in operations and outcomes in organizations that all claim to be “quality organizations,” such as

- how an organization can be successful at quality projects but not attain a quality organizational culture;
- why some organizations have adjusted better than others to current oversight practices of regulatory groups and accreditation agencies;
## EXHIBIT 1.2

### Quality Continuum for Healthcare Organizations

<table>
<thead>
<tr>
<th></th>
<th>Less Mature</th>
<th>Developing</th>
<th>More Mature</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality priorities</strong></td>
<td>Complying with quality requirements of external stakeholders is an operational imperative</td>
<td>Internal quality improvement is one of three or four strategic priorities</td>
<td>Internal quality improvement is the organization’s top strategic priority</td>
</tr>
<tr>
<td><strong>Quality scope</strong></td>
<td>Internal customers</td>
<td>Internal and external customers and stakeholders</td>
<td>Internal and external customers and stakeholders and the community served</td>
</tr>
<tr>
<td><strong>Quality transparency</strong></td>
<td>Key quality measures not reported internally throughout the organization and not reported publicly</td>
<td>Key quality measures reported internally throughout the organization; few reported publicly</td>
<td>Key quality measures reported internally and publicly; reports include benchmark data from best practice organizations</td>
</tr>
<tr>
<td><strong>Quality methods</strong></td>
<td>No organization-wide approach to quality improvement</td>
<td>Data-driven, statistical methods used in some improvement initiatives</td>
<td>Managers trained in data-driven, statistical methods that are used for all improvement initiatives</td>
</tr>
<tr>
<td><strong>Performance measures</strong></td>
<td>Only measures used are those required by external stakeholders</td>
<td>In addition to measures required by external stakeholders, internal measures are used to evaluate quality priorities of managers</td>
<td>In addition to measures required by external stakeholders, internal measures linked to the quality goals of the organization are used</td>
</tr>
<tr>
<td><strong>Information technology (IT)</strong></td>
<td>Little or no IT support for quality activities</td>
<td>IT supports some quality activities, but many are still paper based</td>
<td>IT support is provided for all quality activities</td>
</tr>
</tbody>
</table>

*Source: Adapted from Chassin and Loeb (2013).*
• why implementing clinical practice guidelines does not in itself
guarantee healthcare quality; and
• why operations management efforts, independent of clinical context,
may not yield expected results.

Leading the Way

An organization will only have pockets of excellence unless leadership is involved
in establishing a quality philosophy and strategy, and advocating for widespread
continuous improvement. The American College of Healthcare Executives
(ACHE) emphasizes that “improving patient safety and quality involves leadership
by the board and CEO based on an executable strategy cascading throughout the
organization and applied across the entire continuum of care” (ACHE 2017).
The leadership actions necessary to achieve this goal include the following:

• Equip the board with tools and information to provide appropriate
oversight of the patient safety/quality strategy.
• Involve the entire executive leadership team in the patient safety/
quality strategy.
• Engage the medical staff as meaningful partners in the development and
implementation of the patient safety/quality strategy.
• Develop processes to hear the voices of patients and families and apply
their input in leadership committees and in the design and improvement
of care processes.
• Create and sustain a culture of safety.
• Develop a culture of improvement that includes an organization wide
commitment to continuous learning.
• Rigorously seek out and apply best practices.
• Provide open communication and demonstrate a commitment to
transparency.
• Adopt information systems that support the patient safety/quality strategy.

Chapters to come discuss the essential role of leadership in greater detail
and spotlight the importance of personal involvement.

Summary

Achieving organizational effectiveness requires leaders to combine their knowl-
edge of management and quality to understand and improve the organization.
This chapter has introduced various terms and approaches to help managers establish a common vocabulary for quality in their organizations. The path to becoming a mature, quality organization is characterized by transitions in managerial philosophy, thinking, and action. Active and persistent support from leadership is a vital component of the organization’s quality journey.

**Exercise 1.1**

**Objective:** To identify opportunities for improving the current state of healthcare quality in the United States.

**Instructions:**

- Go to the AHRQ website (https://nhqrnet.ahrq.gov/inhqrdr) and find the most current version of the National Healthcare Quality and Disparities report.
- Read the Executive Summary.
- Browse the rest of the report.
- From your brief review of this report, summarize in one or two paragraphs the state of healthcare quality and disparities in the United States.
- Choose two specific elements of healthcare needing improvement and explain why you selected these elements.

**Companion Readings**


**Web Resources**

Agency for Healthcare Research and Quality: www.ahrq.gov
American College of Healthcare Executives: www.ache.org
American Society for Quality: www.asq.org
National Association for Healthcare Quality: www.nahq.org
Public Health Foundation: www.phf.org
References


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