



CQI Knowledge Assessment Quiz: Answer Key

Basic Principles of CQI

1. Continuous quality improvement (CQI) is a philosophy assumes that:
 - a. **Most problems with service delivery result from process difficulties, not individuals.**
 - b. Frequent inspection is necessary to improve quality.
 - c. Employees generally try to avoid work.
 - d. Top management leads all quality improvement activities.

Most problems with service delivery result from process difficulties, not individuals. CQI is a set of management practices in a customer focused organization, geared to involve all employees in continual improvement of organizational aspects intended to satisfy customer needs. CQI concepts help provide an integrative system that uses strategy, data, and effective communication to assess the processes and activities of the organization.

2. The term “quality” as used by CQI advocates usually refers to:
 - a. **Characteristics of a product or service that bear on its ability to satisfy stated or implied needs.**
 - b. A product or service free of deficiencies.
 - c. Having a high degree of excellence.
 - d. All of the above.

Characteristics of a product or service that bear on its ability to satisfy stated or implied needs. Although each of the definitions provided are different ways that “quality” can be defined, CQI focuses on delivering quality services or products as determined by the customer. Therefore, high “quality” rests on the ability to satisfy customer needs.

3. The major difference between traditional “quality assurance” activities (e.g., keeping track of the total number of different procedures conducted rates of adverse outcomes) and “quality improvement” activities is that quality improvement also focuses on:
 - a. People and competency.
 - b. Analysis of data.
 - c. Performance measures.
 - d. **Systems and processes.**

Systems and processes. While quality improvement strategies also stress the importance of data analysis, rely on performance measures to benchmark progress, and occasionally assess individual capabilities, one of its key principles is the focus on systems and processes (rather than individuals or products) to introduce positive change to an organization’s performance.

4. Effective CQI does *not* require:
 - a. Leadership and commitment from management with long-term vision.
 - b. **Decreased emphasis on inspection.**
 - c. Increased investment on employee education and training.
 - d. Periodic redesign of processes/services.

Decreased emphasis on inspection. Simply because quality improvement strategies focus primarily on systems and process changes, does not mean that inspection of products or design should be ignored. Inspection can be an equally relevant part of the process. Strong leadership, team commitment, and enhanced education and training are all necessary for effective interventions to succeed.

5. A leadership style that is said to motivate employees, and that optimizes the introduction of change is:
 - a. **Autocratic** – A clear top-down approach where a single individual has complete power of decision-making and little discussion is had for external input.
 - b. **Consultative** – A style where leaders engage subordinates/peers in the decision-making and problem-solving process, but ultimately make the final decisions for the team.
 - c. **Participatory** – An approach where leaders interact with other participants as peers, engaging them in the decision-making process and playing an equal role in the process as others and jointly carrying out the problem solving activities.
 - d. **Democratic** – An open style of running a team where leaders facilitate discussion among all members, encourage ideas to be shared, and consider everyone’s input in order to make final decisions for the team.

Participatory. Bringing about change in health care settings often involves the participation of all staff. Each professional plays a role in satisfying the organization’s customer (i.e., patients) since the responsibility for care provided is shared among everyone in a CV office. Therefore, whoever leads a quality effort in a CV practice should be prepared to take a central but equal role in the activities identified for establishing change.

Operationalizing/Implementing CQI

6. Which representatives of CV care should be included on a quality improvement team to implement a new practice:
 - a. Cardiologists only.
 - b. Cardiologists and nurse practitioners.
 - c. Cardiologists, nurse practitioners, quality improvement staff, and administrators.
 - d. **All staff affected by the quality improvement practice to be implemented.**

All staff affected by the quality improvement practice to be implemented. This is important because successful implementation of an intervention most often occurs when all relevant or affected parties are aware of the changes being made or tested, have been bought into the endeavor, are willing participants, and understand what their role will be in bringing about necessary changes.

7. When is it appropriate to collect and use data?
 - a. Before the QI project, to prove a problem exists.
 - b. During the QI project, to answer questions about the cause and help prioritize the implementation of improvements.
 - c. After the implementation of the improvement to maintain the gain.
 - d. **All of Above.**

All of the Above. Because quality improvement is intended to be continuous, and because data gathering and analysis is a key activity of assessing performance and areas for improvement, it is always appropriate to collect and use data to inform these processes. It is up to team members to evaluate if ceasing to collect data for a QI intervention is reasonable at any point.

8. Which of the following concerns would be best solved by a QI team?
- A computer systems issue with linking the clinical database to the hospital ADT system.
 - A discipline issue with a problem employee.
 - An individual customer complaint regarding lengthy wait time.
 - A financial variance in cost per left heart cath procedure over the past 6 months.**

A financial variance in cost per left heart cath procedure over the past 6 months. Substantial variation in cost for a procedure is a problem that directly affects customers and could have implications for organizational processes. It is an ideal concern for a QI team to handle. Because quality improvement focuses on *customer* satisfaction and *continuous* opportunities for change, options a) and b) are not ideal concerns to be addressed by a QI team; a) is a one-time technical fix that requires little analysis to solve, and b) is an employee concern, not a customer concern, best handled by senior management. Although customer complaints about long waits could warrant a situation handled by a QI team, a single customer complaint is usually insufficient for establishing a QI intervention.

9. The first step in problem solving is to:
- Assume the worst.
 - Establish responsibility for change.
 - Collect and analyze data.
 - Define the problem issue.**

Define the problem issue. In order to embark on any quality improvement activity, a problem that can benefit from an intervention must first be identified.

10. After assessing current work flow and processes, a clinical team presumes that a delay can occur anywhere along the process of their tasks. Data is inadequate at this point to identify a particular time of day, day of week, type of patient, and/or step in the process that is largely responsible for the delays. Further data collection is necessary. What should the team “product” be for the next meeting?
- A Prioritization Matrix.
 - A finalized data collection tool and instruction sheet for implementation.
 - A list of questions to be answered and a draft data collection tool.**
 - A listing of possible solutions.

A list of questions to be answered and a draft data collection tool. Because no root causes have been identified at this point for the problem at hand, developing a list of possible solutions or a finalized data collection tool to measure activities in specific areas would be premature. A prioritization matrix would be less helpful at this point since it is more of a decision tool intended to “rank” a list of problems or metrics to focus on next. In this case, because yet more data is needed to determine what intervention to test, a list of additional questions that the team would like answered should be created along with a draft of how to capture data that would inform those answers.

Measuring/Analyzing QI

11. As a building block for determining whether or not quality has been improved, the use of basic descriptive statistics in applying CQI is critical. Which of the following is **not** a basic component of descriptive statistics?
- Mean data values
 - Frequency counts
 - Hospital ratings**
 - Standard deviations

Hospital ratings. Although hospitals ratings are one way to describe a hospital's performance, it is not a basic component of general descriptive statistics. Mean data values, frequency counts, and standard deviations are all foundational elements of typical data analysis.

12. Two concepts of descriptive statistics that are essential for identifying opportunities for performance improvement are:
- Frequency counts and modes
 - Variance and distributions**
 - Mean and median values
 - Data ranges and standard deviations

Variance and distribution. Unlike the other answers listed, which are also important elements of analysis for QI, variance and distribution data are key for discerning areas with the greatest potential for improvement. The greater the variance and the more varied the distribution of services provided, the greater the opportunity for improvement – the goal being to implement processes that minimize variance in performance and make higher, yet achievable, results more consistent.

13. Comparisons of your data against the top performers in your region/industry describe the process(es) of:
- External benchmarking.**
 - Internal benchmarking.
 - Neither external nor internal benchmarking.
 - Both internal and external benchmarking.

External benchmarking. External benchmarking is when an organization compares its performance data to that of a similar organization in the region (or competitor in the market). Internal benchmarking is when an organization compares its own current performance to its past performance in order to assess its improvement over time. Both approaches are good for setting desired performance targets.

14. Benchmarking creates objective measures of performance that are based on:
- Past performance targets within an organization
 - Performance of a competing external organization
 - Some external universal performance target established by the industry
 - All of the above**

All of the above. Setting targets for achievement (i.e., benchmarking) can be accomplished using any of approaches listed here. Internal benchmarking uses past performance targets to set new targets going forward, whereas external benchmarking can be done either by comparing one’s performance to that of similar or highest performing peers, or by adopting the target set, for example, by a national effort or organization targeting in on a specific QI effort.

15. Of the following quality tools, which would be most useful for identifying a problem that could benefit from a quality improvement strategy?

- a. Affinity diagram.
- b. Histogram.
- c. Flow chart.
- d. Run chart.

Affinity diagram. An affinity diagram is created by brainstorming ideas and consists of simply writing down these suggestions and grouping them according to naturally occurring categories. With these ideas all in one place, the team can then discuss and decide which problem would be best to address. An example of a completed affinity diagram looks like this:

Sample Affinity Diagram

Issues in Implementing Continuous Process Improvement

