Experience Using the CQI Model in Health Care Management

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This article describes practical applications of the Continuous Quality Improvement (CQI) concept applied to management of the Information Services Departments of a health care institution. The article is valuable for two reasons: (1) it is valuable as a successful application of CQI in an award-winning information services division of an award-winning health care institution, and (2) since the work of the information services function is so complex, has major interdependencies with many other functions throughout the entire organization, and is driven by fast-paced change, successful use in that function can be a model for other major functions of the hospital.

INTRODUCTION

Continuous Quality Improvement (CQI) is a concept that is receiving a great deal of attention in the United States, especially in the health care industry. For example, in the JCAHO Accreditation Manual for Hospitals, 1992, the "Quality Assurance" chapter has been revised and renamed "Quality Assessment and Improvement," and the entire manual has shifted in emphasis towards Continuous Quality Improvement. As another example, the entire issue of Computers in Healthcare of September 1991 was dedicated to articles on quality in health care.2

ORIGINS: THE DEMING PRINCIPLES

The philosophy of diligently managing quality is credited to W. Edwards Deming, a scientist and statistical expert, who gained recognition while advising the Japanese during their recovery after World War II. The subsequent success of Japanese manufacturing and management principles has dramatized Deming's contribution to the principles to which that success is attributed.3

Deming's principles stress the importance of processes—work processes and management processes, and suggests that mistakes occur when processes break down. His
work is based on a "quality chain" that leads to fewer mistakes, less rework, fewer delays, and better use of time and materials, which leads to improved productivity, and market leadership due to both better quality and lower costs. His principles, known as "The Fourteen Points," "Seven Deadly Diseases," and "Obstacles" have evolved and changed over the years, but focus principally on strong leadership combined with heavy investment in communicating with and encouraging teamwork among individual employees. Summarizing from the The Fourteen Points, the Seven Deadly Diseases, and the Obstacles, the Deming principles include:

- Continuous quality improvement is crucial to success.
- Institute a vigorous program of education and training. Education, training, and retraining are necessary to lead people to new methods of work, including teamwork.
- Institute leadership. The job of leadership is more than being the gatekeeper of resources.
- Statistical measurement and sampling are critical, but don’t rely exclusively on traditional, visible management statistics.
- Break down barriers between staff areas. Don’t allow staff departments to function independently and in competition with other staff departments. Require cooperation and teamwork.
- Drive out fear of change. Allow employees to ask questions and participate. Don’t be afraid to adopt new philosophies.
- Remove barriers to pride of workmanship. Remove barriers that prevent people from doing good work.
- Don’t focus only on the short term, and neglect long range planning.
- Take action to accomplish the transformation. Workers can’t do these things on their own. Strong management action is required.
- Cease dependence on inspection at the end of the process, and do not depend on product inspection as the means to improve quality.
- Don’t rely on CQI objectives for a separate Quality Control Department, focused mainly on the past and very little on the future, who mystify managers into deferring quality issues to the Quality Control Department.

**ORIGINS: THE CYBERNETICS PRINCIPLES**

The decision-making processes of the Cybernetic framework are also critical in establishing a CQI strategy in an organization. This decision-making framework is less publicized than are the Deming principles, but it also promotes a continuous self-correcting process of attention to the work environment, feedback, and improvement.

The word "Cybernetics" was coined by Norbert Weiner, in his book with that name, in 1948, on control and communication theory. The word is derived from a Greek word meaning "steersman." The Cybernetic theory is based on the idea that the successful functioning of organisms, including groups of people, or even federations of groups of people, depends on efficient and effective intercommunication necessary to steer the organism. Successful functioning requires the organism to be keenly sensitive to its operation, and requires a means of continuous self-correction and refinement.