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Continuous Quality Improvement as a Management Concept for Death Investigation Systems

ABSTRACT: Continuous quality improvement (CQI) represents a management technique where the basic approach to managing quality consists of setting a standard for a work process, measuring variation in the work process in relation to the standard, and then implementing programs to decrease variation and improve end results. Everyone providing a service becomes involved both in understanding how quality is measured and in discussing how to improve quality. A team approach is adopted and instead of focusing on poor quality outcomes and how to avoid them, the team becomes involved in setting continuously improving standards for better performance and in finding ways to meet those standards. The objective is to meet or exceed consumer or user expectations.

Relevant related concepts such as survey research, needs determination and outcomes analysis, and the importance of a mission statement are discussed using a medical examiner system as an example.

KEYWORDS: forensic science, continuous quality improvement, death investigation systems, needs assessment, survey research, outcomes analysis, stop/start/continue technique

The concept of continuous quality improvement (CQI) is one which has been applied in business for many years. Although the concept was initially described principally by American authors (1–3), the Japanese were its earliest main utilizers, and their success resulted in the U.S. business community implementing the ideas as a competitive response. Recently, the advent of managed care into the U.S. healthcare system has resulted in the application of many of those same ideas. This paper seeks to apply some of those principles to death investigation systems using a medical examiner system as a typical example.

Implementation of CQI systems begins with a definition of what is quality for a particular process. The focus is on the consumer of the service as the ultimate arbiter of quality.

During the CQI process, everyone involved in providing the service is made aware of how quality is to be measured, and their input is then sought into how to improve quality. Commonly, teams are assigned to various areas of the enterprise, and their function is to set continuously improving standards for better performance and to find ways to meet those standards.

Organizational Analysis

A flow chart illustrating the origins and destination of information processed through a typical medical examiner office is represented in Fig. 1.

It can clearly be seen that the medical examiner office is not an end point for information. It is part of a system through which information flows. The flow proceeds from various agencies into the office, where it is analyzed, used as a basis for internal investigation and fact finding, and the resulting product distributed to a wide variety of consumers.

In order for this flow of information to proceed optimally, the objectives, methodology, and language of the inputting agencies, the medical examiner office and the receiving agencies must be compatible. Ideally, the flow of information would be seamlessly integrated. Any strategic plan designed to achieve this must take into account not only the human factors, but the information technology needs of the various agencies. One measure of quality would be the degree to which this human and technological integration has been achieved. CQI is one method of monitoring the progress of this process.

Internal and External Customers

As with any other business, the medical examiner's office has both internal and external customers. The internal customers consist of the individuals employed by the office, and the external customers are those to whom the office supplies a service. Internal customers of a medical examiner/coroner office would include pathologists, death investigators, administrative and clerical personnel, forensic scientists, and morgue attendants. External customers would consist of families, funeral service personnel, law enforcement agencies, insurance companies, health care professionals, etc. Note that the office itself is an external customer of the agencies that supply it with information.

Mission Statement

As early as possible in the proceedings the office should develop and publicize a mission statement. The mission statement and its goals largely dictate the major tasks to be carried out and the kinds of technologies and human resources to be employed.

The mission statement and its associated goals should be developed with input from both management and employees and they have both an internal and an external purpose. Externally, they assist in getting outsiders to understand the highly complex nature of the office. They communicate what the office is all about to those who utilize its services or in some other way have contact with the
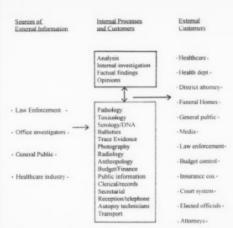
Sources of External Information | Internal Processes and Customers | External Customers

FIG. 1—*Flow of information through a typical medical examiner's office.*

office (e.g., lawmakers/politicians). They help to promote legitimacy in the eyes of the community and this, in turn, enhances prestige and assists in helping the office acquire needed resources. Internally, goals serve as a source of motivation and direction. A phrase such as the popular "we examine the dead to serve the living" is a slogan, not a mission statement.

Strategic Plan

The CQI program should form only a part of the office's strategic plan. The direction of the strategic plan is dictated by the mission statement and should set out an expanded vision of the office's role in society as outlined in the mission statement. It should indicate how the office intends to conduct itself in its chosen arenas by stating specific objectives, and indicate the functional means by which those objectives will be accomplished. One of the objectives should relate to control of quality, to be accomplished through CQI.

Integration of Needs

In order for the system to operate most effectively, i.e., in order for quality to be optimal, it is essential that each component be aware of and attempt to satisfy the needs of each of the others. From this, it can clearly be seen that no one of the components of the system can adequately judge the quality of the services it is providing. Determination of quality cannot be determined solely by internal review. At best, such a system would address only one group of customers, i.e., the internal group. In order to judge quality, it is necessary to receive additional input from the external customer group(s). In addition, it is increasingly important to realize the necessity to take into account the information technology implications of strategic decisions regarding quality measurement and control across the entire system.

The first step in the process of setting up a CQI program (Table 1) therefore consists of the identification of all significant internal

TABLE 1—*Steps in establishing a continuous quality improvement (CQI) program.*

1. Identify internal and external customers
2. Perform needs assessment
3. Form teams and identify issues
4. Develop solutions through teams
5. Implement solutions
6. Monitor and analyze outcomes

and external customer groups. The flow chart in Fig. 1 gives an example of typical designations. The second step consists of conducting a needs assessment.

Needs Assessment

This is a form of research in which data are collected for estimating the needs of a group or organization (4). The aim is to determine if the objectives of a program are meeting the needs of the individuals or organizations who are supposed to benefit from it. In the case of a medical examiner office, there are multiple groups receiving services from the office, and their needs are clearly far from homogenous. The needs of the court system can readily be presumed to be different from those of the funeral industry, and both of their needs, in turn, are different from those of the agency responsible for monitoring the office's budget, for example. Flexibility of approach is key to successfully serving such a diverse group of customers (5).

There are numerous methods, not mutually exclusive, for performing needs assessment. One of these is the "key informant" approach, which collects information concerning the needs of a group from individuals who are presumed to be in a key position to know those needs, such as agency directors, district attorneys, or county financial officers. Questionnaires or interviews are popular as a means of collection.

A second approach is the "survey method" in which the data are collected from a sample of the target population whose needs are being assessed. There is no attempt to question only people who are in positions of authority or presumed to be knowledgeable. Any member of the group may be asked to give his/her opinion.

A third method is to rely on an "indicators approach." This method relies on inferences made from statistics already available in reports or records. Examination of those records over a period of years may, for example, reveal a pattern in which law enforcement agencies are increasingly requesting the performance of a particular type of procedure, and requesting another previously popular test with decreasing frequency. This may be used as an indicator of current trends in needs, and staff time and resource allocation should be adjusted accordingly.

Identifying Issues

The third step in developing CQI consists of identifying issues in the areas identified by needs assessment.

Face-to-Face Meetings

The importance of face-to-face meetings cannot be overemphasized. Their format must be as nonconfrontational as possible, and should be preceded by at least one of the forms of needs survey.

Their initial function is to clarify the issues as a preliminary to forming permanent teams and developing and monitoring solutions. As with all forms of research, survey research is subject to a

variety of biases that may affect its results, and every effort must be made to discover and compensate for those before initiating any program of change. The outcome of this initial meeting will form a baseline for measuring improvement/deterioration in the areas determined to be relevant to control of quality.

The meetings should be between one team from the internal customers of the office and one from each of the external customers in turn (not all at once!). An effective format for each team is one "key informant" together with other interested individuals from the same agency. Formation of teams is a very important step in establishing an atmosphere in which the employees feel that they have a genuine say in the management of the system.

Facilitating the Meetings

In an effort to reduce confrontation and tension during the meetings, the "chairman" should act as a facilitator, not an advocate. It should not be forgotten that people implemented the current policies and procedures, even if the focus of the CQI is on the policies and procedures themselves, and as a result those people may tend to think that they, or their work, are being evaluated. They may feel that their job or reputation is at stake.

Assuring effective communication is key. One method of doing this is a "stop, start, continue" technique in which the teams are asked in turn which activities of the other group they would like the group to stop, start, or continue.

One team is asked to begin with an issue that they are not happy with and would like the other to "stop," as revealed by the survey instruments. After they have stated their grievance, the second group should not be asked to provide a response, but to provide their version of what they think the issue is. The first group should then be asked if that version of the issue is accurate. In this way, the groups come to a clear understanding of the issue before debating it.

Following discussion of that issue the second group is then asked for an issue regarding something the first group is doing that they would like them to stop doing and the same sequence is followed to ensure the issue is clearly defined. In this way, each team in turn outlines an issue of conduct that they wish stopped, an agreement is reached on the nature of the issue, and a discussion takes place regarding solutions for its resolution.

Following a discussion of issues regarding conduct that one or the other group would like stopped, the groups should each in turn discuss things they would like the other to "start" doing with the facilitator following the same sequence as above.

Finally, the groups are asked in turn to state things they would like the other to "continue" doing. It is important to follow this sequence of "stop, start, continue" since the intention is that the meeting should finish on a positive note. In this way, the groups learn of actions and attitudes that have a positive/negative effect both on quality as it is perceived both internally and externally, and on relations between their respective agencies.

Developing Solutions

This is the fourth step in the CQI process. From the needs assessment and face-to-face meetings, each pair of teams should reach agreement on the issues and conduct which specifically define the quality of work produced by the interaction of their respective agencies, including the issues which promote/retard effective working relationships, and the proposed solutions.

The implementation and monitoring of those solutions form the fifth and sixth steps in the process and provide the base measure for a long-term CQI program.

The solutions may include recommendations for additional training, staffing, or equipment, including information systems, in addition to quantitative and qualitative measures of quality.

Outcomes Analysis

This is the final step in the CQI program. The purpose of this form of analysis is to find how well the program is working. Should it be continued? Do current practices need to be modified or even abandoned? Do the costs of implementing the program outweigh the benefits? Both the program itself and its results need to be scrutinized. For example, when the decedent's age criterion for mandatory autopsy procedure was decreased from 55 to 50 years of age, was there a significant improvement in the accuracy of the cause of death certification for the age group between 50 and 55? Evaluations take place on an agreed schedule, such as every six months. The same format used for the initial needs assessment is followed, subject to agreed-on modifications, and consists of some form of survey research instrument, followed by face-to-face meetings. One additional feature may be a requirement for a cost/benefit analysis.

It is essential to continue using techniques such as the "stop, start, continue" technique, with its nonconfrontational theme and its focus on the positive.

Discussion

Deming (3) cited 14 points that must be followed to successfully implement CQI. One of those is to cease relying on inspection/accreditation to achieve quality.

The United States encompasses cultures as diverse as those of Montana, New York, and Alabama. In common with other regions of the world, this includes areas which are so parochial in nature that a "foreigner" may simply be someone from an adjacent county. Career prospects, social status, and income are all locally derived and not dependent on national accreditation. National accrediting agencies lack the power to subordinate those local customs and institutions. Naturally, the office must comply with all applicable federal, state, and local regulations. Other than that, national standards must be adapted for local use based on needs assessment and ongoing consultation. The office is required to preserve goodwill and to retain the assent and cooperation of local interests. Problems will generally arise in three categories: organizational, political, and personal working relationships. Accreditation deals most effectively with organizational issues that can be made tangible and quantified. CQI must address those types of issues. However, issues of politics and personal relationships are of an intangible, qualitative nature and CQI as contemplated in this paper is primarily designed to provide a method of resolving those types of issues. CQI provides a method of dealing with qualitative issues relating to human relations and human resource management.

It is well documented that there is considerable variation in medical practice patterns across the country (6). This has been attributed to various attitudes such as "practice style" (7), confusion/disagreement as to what the "correct" procedure should be (8), or the influence of particular teaching schools (6). In short, practice variation is a normal fact of life, and genuine differences of opinion do exist as to what is or is not "quality."

The office should stress community benefits and community participation to ensure a positive image in local political circles. In today's society, a great number of parents are becoming increasingly concerned regarding society's influence on the attitudes and conduct of their children. Drugs and violence in schools are a com-

mon topic of concern. Participation in drug awareness/anger management programs at school and assuming a posture of leadership in the campaign to increase drug awareness and discourage drug use and violence are strategies that are likely to pay dividends in the eyes of socially conscious parents and politicians.

Courtroom presentation is another common area where a need for improvement is likely to be identified. There are both quantitative and qualitative issues. The forensic staff may believe with perfect justification that they have done an outstanding job of determining the "facts" and of marshaling their opinions, but the effect of this will be substantially offset by a report style that uses obscure language or a complicated format, or that is presented by an individual with poor body language and verbal skills, and a generally unprofessional appearance. No commercial business whose activities involved its employees regularly appearing in public, often under intense media scrutiny, would permit those employees to do so without regular, intense training in report preparation, communication skills, and appropriate personal grooming. Yet, training and CQI in those vital areas are virtually nonexistent in death investigation systems.

Cross-training of employees is a common need. Poor public relations is the certain result if a call to the office results in the frustrating tale that the single individual responsible for that issue is on vacation for two weeks.

It is essential to stress the necessity for courtesy and consideration in all employee training sessions. Appearances do count, and neatness and cleanliness are mandatory. For the office to maintain a positive image in the community, it is vital to reduce the number of negative experiences encountered by the various customer groups.

As an illustration, the following results are from a study conducted for the White House Office of Consumer Affairs (10):

- The average business never hears from 96% of its unhappy customers.
- The average customer who has a problem with an organization tells 9 or 10 people about it. Thirteen percent of people who have a problem with an organization recount the incident to more than 20 people.
- Individuals who have complained to an organization and had their complaints satisfactorily resolved tell an average of five people about the treatment they received.

Training should encompass dealing with the bereaved and developing the ability to project empathy for the severely distressed.

Critical to long-term change is the perception that management supports the desired outcomes. Key personnel (who may be the "key informants" in each team) in both the internal and external customer groups should act as role models and demonstrate their commitment and support by their actions. In particular, they must set a personal example of being responsive to people, and this begins with the internal customers, i.e., their own employees. The attitude of those internal customers to external customers of the agency is likely to reflect their own experiences in their own office. Do managers listen to complaints or ideas, do employees participate in decision making, are there regular meetings to discuss employee career issues, do managers supply their subordinates with information in a timely manner? Sincere recognition of achievement should be ongoing and might include commending an employee for special empathy demonstrated toward a bereaved relative, open discussions at meetings, or discussions with other managers, etc. Arranging for the publication of articles in the media profiling outstanding employees can be a source of improved morale and pride of workmanship.

Finally, CQI provides a continuous source of reference. It crosses over electoral downfalls, retirements, and promotions. In many regions of the United States, individuals may be elected or appointed as coroners who are experienced administrators or law enforcement officers but who have literally no experience in death investigation systems. For them, a CQI program provides an instant source of invaluable information. CQI should provide continuity of quality. The system is intended to exist independent of the personnel who are taking part in it at any particular time. In addition, since the system involves the participation of multiple agencies, it is difficult for a single participating agency to disrupt it without prejudicing its relationships with those other agencies whose cooperation may be required in other political or budgeting arenas. These factors would tend to make the CQI program self-perpetuating once established.

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