

SUPPLYING QUALITY HEALTHCARE TO THE UNEDUCATED PATIENT

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ABSTRACT

The ultimate customer in healthcare is the patient who may be undereducated and easily overwhelmed by the complexity of healthcare. The patient becomes the final customer of healthcare services only after a long line of other customers' needs have been met. An internal system of customer/supplier relationships must be used to augment feedback provided by the undereducated final customer. Assessment from the final customer is necessary, however by paying more attention to the internal customer/supplier scenarios fewer situations for poor quality will arise.

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INTRODUCTION

Many have addressed the uniqueness of healthcare quality (e.g., [1]; [2]). Some have suggested ignoring ideas and strategies developed outside the healthcare industry, while others have attempted to treat healthcare quality as if it were a manufacturing process, blindly adopting procedures directly from the "widget" plant. Healthcare, healthcare quality and healthcare solutions are unique, as is quality in the auto, nuclear and service industries however quality improvement concepts, tools and philosophies are common to all disciplines and can be used globally.

Success stories using techniques considered to be traditionally industrial have emerged from the healthcare field. Shaw [3] describes the successful application of both Pareto and Cause & Effect analysis within a health care institution. Lloyd and Carey [4], Kazandjian [5] and Carey [6] describe a variety of successful applications of traditional quality metrics in healthcare. Recently, Frings & Grant [7] described the application of six sigma methodology in a hospital setting. Shannon [8] presented ideas taken from the Toyota Production System in their successful attack on CLABs. In this manuscript we discuss a systemic problem prominent in the healthcare field but certainly not unique to that setting. In dealing with the problem, we return to basic tools, definitions, ideas and discussions that are generic to the field of quality improvement.

Virtually all quality programs are based on the customer. Quality conscious organizations work closely with their customers to provide goods and/or services that meet or exceed these customers' requirements. Customers are expected to set the specifications for the goods or services being purchased and to measure the quality of the goods and/or services based on the supplier's ability to meet or exceed these specifications.

The American Society for Quality (ASQ) adopted a definition of quality motivated by this customer concept, defining quality as "The totality of all features and

characteristics of a product and/or service that bear on its ability to satisfy a user's given needs." This definition is often summarized by the expression "Fitness for Use", with "Fitness" being a reflection of the requirements of the user. Both goods and services are readily adapted to the idea of "Fitness for Use", while striving to increase the "level of fitness" is consistent with the continuing improvement philosophies.

In a customer based quality program the customer is assumed to have the ability i) to set requirements and ii) to judge the ability of the supplier. When the customer is uneducated (i.e., does not have the ability to set the requirements and/or judge quality), how does one measure quality? In the health care field the customer is often the patient. What does quality healthcare mean to the patient? How does the patient measure quality? If the healthcare institution is the supplier and the patient the customer, how does the customer state the requirements and then measure the ability of the supplier to meet his/her expectations?

CURRENT STRATEGIES FOR DEALING WITH UNEDUCATED CUSTOMERS

One strategy for dealing with uneducated customers is to simply educate the customer. The goal in this strategy is to elevate the customer to a level where they possess the ability to express requirements and assess the level of satisfaction provided by the supplier. The strategy is an honorable one but extremely difficult in the healthcare setting. It basically requires potential users of the healthcare system be given sufficient knowledge to assess the level of satisfaction associated with their contact with the system. Consider a patient requiring surgery as the customer and his/her "wellness" as a measure of quality. How does the customer specify, for example, i) the surgical techniques, ii) the anesthetic and iii) the pre and post operative procedures without some profound knowledge of medicine? In order to set requirements in

this case the customer, at a minimum, requires the knowledge of a surgeon, anesthetist and nurse. Although knowledge among patients of the healthcare system is thought to be rising, it is extremely difficult to picture the day where customers will have sufficient knowledge to articulate their requirements. If customers can not set specifications, how can they be expected to assess the level of satisfaction (quality) associated with their surgery?

Many practitioners do educate their patient regarding the procedures they are about to perform, however if there are competing techniques the customer is not generally given the option or is afforded the knowledge of an alternative procedure. Education, although an important issue in the healthcare experience, is clearly not a viable strategy.

A second strategy frequently used by North American healthcare institutions ignores the idea that the customer is uneducated and attempts to solicit the level of customer satisfaction associated with the patient's experience while in the institution. Solicitation generally takes the form of a questionnaire given to the patient (i.e., customer) at the completion of their contact. Unfortunately the questionnaires often become "back-patting" exercises assessing only limited characteristics associated with the patients stay. Frequently the questionnaires focus on ideas such as i) the level of satisfaction with the food, ii) the pleasantness of attending staff and iii) the satisfaction with the facilities, while failing to question the most important characteristic, the "wellness" of the customer. Although these three points contribute to the overall wellness of the patient they do not directly address the recovery of the customer. In addition the questionnaires are generally not mandatory, often reflecting only extremes such as very good or very poor experiences with the system.

Due to the shortcomings of the questionnaires from a wellness perspective, they are often supplemented with information about the customer but not provided by the customer. Information from an "independent" body is used to supplement the information provided by the customer. Since the customer is deemed unable to adequately assess the quality of their recovery, a policing/regulatory body consisting of educated non-customers provides information regarding the recovery of the customer. The role of the group is to review patient files and to provide insights into the quality of the recovery measured in terms of i) procedures used ii) medications required, iii) time to release, iv) complications, etc. (i.e., those concepts not assessable by the patient). This group of educated non-customers (frequently under the guise of the quality department) become inspectors and is often regarded as the police force whose role is to monitor practitioners rather than customers. Programs such as this foster the attitude that "inspection, and its associated police force" is a legitimate tool for improving quality.

Inspection does not improve quality. Deming [9] suggested that at best mass inspection catches only 80% of the non-conforming product while identifying approximately 2% of the good product as non-conforming. Mass inspection is expensive and does not ensure high levels of quality. Mass inspection over the long-term is not only expensive and ineffective; it tends to develop morale problems. Those whose tasks are to "inspect" the process represent the "police force", and inevitably out of fear, problems and errors are hidden from these inspectors. As a result, new quality levels are not attained. Inspection is not proactive, it is simply an attempt to detect problems.

Well established quality programs do not rely on "defect detection" but have moved to "defect prevention", thereby becoming pro-active in attempting to improve quality.

ALTERNATIVE STRATEGY

Successful quality initiatives such as Six Sigma and Toyota Production System have adopted philosophies and developed techniques that are of the prevention, not detection, mode. In this light, and maintaining the motivation that quality is customer driven, consider a strategy of extending the patient/healthcare relationship to a series of internal customer and supplier relationships. The idea that quality is customer driven is easy to picture in the case where there is an external customer who purchases the products or services provided by a company. However it is equally easy to set up a series of customer/supplier relationships within an organization where the customer uses the products or services provided by suppliers in performing their tasks. The supplier might be a person across the hall, a machine in the next office, or a department across the country.

In setting up a series of internal customer/supplier relationships and empowering those people responsible for the various tasks to critically look at their processes, discuss ideas with their customers/suppliers and to make changes to their process results in a series of smaller tasks managed by educated customers with the power to make changes designed to enhance the external customers well being. Many of these internal tasks are not visible to the external customer but impact the wellness of the customer. Rather than trying to inspect the external customers' wellness, this strategy attempts to insure wellness by developing quality processes at each of a series of internal customer/supplier relationships. This strategy moves quality, in this instance, from inspecting patient files for problems to developing better methods, techniques and ideas that will assure patient wellness. Moving from an external customer motivation to an internal customer motivation and providing the internal customers/suppliers with the ability to control the tasks they perform; removes the emphasis on the uneducated external customer to provide a set of requirements. The emphasis is shifted to the series of internal educated customers who have the ability to set specifications and to judge the level of satisfaction associated with their supplier(s).

Feedback from the external client is still necessary but is not as critical. Mandatory questionnaires that focus on aspects other than wellness can be used to provide external customer feedback to the internal group. These questionnaires can be used to provide an indication of the attitudes toward and acceptability of i) attending staff, ii) specific procedures and techniques, iii) general policy, iv) facilities, etc. and can be used to assess changes to the overall process made by the internal customers.

IDENTIFYING CUSTOMER/SUPPLIER RELATIONSHIPS

In most organizations a series of internal customer/supplier relationships of some form is already in place. Tasks are being performed and the resulting product and/or service sent on to an internal customer. However formal process maps or flowcharts of the customer/supplier relationships associated with a procedure are usually very enlightening. Frequently when formalizing a series of internal customer/supplier relationships, redundant or unneeded steps in the process are identified. These steps may have been allowed to continue for a variety of reasons such as i) those

responsible have never been consulted and/or given the opportunity to deal with their portion of the process or ii) suppliers have never known or consulted their customers.

Figure 1. Flowchart of Medication Example

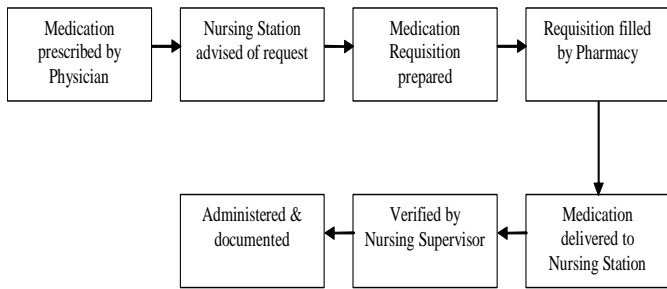
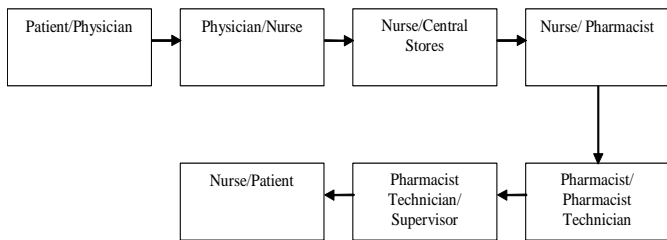


Figure 1 is an example of a flowchart illustrating the administration of a medication. The flowchart identifies the key steps required in the process of prescribing and delivering medication to a patient. Once the process has been documented it is then a straightforward step to identify the customer/supplier relationships that exist. Figure 2 identifies the customer/supplier relationship at each step in the above medication example.

Figure 2. Customer/Supplier Relationships for Medication Example



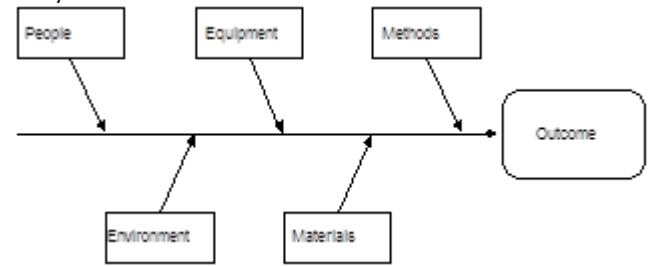
If one of the suppliers in the sequence of customer/supplier relationships does not meet requirements a quality problem arises. By empowering the people responsible for the tasks, discussions can occur and the quality problem dealt with. The customer sets the requirements and the supplier works with the customer in an attempt to meet these requirements. The goal is to give responsibility to the customer for defining the needs and requirements that affect his/her performance of the expected tasks. He/she will also be expected to outline the needs and expectations required from his/her suppliers. This may encompass working conditions, time demands, equipment (and its availability), protocols, materials, etc. This sequence of customer/supplier relationships assigns responsibility to those performing the tasks or duties. Each customer is responsible for i) outlining the requirements of their suppliers and ii) insuring they supply a product to their customer that is "fit for use".

CAUSE & EFFECT CHARTS

In addition to flowcharting, there are other tools essential in supporting quality improvement initiatives. Allowing that every task can be thought of as a process or series of processes that brings together the necessary materials and skills required to produce an outcome, a process can then be defined as a blend of people, machines, methods, material and environment. The resulting process outcome is then purchased/used by a "customer". An outcome can be a manufactured product, a service or a combination of service/product. Each process may have a different composition of the five basic components,

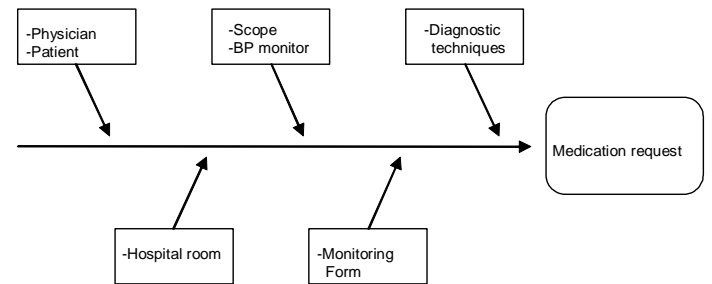
however every process can be considered in this fashion. If a quality problem arises in a particular process it is traceable to one or more of the components used to define the process. The basic Cause & Effect (or Fishbone) chart (see Figure 3) readily illustrates the concept of the five basic components combining to produce an outcome.

Figure 3. Components associated with producing a product and/or service.



All facets of the health care field can be described as a blending of people, methods, machinery, environment and materials regardless of the actual form of the outcome. Different tasks in healthcare will have differing combinations of these five components with various levels of importance, but all tasks can be thought of in this manner. Consider the first customer/supplier relationship in the Medication Example flowchart. The initial stage in the overall process is the patient/physician contact resulting in the creation a medication request. Figure 4 lists some of the key components required to produce the medication request. If a problem arises in creating the medication request, the customer (patient) and supplier (physician) now have a list of areas to review in attempting to improve the process.

Figure 4. A Basic Cause & Effect chart for first stage of the Medication Example



REMARKS

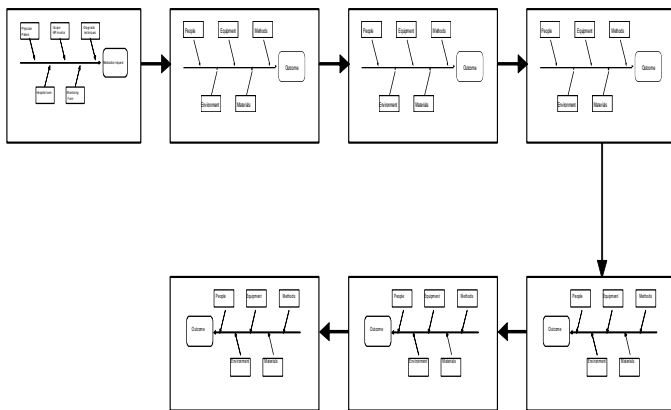
The ultimate customer in healthcare is the patient. However the patient should be considered as only the final customer in a long line of customers. Assuming the customer sets the requirements and assesses the level of quality received from a supplier, a series of customer/supplier relationships are encountered prior to any service/help being rendered to the patient. Allowing the people responsible for delivering the good/service to review and modify their process in order to meet their customer's expectations, the internal system of customer/supplier relationships can be used to partially replace the uneducated final customer. Feedback from the final customer is still necessary, however by paying more attention to the internal customer/supplier scenarios fewer poor quality situations should arise.

This alternative strategy makes use of two fundamental quality tools: i) Process mapping/flowcharting and ii) Cause and Effects charts to identify customer/suppliers and the key components associated with each of their outcomes (see Figure 5).

Empowering the people is the call of Deming, Juran and others. Providing people with the ability to make decisions and to react to situations is the responsibility of management. Without the empowerment of those responsible for delivering goods and services, quality initiatives are not sustainable. Administrators, Managers and supervisors must maintain a working environment that fosters constant review and challenge of existing processes. "Creative dissatisfaction with the status quo" is the rallying call of many successful quality initiatives. It is imperative that the impetus for quality improvement is constant and consistent. In a continuous improvement environment processes are constantly scrutinized by the customer and supplier for improvement opportunities.

In many processes you will find that quality can be improved without an increase in costs. Often in healthcare, equipment is the most expensive component associated with producing an outcome. Before purchasing the latest technology, examine your process. Create a flowchart illustrating the delivery of the good/service provided. Develop a Cause & Effect chart for each customer/supplier relationship illustrating the inputs used to produce the good/service. There may be other less expensive solutions that will improve the quality of the good/service. Do not sell the human component of your process short, these are the assets with the greatest ability to adapt and produce a quality product in the face of inconsistencies.

Figure 5. Combining the Flowchart and Cause & Effect chart for the Medication Request



The ideas and strategies discussed have been developed from various quality applications. The general strategy calls for organizations to pay attention to internal customer/supplier relationships, this is critical in those cases where the external customer is uneducated.

Biographical Sketch

Fred Spiring is a Senior Member of the American Society of Quality, Adjunct Professor in the Department of Statistics, The University of Manitoba and Retired Director of Pollard Banknote Ltd. Dr. Spiring has worked as a Researcher with Health Canada and implemented quality management initiatives within The University of Manitoba (Winnipeg, Manitoba) and the University of Western Ontario.

Applications are not restricted to the healthcare field; cases of uneducated customers arise in many other areas, including educational institutions, government, and policy setting bodies; however the solutions will be unique to the healthcare setting.

There are many examples of customer driven quality programs within the healthcare sector. Most hospital purchasing departments have become astute quality driven customers working with suppliers to assure the quality of purchased goods and services. The purchasing department provides a set of requirements and assesses the quality of the service or product purchased by measuring the ability of the supplier to meet these requirements. If the supplier does not meet or exceed the customer's requirements the problem is discussed between the customer and supplier, if a consensus can not be reached regarding the customer's requirements then future purchases are taken to competing suppliers.

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