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of

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by

LT James Hiland, MSC, USN

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Abstract

Following Department of Defense (DoD) guidance, the Department of the Navy (DoN) is aggressively pursuing widescale implementation of a continuous quality improvement philosophy. This philosophy, generally known as Total Quality Management (TQM) in the DoD, is widely known as Total Quality Leadership (TQL) within the Department of the Navy.

A review of the literature examining the history of continuous quality improvement in the civil sector, DoD, DoN, and the Navy Medical Department is presented. Findings of a survey diagnostically outlining work force perceptions of the organizational culture are also presented.

The literature reveals that transformation to TQL involves altering the corporate culture, as well as the need to change long-standing managerial paradigms. Although success stories abound, the transition to continuous quality improvement is time-consuming, and requires patience and determination.

A seven-phase TQL implementation roadmap for Naval Hospital, Pensacola was developed. This two-year initiative was designed to assist management in ensuring an environment supportive of TQL growth within the organization.

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Introduction

Background

The health care industry has been thrust into an environment of rapid change and increasing uncertainty. Traditional patterns of health care practice are crumbling. A whole array of alternate delivery arrangements such as managed care, outpatient surgery, and home health care threaten to drastically alter the future health care landscape (Coile, 1990).

The spiraling inflationary trend experienced within the industry threatens the very existence of the system as it currently appears (Califano, 1986). Identifying and correcting system inefficiencies has become a national imperative.

Increased competition has also become a significant factor in the health care industry. Since price levels are in large part set by the market, quality and service will become two of the major differentiating factors (Coile, 1990). Medical facilities that fail to meet the needs and expectations of patients will likely lose market share, and may eventually fade out of existence.

Over the past 10 years, continuous quality improvement programs have been adopted by a wide range

of organizations. This movement which began in the production sector now impacts the service sector as well. In 1990, Federal Express Corp. joined Cadillac Motor Division, IBM Rochester, and Wallace Co., and became the first service-based organization to win the prestigious Malcolm Baldrige award for excellence in quality improvement (Stratton, 1990).

Considered by many to be in a state of crisis and in desperate need of a "fix", segments of the health care industry, from Allient Health Systems in Louisville, KY, to Hospital Corporation of America (HCA), have become service sector leaders in this movement (Bruda, 1991 & O'Halloran, 1989). Walton (1991) provides several examples in which continuous quality improvement programs have enhanced productivity, reduced costs, and increased profitability and market share in both production and service sectors.

Problem Statement

Traditionally, leaders of the Navy Medical Department operated on the assumption that the organizations they controlled were somehow isolated from the effects of change within the health care industry. A captive patient base, combined with an assurance of program funding, likely encouraged

complacency. Could it be that this attitude is changing? It appears that the leadership of Navy Medicine now realizes that publicly supported health care programs share many of the problems found in the private sector.

Rising health care costs, caps on spending, and changing medical standards not only affect the private sector, but also have an impact on health care delivery within the DoD system. Following the lead of the private sector, public sector concerns are now calling upon the continuous quality improvement philosophy to provide a long-term solution for chronic problems (O'Halloran, 1989). Among these, the Navy Medical Department is hopeful that Total Quality Leadership will provide the tools necessary for facing the many challenges that lie ahead (Zimble, 1990).

Objectives and Purpose of the Project

It has been theorized that Total Quality Leadership involves a management philosophy which will enable health care organizations to better meet the needs and expectations of beneficiaries, while adding efficiencies to overall operations. The Navy Medical Department is committed to incorporating TQL throughout its activities. Naval Hospital, Pensacola has reached

the point at which decisions concerning specific TQL implementation strategies must be made.

The purpose of this study is to develop the actual plan, or "roadmap" for implementing a Total Quality Leadership (TQL) program at Naval Hospital, Pensacola. In keeping with Navy Medical Department general guidance, the framework for plan development will rely heavily on the quality management teachings of Dr. W. Edwards Deming. However, in order to ensure a product tailored to meet the specific needs of the hospital, flexibility in considering ideas found outside the Deming framework will be maintained.

An objective of this project is to develop a program which minimizes the level of resistance normally experienced by individuals working in organizations undergoing radical change. The goal is to develop a program which will "ease" the hospital into Total Quality Leadership.

Methodology

Literature Review

In completing the roadmap, an extensive review of current literature was conducted to compile information on the Total Quality Leadership concept. Information on factors and considerations which impact successful TQL program implementation was also gathered. Although

somewhat more limited in availability, the final search category included literature specifically outlining quality improvement program implementation strategies.

A manual literature search was conducted at the University of West Florida. The card catalog was used for a search of books, and the *Readers Guide to Periodical Literature* for journal articles. The *Government Reports, Announcements, and Index* was also consulted. In addition to finding several good references, this index was most useful in determining the best "key" words for use in the computer searches.

To maximize research time, several computer data services were used to produce abstracts and bibliographies of relevant material. The following databases were used:

- Dialog Information Services;
- Defense Technical Information Center (DTIC);
- National Technical Information Service (NTIS).

The literature provided an historical perspective of the subject matter and led to an understanding of the factors which have fueled growing acceptance of continuous quality improvement initiatives in the American work place. The TQL plan for Naval Hospital,

Pensacola incorporated concepts derived from these sources.

External TQL Education

Attendance at externally provided education programs was used to augment information derived through the formal literature review. Specific courses which were attended include:

- Total Quality Management Awareness Seminar; a one-day course presented by Chief, Naval Education and Training, Pensacola, FL;

- Hospital-Wide Quality Improvement Applications Course; a two-day seminar presented by West Florida Regional Medical Center, Pensacola, FL;

- Total Quality Leadership Facilitator Training; a five-day course presented by the Quality Advisory Group, Naval Air Station, Pensacola, FL;

- Total Quality Leadership Executive Training; a three-day course provided by the Naval Medical Quality Institute, Bethesda, MD.

The content of these courses ranged from general awareness of the concepts of the TQL philosophy to specific suggestions for implementing continuous quality improvement programs. Facilitator training was specifically designed to sharpen those skills necessary

to monitor and assist Process Action Teams in the accomplishment of various team activities.

Unlike information derived from the literature, course content focused a great deal of attention on statistical tools utilized in TQL. Composition and functioning of the various TQL teams was also covered in detail.

Personal Interviews

Personal interviews with various TQL Coordinators were conducted. The organizations employing these individuals launched TQL programs in the previous two- to five-year period.

The purpose of the interviews was to gain insight into the implementation process. The goal was to develop a TQL plan incorporating strengths, while minimizing weaknesses and problems experienced by these organizations. The methodologies and rationales for adopting a particular approach toward TQL program implementation were discussed in detail. Lessons learned by these organizations throughout the implementation process also received attention. Specific interviews were conducted with program coordinators from:

- West Florida Regional Medical Center, Pensacola, FL;

- Naval Aviation Depot, Pensacola, FL;

- Chief of Naval Education and Training, Pensacola, FL;

- Naval Air Station, Pensacola, FL;

- Chief of Naval Air Training, Corpus Christi, TX;

Informal discussions were also conducted with the Commanding Officer and staff of the Naval Medical Quality Institute, Bethesda, MD.

Organizational Climate Survey

A survey to measure organizational climate was identified and administered to a random sample of individuals working within the organization. The purpose was to develop a gauge of employee perceptions concerning various continuous quality related issues. Since results of the command climate survey can be viewed as a measure of acceptance or resistance to the quality improvement effort (Berry, 1991), periodic re-administration will hopefully show an improvement of employee perceptions concerning command climate issues.

The instrument selected for use was developed under DoD contract by General Research Corporation. Entitled, *Quality and Productivity Self-Assessment Guide for Defense Organizations,* this survey tool was specifically designed to assist individuals and

organizations pursuing quality improvement initiatives (General Research Corporation, 1989).

The objective was to receive input from 10 percent of the military and civilian employee population, or 124 of 1237 individuals. The hospital and five satellite branch clinics were targeted for survey. Branch Clinics in question are located at Panama City, FL; Milton, FL; Pensacola, FL; Gulfport, MS; and Meridian, MS.

The survey was delivered to respondents during the first week of March, 1991. A total of 217 surveys representing 18% of the command, were initially mailed. In anticipation of a less than 10% response, a second distribution was scheduled for early April, 1991. The second mailing was not necessary.

Although the primary objective was to determine the cumulative commandwide perception of work climate, appropriate stratification of the sample by functional directorate was examined. The random selection process provided adequate stratification (plus or minus two percentage points) by directorate as well as by the categories of officer/enlisted and male/female.

Each survey included a memorandum signed by the TQL coordinator which explained the purpose of the survey. Completed surveys were requested to be

returned by March 20, 1991. The cutoff date for accepting surveys for inclusion in the study was April 1, 1991.

In order to obtain a data base for future analysis requested background information included rank, work center and sex. Respondents were assured that individual results would remain confidential. Since the survey could be used as a self-assessment tool, respondents were encouraged to seek individual results by self-scoring the survey in the TQL resource office, or by leaving their name and requesting that results be forwarded. In no other cases were names sought or desired.

Surveys were scored utilizing the scoring guidelines developed by General Research Corporation (1989). A computerized version capable of automatic scoring was included in the guide package. Due to difficulties in coordinating times and places for respondents to complete a computerized survey, the "paper and pencil" version was opted for. Subsequent scoring was also accomplished by hand.

Literature Review

A Nation in Economic Decline

Why is the American industrial complex, once thought invulnerable to the threat of external

competition, now struggling to regain lost markets and international status? How did Japan, a small isolated country lacking vital natural resources, emerge from the ruins of war to become a global economic powerhouse? Is the Japanese work force somehow more capable and motivated than their American counterparts? Does the United States lack national drive and sense of purpose?

W. Edwards Deming, a management theorist, argues that differences are not rooted in drive or ability. The difference can more aptly be attributed to dramatically opposing managerial styles. This observation is particularly interesting considering the fact that Deming, an American visionary, is largely responsible for delivering to the economically devastated, post-World War II, Japanese industry a powerful managerial philosophy calling for continuous quality improvement over the thousands of processes at play in the typical organization. This philosophy quickly gained nationwide acceptance in Japan. (Deming, 1986; Walton, 1986).

As Japan was undergoing this transformation, where was the American Industrial complex? Unfortunately, American business leaders failed to appreciate the vast potential of Deming's teachings. (Ishikawa, 1985;

Walton, 1986). Instead, American managers continued to place tremendous loyalty on long-standing, perhaps outdated, managerial paradigms.

The Power of Paradigms

Webster's New Collegiate Dictionary (1979, p. 823) defines *paradigm* as a clear and understandable example or archetype. Paradigms are patterns or rules that establish fundamental limits and boundaries on the way we look at things, the way we think, and the way things are done (Johnson, 1989). It is through these limitations that we interpret the world (Kuhn, 1974).

While paradigms add an element of reason to our lives, undue reliance on them often makes it difficult to accept new ideas. When our paradigm becomes "*the* paradigm", or the only way of doing something, a condition Barker (1989) terms *paradigm paralysis* exists. When paradigm paralysis takes over, individuals are unable to understand or assimilate new ideas, and valuable opportunities are often discounted.

It was paradigm paralysis in action when, in 1968, the Swiss developed, then failed to market (or even patent protect), the quartz movement watch. After all, the quartz movement watch failed to fit the Swiss "watch paradigm" of jewels, movements, and sweep second hands. How could it possibly be of any value?

Unfortunately for the Swiss, history would show that they made a costly tactical error. In the 20 years following development of quartz movement technology, the quartz watch grew to dominate the marketplace and the Swiss global market share for watches fell from 85% to a mere 10% (Barker, 1989).

The Swiss provide the world with a dramatic example of the power of paradigms. But could it have also been paradigm paralysis that barred American industrial leaders from considering valuable new methods and tools for managing organizations? Although more subtle, history may show the result of this "blindness to new ideas" to be equally as insidious for American industry.

Shifting Managerial Paradigms

Scientific Management, or management by specialists, was initially taught by Frederick Taylor some 50 years ago, and is still being used in this country (Ishikawa, 1985). Scientific Management attempts to define and control human performance through the use of work standards, rules, and end line inspection.

In the 1940s the American work force included a large pool of untrained and illiterate workers. Incorporation of a management approach emphasizing job

simplicity made sense, and Scientific Management grew to become an effective American managerial paradigm (Walton, 1986).

Unfortunately, managerial methods useful 50 years ago are often counterproductive in the current work environment (Ishikawa, 1986). Perhaps the time has arrived for business leaders in the United States to take a bold step forward and discard comfortable but outdated managerial methodologies for more appropriate alternatives.

According to Johnson (1989) the transition to continuous quality improvement involves shifting many hardened managerial paradigms. Foremost on the list is a shift in emphasis from finance and marketing to that of technology and humanistic issues. With TQL, quality improvement replaces productivity and profitability as the prime operational goal. Over the long-term, however, a reduction in rework, combined with fewer production delays, eventually leads to increased productivity and profits (Deming, 1986 & Johnson, 1989).

The transition to TQL also involves a shift from short-term vision to long-term vision. Traditional short-term concentration on the bottom line has simply resulted in creative accounting and financial

manipulations (Johnson, 1989). It is the organization which focuses on long-term customer needs that will prosper (Deming, 1986 & Walton, 1989). Finally, the shift to TQL involves a change in product focus. No longer can products and services be made simply to sell. The notion of planned obsolescence has no place in the TQL organization. Rather, products and services are offered which truly satisfy the customer, and provide defect free service (Johnson, 1989).

A Time for Change

It normally takes a state of crisis to prompt organizations to discard the comfortable and embark upon a course of change (Deming, 1986). The state of crisis prompting American corporations to consider adoption of the continuous quality improvement philosophy did not occur overnight. In fact, it may have began as long as 20 years ago.

During the late 1970s U.S. production-based industries began feeling the full effects of worldwide competition. Increased competition resulted in a steady trend of decreased market share and profitability. Worldwide institutions from General Motors to IBM were being squeezed out by increasing global competition (Peters, 1987). By 1981, the American service sector, employing 75% of the national

work force, followed closely behind when a $41 billion positive trade balance had all but disappeared.

External pressures were also leading an important member of the service sector, the health care industry, into a state of crisis. What exactly was the major factor fueling this state of crisis? Did introduction of the prospective payment system simply catch the industry by surprise; requiring a rapid re-evaluation of industry focus, and resulting in the need to enhance competitive posture? Did enactment of Medicare legislation simply open a "pandora's" box which the industry was unable to handle? Or did the increasingly litigious environment simply result in unreasonable industry expectations?

Whatever the primary causes, it was the threat of looming economic disaster that likely forced American business leaders, in both production and service sectors, to investigate successful Japanese industrial practices and management methodologies. Imagine their surprise to find that an American was in large part responsible for transforming Japan into an economic powerhouse. After 40 years of exporting his ideas to overseas markets, Dr. Deming finally found a captive audience at home (Walton, 1986).

Terminology

A host of descriptive acronyms and terms have surfaced to describe the Deming management style. Total Quality Control (TQC) was popularized by the Japanese (Ishikawa, 1985). Zero Defects (Crosby, 1979), Company Wide Quality Management (CWQM) (Juran, 1988), Company Wide Quality Control (Imai, 1986), and Hospital Wide Quality Improvement Program (HQIP) (HCA, 1990) are but a few of the terms which have surfaced.

First coined in 1985 by individuals working for the Department of the Navy (DoN) (Doherty, 1985; Walton, 1990), Total Quality Management (TQM) has been adopted as common terminology for use in the Department of Defense, as well as a host of civilian concerns. More recently, Admiral Frank B. Kelso, Chief of Naval Operations (1990), shifted the focus from TQM and adopted Total Quality Leadership (TQL) as terminology to describe the Department of the Navy's interpretation of the continuous quality improvement movement.

Although the overall objective of the current Navy TQL initiative appears consistent with the objectives of TQM, the change in terminology also reinforces the need to sharpen leadership skills and, more importantly, for management to effectively apply these skills on a daily basis. This change in terminology

dramatizes the essential role of sound leadership as a predecessor to effective management.

Leadership in the context of TQL implies the process of empowering the work force. Empowering is achieved only when leaders instill vision, meaning, and trust in their followers (Johnson, 1989). With TQL, employees are empowered to share the responsibility of seeking incremental and continuous improvements over the processes they control (Scherkenbach, 1990; Walton, 1986). A primary function of the leader is to support this effort (O'Halloran, 1989).

Although the different descriptive terms illustrate varying interpretations and focus, they all share the common thread of continuous improvement of products and services in order to better meet the needs and expectations of customers and improve the ability of the organization to meet its mission. Because TQL is the preferred term used within the Department of the Navy, it along with a more generic term "continuous quality improvement", will be used for this project.

The Total Quality Leadership Philosophy

Total Quality Leadership can best be described as an all encompassing management philosophy. Those responsible for the quality improvement movement provide little in terms of the strict "how to's" of

effective program development. Instead, a philosophical framework open to individualized interpretation is offered.

Total Quality Leadership is also a management attitude. In an effective TQL program this attitude is eventually transmitted through every facet of the organization. From an employee's standpoint, the TQL philosophy may likely be described simply as "the way we do things around here".

Quality and TQL Defined

In a single word "kaizen", the Japanese incorporate the essence of the TQL philosophy. Kaizen, or the gradual and unending objective of making "little things" better in order to set higher and higher standards, has been ingrained into the Japanese psyche. The idea is to make a 1% improvement in a thousand things, not a 1000% improvement in one thing. For the Japanese, kaizen applies to both the personal and professional life (Imai, 1986).

A working definition of TQL developed for this paper, and incorporating the ideas of Gibson (1987), Ishikawa (1985), and CNET (1990) is "the application of quantitative methods and human resources to measure, control, and continuously improve the organizational processes which combine to produce products and

services which meet or exceed the expectations of customers". Essentially TQL boils down to ensuring that "quality" becomes the driving force behind the organizations efforts.

Most individuals would agree that the pursuit of quality, both as a provider of products or services and as a customer, is worthwhile and desirable. But what exactly is quality, and more importantly whose definition of quality, customer or provider, should prevail?

Although most people routinely refer to a product or service in terms of quality, the words they use to define a level of quality often include terms such as "the best product available" or "well-built". Unfortunately these terms fail to provide descriptions which are objective and measurable (Johnson, 1989).

According to Garvin (1988) quality is a complex concept involving eight distinct dimensions. These dimensions include: performance, or the operating characteristics of a product; features; reliability; conformance to pre-established standards; durability; serviceability, including the level of courtesy and competency experienced during the transaction; aesthetics; and, consumer perceptions.

Johnson (1989) lists several concise definitions of quality which have been published since 1951. The common theme permeating these definitions is that quality must be defined in terms of the customer. The very notion of quality implies preference, value, satisfaction, and the ability of a product or service to fulfill customer needs and expectations (Johnson, 1990; Steffen, 1988).

At the root of the Japanese term "kaizen" rests the notion of customer satisfaction (Imai, 1986). Based on the preceding discussion it can be seen that satisfaction, a relatively subjective phenomenon based in large part on individual perceptions, plays a major role in determining if the product or service can be considered of high quality.

From a health care standpoint Coile, (1990, p. 267) appears correct when he states that "satisfying customers is the essence of quality medicine". He further states that "service management is the strategic path to success in the future". Obviously any effort in producing an acceptable product or service is pointless if it fails to produce satisfied customers.

As reported by Zemke (1990), a landmark study conducted by the Technical Assistance Research Programs

Institute of Washington, DC illuminates the degree to which American business leaders have failed to understand the concept and importance of kaizen. This study found that an alarming 25% of customers are so upset with the level of service found in American companies, they would stop doing business with these companies if a better alternative could be found. More over, only 5% of these customers register complaints which might illuminate problem areas. The remaining 95% simply switch to a more accommodating product or service. In another recent study reported by Zemke (1990) which examined service sector concerns such as law firms, dental clinics, and hospitals, nearly 45% of the respondents rated service in these areas as being fair or poor, with 33% reporting that service industries cared less than they did a few years ago.

Organizationally Defining Quality

Adding to the many dimensions of quality, and taking into consideration the wide variety of objectives and missions of American businesses, development of an organization specific definition of quality may be desirable. By providing a concise and focused definition, members of the organization can more accurately gauge where to direct improvement energies (Gulsby, 1990). Knowledge of a particular

organization's focus on quality may also be necessary in order to effect rational management for judging productivity, efficiency, or even arriving at a reasoned allocation of resources (Donabedian, 1988).

In health care, the difficulty in pinpointing the notion of quality, and therefore a precise organizational-based definition is compounded by varying perceptions of what constitutes quality between the three major interest groups; patients, physicians and the community-at-large. This aggravates the chore of producing a usable definition and may add confusion regarding resourcing for quality improvement initiatives.

The patient tends to respond most to the interpersonal aspects of quality. The provider's personal interest and level of attentiveness are likely to provide indicators of technical competence in the mind of the patient. Convenience, comfort, and dignity also figure heavily in the patient's view of quality. Providers, on the other hand, view quality from a more technical standpoint. Clinical judgement, technical skills, scientific knowledge, and access to modern technology provide the foundation by which quality care is measured. From the standpoint of society, quality

health care likely includes elements such as access and equitable distribution (Donabedian, 1987).

Perhaps more accurately regarded as a function of management, a final consideration which may cross into the realm of quality includes the notion of efficiency. Steffen (1988) notes that costs should, in fact, be considered a quality issue when viewed in the context of patient resources, goals, and societal resources. Due to mounting health care expenditures, American industry, third-party insurance plans, and the federal government are demanding that health care institutions provide appropriate care, but in the most efficient manner.

The leadership at West Florida Regional Medical Center, Pensacola, FL, understood the need for developing an organization-specific definition of quality. According to charter, quality at West Florida is:

> Providing services that meet or exceed the needs and expectations of patients and their families, the physicians, payers, our fellow employees, and the communities that are served. Achieving quality is a process of regular measurement, systematic feedback, continuous improvement, and innovation (HCA, 1989).

By displaying this definition throughout the hospital, employees at West Florida have a clear image, with daily reinforcement, of the hospital's quality mission.

Concepts and Tools of TQL

Total Quality Leadership relies on the application of two major concepts; human resource management and applied statistical process control. Of paramount importance is the notion that "workers" have something of value to say. After all, the individual that works within a system is in the optimal position to understand and identify inefficiencies found in system processes. Instead of viewing quality as simply an end line concern, continuous improvement of the thousands of system processes in the organization is sought by all organizational members. Only by seeking these improvements is true quality achieved.

The second major quality management concept involves the use of flow charts and modern statistical control techniques to measure performance. A premise of TQL is that effective management requires the ability to accurately measure performance (Deming, 1986). With TQL the confidence placed in gut feel and intuition is minimized.

One of the most basic tools of TQL is the flow chart. Flow charting is used to outline system

processes as they are, as well as how they optimally should be. Fishbone charts, Frequency charts and Pareto charts are quality control techniques that furnish a means of visually pointing out those elements which may be causing excessive process variance (Walton, 1986).

Numerous statistical control techniques are also used in TQL. The two most commonly employed statistical quality control tools include run charts and control charts. The control chart is particularly useful because it provides a means by which process variation can be charted against statistically determined upper and lower control limits. Processes in which variation is contained within the statistically determined limits are considered to be *in control*. Under these conditions the only way to expect improvement is to actually change the process itself. Special, uncommon, or infrequent causes result in variance found outside of defined control limits. It is important that the origin of special causes be identified so that corrective actions can be taken.

A more thorough review of statistical tools can be found in a variety of sources. Walton (1986) provides one of the more concise and understandable discussions.

Fourteen Points of the Deming Philosophy

Although this project will focus attention on the Deming management method it is important to note that other approaches have been offered. Crosby (1979) has developed a fourteen step philosophy which provides more specific guidance than does the Deming method. The Juran philosophy includes a "quality trilogy" in which quality planning and control leads to quality improvement (Juran 1989). Although individual focus varies, the theme of the three approaches is essentially the same.

Deming sites 14 specific actions which, if followed, he feels provide a mechanism by which American industry can be transformed into a more competitive global force. Although the 14 points have been most extensively applied in production sector industries, they can be easily adapted for use in the service sector as well (Deming, 1986).

Improvement will not come overnight. Deming estimates that it will take the United States as long as 30 years to match the accomplishments of the Japanese. After all, "a big ship traveling at full speed, requires distance and speed to turn" (Mason, 1987). Additionally, it is important to remember that Total Quality Leadership is not achieved by adopting

one or two points. It is the synergistic effect of combining all fourteen points of the Deming philosophy that enables the transformation to occur (Deming, 1986).

The Deming fourteen points used in the U. S. have been tailored to meet the specific needs of American industry. For example, the list provided to the Japanese 20 years ago included 10 or fewer points (Walton, 1986). Changes are due to the fact that quality control activities develop within the frame work of different societies and cultures, and not within a cultural void (Ishikawa, 1985). Cultural differences require that Total Quality Leadership be applied differently in the U.S. than in Japan.

Ishikawa (1985) outlines numerous cultural differences between Japanese and American societies. For example, western societies tend to place much greater reliance on professionalism and specialization than do their Asian counterparts. The Japanese on the other hand can be viewed as having a more vertical society, in which relationships between those above and those below are quite strong. Consequently, horizontal relationships in Japan are weaker than in western societies. In large part it is cultural factors such

as these that dictate the optimal composition of a continuous quality improvement initiative.

It was obviously these cultural differences which provided the impetus for Deming to expand his original listing to the current fourteen. Additionally, with time and experience, Dr. Deming has been compelled to modify the "American" fourteen points. The most recent version is dated January, 1990 (Scholtes, 1988). Numerous authors have provided useful insight into TQL through their interpretation of these points (Deming, 1989; Gillem, 1988; Naval, 1989; Scherkenbach, 1990; Walton, 1989). Unless otherwise noted the following discussion provides a compilation of these authors ideas.

Point one. **Create constancy of purpose for improvement of products and services, with the aim to be competitive and to stay in business, and to provide jobs.**

Considering the increasingly competitive worldwide marketplace, this may represent the most important of the fourteen points. Deming believes that those organizations which continue to emphasize short-term profits over long-term survival will eventually fail. A primary objective of any organization must be the

development of a long-term strategy for staying in business (Walton, 1986; Naval, 1989).

Constancy of purpose requires an increased emphasis on education, continuous improvement of product or service, and maintenance of plant and equipment. Fostering innovation among the work force is also of great importance (Walton, 1986).

The term innovation implies more than just product development. According to Kanter (1983), productivity improvements often rely on those innovations that determine how jobs are to be designed or departments developed. Innovative companies provide the freedom to act, which in turn arouses the desire to act. Innovation allows the organization to adapt to emerging needs and changing demands.

Faced with an increasingly complex external environment, this message on innovation may be particularly applicable to leaders of the health care industry. The mark of future success of a given health care organization may well hinge on the ability and willingness of its members to approach problems (or opportunities) in innovative new ways.

Understanding this idea, RADM James T. Sears (1989), Commander Navy Medical Command, issued a message which challenged all members of the medical

department to investigate new and innovative ways of meeting the challenges that lie ahead. Sears understands well that by harnessing brainpower and encouraging the free flow of ideas, significant improvements can be effected systemwide.

Point two. **Adopt the new philosophy.**

The world is in the midst of a new economic age. Western management must awaken to the challenge, must learn their responsibilities and take on the leadership which is necessary to effect change. The old managerial philosophies which relied on numerical quotas and end line inspections worked fairly well until two decades ago when worldwide competition intensified. Businesses can no longer afford to live with mistakes, defects, poor workmanship, bad materials or fearful and uninformed workers. The corporate culture must be transformed to include a true commitment to quality improvement (Walton, 1986 & Scherkenbach, 1990)

Point three. **Cease dependence on inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the product in the first place.**

The focus of quality control must be changed from inspection to prevention. End line inspection only

shows the presence or absence of quality. True quality comes from improving the processes of production or service. Additionally, quality objectives should not be guided or measured on the basis of specifications. Specifications in no way illustrate the best a product or service can be (Scherkenbach, 1990).

The Joint Commission for Accreditation of Health Care Organizations (JCAHO) is prompting health care organizations to reduce reliance on retrospective inspections. JCAHO is encouraging these organizations to develop methods for identifying, then improving processes which lead to inefficient or poor quality care (Sinioris, 1990).

Point four. **End the practice of awarding business on the basis of price tag. Instead, minimize total costs.**

A partnership must be spawned between organizations and suppliers of equipment and consumables. Health care institutions must also seek improved relations with sources of labor such as nursing schools and medical schools (Walton, 1986; Naval, 1989).

Many would argue that mandated acquisition regulations provide an impassable roadblock to full incorporation of this element. Although restrictions

do hinder implementation, a movement has been launched which will streamline acquisition activities in support of the quality improvement movement.

A number of initiatives, including DoD Directive 5000.43 entitled Acquisition Streamlining, Defense Acquisition Circular 88-1, dated November 1, 1988, and the Federal Acquisition Circular 84-39, dated September 2, 1988, attempt to tailor acquisition requirements to the unique circumstances of individual programs. The goal is to specify requirements in terms of desired results, and transform the DoD into a world class customer, as well as a world class supplier.

At a local level, creative managerial initiatives can also reduce negative impacts of regulation. For example, at the Naval Aviation Depot (NADEP), Pensacola, FL, a system that can best be described as "green, yellow and red lights" has been instituted. The obvious goal is to maintain a "green light" rating. Under this system, vendors that provide products or services which fall below stated requirements are issued: 1) a yellow light if the infraction is minor or first time; and, 2) a red light if the infraction is serious or persistent. Vendors receiving a yellow light are issued a warning letter. Infractions

resulting in a red light result in suspending service with the vendor (Rowan, 1990).

Point five. **Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease costs.**

Improvement should never be viewed as a one time effort. All members of the organization must continually look for ways to reduce waste and improve quality. Addressing particular problems or smoothing out trouble spots is not continuous improvement, its putting out fires. Although statistical thinking plays a major role in making decisions leading to improvement, numbers alone are not enough. The organization must apply all 14 points (Deming, 1986; Walton, 1986).

Point six. **Institute training on the job.** Managers should not rely on the practice of allowing employees to simply learn skills from fellow workers. This practice may result in the transmission of ineffective or inefficient work habits throughout the organization. It is the responsibility of management to identify workers displaying below average skills and provide the training necessary to increase their ability levels (Walton, 1986; Scherkenbach, 1989).

Point seven. **Institute leadership. The aim of leadership should be to help people and machines and gadgets to do a better job. Leadership of management is in need of overhaul, as well as leadership of production workers.**

Supervisors and managers straight out of school often fail to understand the work that they are trying to supervise. Leadership consists of helping people to do a better job and learning by objective methods those in need of individual help (Walton, 1986).

Point eight. **Drive out fear, so that everyone may work effectively for the company.**

The level of fear within an organization has a direct impact on the ability to effect nine of the Deming points. Undue fear will compromise the entire quality improvement effort. Management should create an environment in which risk taking is encouraged; an environment in which mistakes can be acknowledged and used as examples by which to learn (Walton, 1986; Scherkenbach, 1989).

Point nine. **Breakdown barriers between departments. People in research, design, sales, and production must work as a team, to foresee problems of production, and in use, that may be encountered with the product or service.**

The goals of a particular department must never be viewed as more important than the goals of the entire organization. Teamwork can be fostered by developing, and then communicating, unified goals throughout the organization. In the health care setting, support activities such as the lab, X-ray, and social services must coordinate activities in order to better suit the needs of the patient (Walton, 1986; Gillem, 1988).

Point ten. **Eliminate slogans, exhortations, and targets for the work force asking for zero defects and new levels of productivity. Such exhortations only create adversarial relationships, as the bulk of the causes of low productivity belong to the system and thus lie beyond the power of the work force.**

Slogans imply that if employees only tried harder they could do better. Instead of motivating, slogans normally only produce frustration. For the most part, workers would like to increase quality. The problem lies in management's unwillingness, or inability, to provide the mechanism by which to do this. Unrealistic targets often create an environment of deceit (Walton, 1986). According to Scholtes (1988), in order to conform to management expectations, employees may simply "play the game" and fudge productivity numbers.

Point eleven. **(A) Eliminate work standards on the factory floor. Substitute leadership. (B) Eliminate management by objective. Eliminate management by numbers, numerical goals. Substitute leadership.**

In a TQL organization, the overall goal must be quality. By setting work standards and production goals, management sends a mixed message to employees. There must be no confusion that customer satisfaction takes precedence over quotas. Additionally, when management sends a message that quality is the most important objective, employees will respond by delivering quality (Walton, 1986; Gillem, 1988).

Point twelve. **(A) Remove barriers that rob the hourly worker of his right to pride of workmanship. The responsibility of supervisors must be changed from sheer numbers to quality. (B) Remove barriers that rob people in management and engineering of their right to pride of workmanship. This means, inter alia, the abolishment of the annual or merit rating and of management by objectives.**

Institutions often fail to appreciate the motivational value associated with job-related pride. It is essential that workers be given quality tools, equipment, and materials to perform their tasks. Most workers are eager to perform well and feel distressed

when barriers hinder them from doing a good job (Deming, 1986; Scherkenbach, 1989).

There are those working in the Department of Defense who would argue that abolishment of annual performance appraisals will never happen. Shortsighted thinking such as this represents a hardened paradigm that can be overcome. The Sacramento Air Logistics Center (SALC) has successfully done just that. As a test site for an exciting new concept being studied by the Rand Corporation, the annual civilian performance appraisal has been abolished. At SALC the emphasis has been changed from the supervisor as a "rater" to the supervisor as a "coach" (Smith, 1990).

Other SALC program elements include: (a) consolidation of 39 general service (GS) series classifications into three general processes, and 27 wage-grade (WG) classifications to two processes, with the addition of a supervisory category; and, (b) reduction to four pay levels for both GS and WG employees (Smith, 1990).

By eliminating restrictive job descriptions, managers enjoy greater flexibility when making assignments and developing compensation packages. The goal is to place the most qualified employee in each and every job. The program also removes obstacles to

making staff reductions when indicated by work requirements (Smith, 1990).

One goal of the Sacramento program is to increase productivity of the work force and thereby save money. As an incentive, any savings attributed to productivity gains are split fifty-fifty between the command and the employees. For the twelve month period beginning second quarter FY 89, a total savings of $1,804,383 was directly attributed to productivity gains. This translated to $531 for each employee (Smith, 1990).

Point thirteen. **Institute a vigorous program of education and self improvement.**

Quality begins and ends with education. Employees must continuously acquire new knowledge and skills. Additionally, management must identify new jobs for individuals who are displaced due to elimination of outdated and unnecessary jobs. It is important to remember that learning need not be directly related to an individual's job. The important thing is to keep the employee's mind working (Scherkenbach, 1989).

Point fourteen. **Put everybody in the company to work to accomplish the transformation. The transformation is everybody's job.**

This element ties together the preceding thirteen points. Implementation of TQL should not be viewed

simply as a function of management or a job of the workers. Effective implementation requires organization-wide understanding, acceptance and dedication to the philosophy, in addition to a well understood strategy.

An Improvement Cycle Requiring Team Work

Initially developed by Walter Shewhart, and later popularized by Deming, the Plan, Do, Check, Act (PDCA) improvement cycle represents a logical framework for consolidating the 14 points into a unified plan of action. This cycle works on a continuum in which each action leads to yet another phase of planning. (Deming, 1986; Walton, 1986; Scherkenbach).

Hospital Corporation of America (HCA) has expanded the original PDCA acronym to further detail elements feeding into the planning function. Specifically, FOCUS PDCA delineates *finding* a process in need of improvement and *organizing* a team of employees that understand the process. One of the first tasks of the working team is to *clarify* current knowledge of the process, and apply statistical control tools to better *understand* the causes of process variation. The team then *selects* a process improvement strategy. Once these steps are accomplished a concise definition of the problem and a statement of improvement objectives

can be developed (HCA, 1990; NMQI, 1990). The Navy Medical Department has been granted permission to adapt the FOCUS PDCA concept for internal use (NMQI, 1990).

The actual PDCA cycle begins with designing a *plan* for carrying out the selected improvement. *Doing* represents the hands-on effort to incorporate, on a small scale, the improvement in question. It is during this phase that members assess whether or not the improvement is following the original plan. Step three, or ***checking***, involves actual observation of the effects of the change or test, and determining effectiveness of the process improvement. It is important to gauge whether or *not the process* change provided the desired improvement, and perhaps more importantly, did it result in improvement from the customers point of view. ***Acting*** to hold on to the gain in quality represents step four. Once the process improvement strategy is in place, it is important to not only hold on to the advantage of the improved process, but to view it as a continuous institutional effort. That is, process improvement must not be confused with problem solving (Scholtes, 1989; NMQI, 1990; Scherkenbach, 1990).

Teamwork is essential if the PDCA cycle is to function properly. The TQL philosophy relies on

teams to identify potential improvement areas, and implement desired changes. Although titles may differ, the three most common teams include the Quality Council, the Quality Management Board (QMB) and Process Action Teams (PAT) (CNET, 1989; NMQI, 1990).

The Quality Council is normally comprised of members of the senior executive staff. The primary function of this team is to provide strategic direction for the organization and to nurture the TQL process (Berry, 1991). The Quality Council is also directly responsible for completing the first two steps to the FOCUS PDCA cycle. This team identifies system inefficiencies found within the institution and organizes Process Action Teams to study avenues for improvement. A primary objective is to expend resources on those areas which fall within the confines of organizational mission and strategic direction. The Quality Council is also responsible for closely monitoring PAT team progress (CNET, 1990; NMQI, 1990).

Large organizations often form a number of "focused" QMB's which relieve the Quality Council of some of it's workload. For example, the organization may be broken down into four or five functional areas, each with a QMB to oversee improvement activity. (CNET, 1990; NMQI, 1990).

It is important to note that teams organized by the Quality Council normally address cross functional processes. A quality circle-type arrangement, approved at the department head level, is applied to processes in which the boundaries lie within the confines of a single department. With this duel arrangement in place both horizontal and vertical improvement strategies and issues can be addressed, and a quasi-matrix organizational structure is seen to function along side the more traditional hierarchical organizational structure (NMQI, 1990).

Process Action Teams (PAT) or Quality Circles (QC) are working teams organized to address specific process inefficiencies. Members of these teams are often "owners" of the processes being studied. After applying the tools of TQL and the FOCUS PDCA cycle, improvement strategies are developed, approved, tested, and ultimately adopted into practice (NMQI, 1990).

The development of the team itself is of utmost importance. Team members must be given the latitude to function independently of the constraints of the normal organizational hierarchy. In this arrangement the most senior members will not necessarily be the greatest contributors to the team effort (Kanter, 1983). It is important for members to understand that team dynamics

directly effect the success or failure of the team effort.

Scholtes (1988) outlines four stages of team growth. During stage one, while the team is being *formed*, members are cautious and begin to explore the boundaries of acceptable behavior. Feelings of team members include such things as excitement and anticipation, in addition to suspicion, fear and anxiety.

Perhaps the most difficult stage, that of *storming*, occurs when team members realize the task is different, perhaps more difficult, than imagined. Members will likely become resistent and argue among themselves. A perceived pecking order will likely arise which adds tension and jealousy to the team encounter.

During the *norming* phase, team members begin to accept the ground rules and individual roles. Criticism is now expressed more constructively, and there is an attempt to achieve harmony. The team can now be viewed as being a functioning unit.

During the final step the team begins to actually *perform* and strong team loyalties develop. Problem diagnosis, problem solving, and team member acceptance of recommended changes now occur freely and openly.

Managing the Cultural Transformation

Many managers view the TQL philosophy as nothing more than simple common sense. While a management approach that stresses concepts such as "continuous improvement" and "customer-oriented operations" is difficult to refute, the problem lies in converting mere words into positive action. Common sense, perhaps, but orchestrating the cultural transformation associated with establishing TQL will likely meet resistance (Johnson, 1989).

According to Connor (1990, p. 28), corporate culture can be defined as "the basic pattern of shared beliefs, behaviors, and assumptions acquired over time by members of an organization". Juran (1964, p. 143) notes that "culture is a shorthand description, a label, for the fabric of human habits, beliefs and traditions". It is through these shared beliefs that members of an organization merge to form a cohesive unit (Connor, 1990).

Elements of the culture are best viewed in the context of the entire cultural system. This is due to the fact that elements are so interwoven that the disturbance of one element will have an impact on many others (Juran, 1964). In effecting both stated and unstated rules guiding employee behaviors, the TQL

transformation necessitates dramatic and lasting changes to corporate culture (Betti, 1990).

It is important to remember that cultural patterns do not change overnight. Instead, evolving human issues and environmental challenges slowly mold the institution's culture. Often it is the organization's past successes which guide the process of cultural development (Cohen, 1990).

Strategic decisions which dictate new or altered behavior patterns require cultural realignment (Connor, 1990). It is the ability to produce this successful cultural realignment that lies at the very core of the TQL transformation (Stuelpnagel, 1988). Obviously, managers attempting to ease the organization into TQL need to be acutely aware of the cultural ramifications associated with each step of the transformation.

The senior leadership should continuously monitor corporate culture and, when necessary, guide the process of change. Effective leadership can become the pivotal point in the success or failure of a TQL initiative. Daily rituals, slogans, past and present organizational heroes, ceremonies, and informal information networks provide strong indicators to managers of the corporate culture which is present (Cohen, 1990).

Berry (1991) notes that administration of an organizational climate survey is a particularly useful tool for gauging the culture that is in place. Consistent with the precepts of the continuous quality management philosophy, results should be shared with employees, and actions to address problem should be taken as quickly as possible.

In the climate of continuous improvement, management must believe in, and support, the philosophies and humanistic principles of TQL before they can be transformed into organizational practice. The individual employee's pursuit of quality must have the firm backing of the leadership, and a supportive and secure working environment must be firmly in place (Stuelpnagel, 1988). For TQL to occur, the culture must evolve into one which cultivates employee pride and involvement in the improvement process. A sense of belonging and of value to the organization is paramount to program success. Innovation on the part of the employee must be heralded and nurtured as part of the everyday proceedings of the company; the company culture. In this climate, the employees' initiative and commitment fuel long-term improvement. Members of a true quality-based organization understand well that successes did not occur by chance, but rather as a

result of proficient and dedicated efforts of the work force (Kanter, 1983).

Creating the TQL culture involves changing many of the organizational work place habits. Technical aspects of change such as implementing new procedures or incorporating new tools are normally accepted with relative ease. It is often much more difficult, however, for management to adequately respond to the social implications of change. Social, or attitudinal aspects, often vary greatly from one person to another, and individuals may be reluctant to adequately express personal concerns (Henning & Knudson, 1991).

Juran (1989) points out that individuals opposing change will often voice concerns on objective grounds such as the impact on bottom-line profit statements or effects on market share. Although of great importance to the employee, he/she will rarely voice the concern that change may impact job security or status.

Regardless of the barriers, social, political, organizational, and psychological considerations must be carefully balanced when attempting to guide changes required to transform an organization to TQL (Johnson, 1990). Even when considering all influencing elements, change will often be met with strong resistance. Establishing a new definition for success, one that can

gain widescale acceptance, is key to reducing resistance and effecting the desired cultural change. By transmitting the tenets of the TQL philosophy, and encouraging verbal exchange of quality management success stories throughout the organization, an acceptable definition of success will be allowed to emerge (Connor, 1990).

Resisting Change

It is expected that people will show a certain degree of resistance to change. In the uncertain atmosphere created by early TQL efforts it is natural for employees to show concern for their future role in the changing organization. Prior to having a thorough understanding of the workings of TQL, employees may be skeptical of the benefits of the change. On the other hand, complacency to change may indicate a lack of acceptance, or the feeling that, with time, the program will simply fade away (Johnson, 1990).

As mentioned earlier, the inability to understand or accept new paradigms represents a major stumbling block to effecting change. Long held organizational practices often lead to the phenomenon of superstitious learning, in which learning processes become programmed, and may or may not be based in reality (Barker, 1986; Scherkenbach, 1990). Methodologies

which initially produce acceptable results may be transmitted and taught over time as the best, or only, way of operating. These hard-set organizational paradigms are often the culmination of years of corporate attitudes, beliefs, and even previous planning and change. With these firmly held beliefs in place, the blame for any failures will likely be attributed to factors not directly related to methodologies. New and improved ways of doing things will either be discounted or ignored (Scherkenbach, 1990).

In order for spontaneous change to occur there must be a state of dissatisfaction and tension. An alternative which represents improvement must also be available. Additionally, the responsible individuals must be willing to effect change and realize that they are capable of orchestrating the desired change (HCHP, 1989).

In overcoming resistance an effective plan must be developed and more importantly, put into practice. Rules for successfully implementing change have been developed by behavioral scientists and cultural anthropologists. Juran (1988) lists several "rules of the road" to follow in order to make a smooth transition.

First, the plan must include *participation* of all employees in the planning and implementation of the changes. Next, there must be *adequate time for introduction* and conversion to the new system so that no person in the organization is "forced" into the new system, and there are no surprises. The proposal must be *free of extraneous material* so that the overall goal of the plan is not clouded. The *leadership of the organization must be convinced* that change is necessary and be involved in every stage of the proposal. It is also important to *consider the positions of the employees.* Role reversal may provide insight to the reasons for employees' reluctance to accept the new system. Finally, all *alternatives must be considered* prior to implementation. A positive change in the organizational climate may make operational change more acceptable.

Even in an optimal atmosphere that is ripe to accept the TQL transformation, the use of a change agent may be prudent (Johnson, 1990). The change agent must be a catalyst who acts as a free agent to assist the organization in effecting change.

Often an organization will hire an "expert" external contractor to effect desired changes. In choosing an external change agent, management likely

anticipates that the contractor's past successes will be repeated in their organization. In addition to gaining a new perspective, external agents may be viewed as more objective. His/her expert power can be harnessed to inspire respect, gain confidence, and attract attention (Johnson, 1990).

Although not without limitations, internal change agents may offer the organization several advantages. First, an internal agent has knowledge of the organizational structure, processes and products. The internal agent is better able to identify with the organization's needs and can speak the commonly understood language. The internal change agent also understands the political landscape and knows the most productive ways of approaching key individuals. For an internal change agent to be effective it is essential that he/she not yield to peer pressure, remain somewhat detached, and be totally objective (Johnson, 1990).

In organizing for quality improvement, the TQL coordinator represents a logical internal change agent. It is important for this individual to be able to channel the change effort without appearing to be in charge of the change. As Johnson (1990, p. 37) so aptly stated: "A mastery of the socratic method of

questioning is essential. This means leading others to a conclusion he or she may have already reached and urging them on to excitement and enthusiasm for the change".

Planning for Quality

Strategic planning offers one mechanism for identifying changes that must occur. Planning is also helpful for ensuring that constancy of purpose, Deming's first point, is transmitted throughout the organization. Doherty (1990) argues that the transformation to TQL cannot occur without first engaging in a process of thoughtful planning. The planning process will ensure that changes associated with the transformation to TQL are well rooted in the foundation of organizational goals. Peters (1987) notes that due to the current state of rapid change, competition, and general turmoil, sound strategic planning has never before played such an important role in organizational life.

The responsibility for developing a business plan based on a sound strategic planning process rests with top management and cannot be delegated. The development of a vision statement, which outlines in concise and stirring language an idealized picture of the organization, is a vital element of the final plan.

In addition to the vision statement, a mission statement represents a vehicle by which the organizations very reason for existence can be delineated (Doherty, 1990).

Other elements that should be incorporated into the plan include: guiding principles which profile the organization's basic beliefs and commitments; objectives which outline organizational priorities; performance goals which provide measurable output targets; the strategies for meeting those goals; and, the tactics for accomplishing strategies (Doherty, 1990).

It is important to remember that the real measure of business success is found in the creation of new customers, new products, and new jobs. In other words, maintaining that essential element of constancy of purpose. A major problem with the planning process can occur when management assumes that organizational success, and therefore goals, can accurately be described in terms of qualitative measures such as profits, net worth, or productivity (Miller, 1989). By ensuring that the tenets of TQL are assimilated into the planning process and flow into the resulting planning statements, the organization will, in effect,

be developing a tool for defining and measuring future successes.

TQL in the United States

A large and impressive list of American companies have begun the journey to TQL, with equally impressive results. A few of these include Ford, Motorola, Corning, Xerox, Dupont, AT&T, and HCA (Gibson, 1987; Peters, 1987; Wagel, 1987; Bara, 1989). For these companies the TQL investment has resulted not only in products of greater quality, but also in increased productivity and profitability.

The Ford Motor Company represents an excellent example of TQL success in the American marketplace. By 1986, five years after the implementation of Ford's quality management program, some dramatic changes had occurred. In 1980 Ford lost $1.7 billion. During the five year period beginning in 1981, warranty costs were decreased by 50%, operating costs were significantly reduced (by some $4.5 billion per year), and Ford's market share increased by 20%. In 1986, for the first time in 62 years, Ford actually surpassed General Motors in profitability. Perhaps most impressive of the Ford successes is, that in overtaking General Motors in profitability, Ford actually sold 27% fewer cars (Peters, 1987, O'Hallaron, 1989).

In reviewing the literature it is evident that Ford's successes are being duplicated by companies from virtually all sectors of the U.S. industrial landscape. Not all of these companies are production-based. Although not first to adopt the philosophy, segments of the service sector, including the health care industry, are now at the forefront of the TQL movement.

Applications for the Health Care Industry

In a setting of increased competition with other institutions, and scrutiny by patients and third-party purchasers, the health care industry has been forced to find new and better ways to provide services and attract customers. Recognizing the successes of production industries employing TQL techniques, many health care organizations have come to appreciate the value of "quality" and continuous improvement (Burda, 1991). These organizations have found that the 14 points, appropriately applied, can produce impressive results. To assist the health care industry leaders in effecting the quality improvement transformation, Deming (1986) has provided a modified "health care" version of the 14 points. Although the essence of Deming's message remains intact, the modified list emphasizes the importance of ensuring superior service in all aspects of organizational operations.

The examples of cost reductions realized by quality focused organizations have provided attractive incentives for a health care industry faced with spiraling costs and diminishing reimbursement schedules. It has repeatedly been shown that quality can cost less, and the health care industry now has its own string of impressive success stories.

Harvard Community Health Plan (HCHP), a 300,000 staff member Health Maintenance Organization (HMO) was one of the first health care organizations to successfully implement a TQL plan (Naval, 1989). Implemented in 1987, HCHP combined the talents of 21 health care managers and 20 industrial quality control professionals. The basis of the plan was to assign project teams to various HCHP institutions, and initially identify and address one "quality" problem at each site. The problem list ranged from improving the quality of a cardiac catheterization lab to decreasing delays in acute care appointments to improving the quality of the discharge process.

After only eight months of activity, the improvement in quality of services was promising. At one center the average time for a nurse to answer a patient's call for assistance was reduced by 49% with staff satisfaction reportedly increased. A 50%

reduction in agency nursing costs was realized at another HCHP facility with increases in quality and continuity of care. A third facility reported a reduction by half in the percent of inappropriate portable chest x-rays following the quality improvement analysis.

This initial project has been extended to a three-year pilot program with an overall goal to "collect and provide substantiation to the hypothesis that management commitment to, and organizational implementation of continuous quality improvement will increase both the efficiency and effectiveness of health services" (Naval, 1989, p. 47).

The Hospital Corporation of America (HCA) has also been on the leading edge of the quality management movement. One of its pilot TQL projects boasts a growing list of successes. Parkview Episcopal Medical Center in Pueblo, CO began implementing TQL in late 1988. With a patient base consisting of 95% Medicare, Medicaid, HMO members or indigent patients, Parkview's concerns rested chiefly in the ability of TQL implementation to reduce costs and improve employee satisfaction (Koska, 1990).

Following a seemingly slow start, in less than two years Parkview has seen substantial progress. Quality

Improvement Teams (QITs) were formed to address quality problems in various areas of the hospital. Improvements in operating room scheduling and food service delivery will each save an estimated $10,000 by year's end. One QIT offered a solution to scheduling and delivery problems which decreased pharmacy unit-dose errors eight-fold (Koska, 1990). These initial projects show promise for the industrywide application of TQL.

If the plans and policies of the Joint Commission on Accreditation of Hospitals (JCAHO) are a gauge of industry direction, the future of TQL in health care is clear. Continuous quality improvement is at the forefront of JCAHO's current "agenda for change". Rather than focusing on retrospective inspections, the JCAHO proposes focusing the examination process on the health care organizations' initiatives to evaluate and improve processes that lead to efficient delivery of quality care. By focusing attention on quality related processes JCAHO underscores the importance of continuous quality improvement programs in the health care arena (Roberts & Schyve, 1990; Sinioris, 1990).

The JCAHO appears to be on course with this major change in function. To better understand the impact of the accreditation process on quality improvement

efforts, JCAHO conducted a survey of health care organizations. The intent of the survey was to identify, and subsequently remove, current accreditation obstacles to implementation of continuous quality improvement programs. This self-evaluation by JCAHO reinforces their commitment to fostering quality improvement efforts in health care organizations. Results of the survey are pending (Roberts, 1990).

DoD Initiatives

Early in the 1980s, while major segments of U.S. industry were scurrying to learn more about the "Japanese management style", the public sector began investigating the potential benefits of TQL. Prospects of budget reductions, reports of governmental waste, faulty weapons systems, and contractor fraud, combined with steady or increased system demands undoubtedly provided the stimulus for this investigation. It became apparent that along with civilian industry, the public sector needed to identify methods for improving system efficiencies (Carlucci, 1988). Total Quality Leadership was determined to be the method through which positive improvements would be effected.

Executive Order 12552, signed by President Reagan on February 25, 1986, officially established a Productivity Improvement Program for the Federal

Government. The initial goal was to achieve a 20% increase in the productivity of designated functions by 1992 (DoN, 1989). Although this "work force goal" appears to contradict TQL edicts, it does illuminate the degree of faith top leadership placed in quality improvement.

Two years later Executive order 12367 was released, strengthening the emphasis on quality and modifying initial improvement targets to 3% per year. This order was followed on April 27, 1988 with the signing of the Office of Management and Budget (OMB) Circular A-132, titled *Federal Productivity and Quality Improvement in Service* (Miller, 1988). Due to the intense interest of the President, the Congress, and DoD planners, TQL grew in a few short years to represent a major public sector initiative (Greeber & Suartz, 1989).

The *Department of Defense TQM Master Plan* (1988) includes short-term, mid-range, and long-term objectives, each designed to build on the other. Short-range goals include specific actions to be accomplished during the first year of program implementation. These objectives focus on fostering top-level support and developing program direction. It

was during this time that the DoD began to enlist defense industry support for the program.

Mid-range objectives are strategic in nature and have a fruition date one to five years after initial implementation. It is during this mid-range phase that TQL principles will be integrated into DoD regulations. Additionally, DoD acquisition personnel will begin applying TQL principles in dealing with the defense industry. The top 25 defense contractors will be expected to begin implementation of their own continuous improvement programs. Hopefully, in time, a "critical mass" of TQL will occur and the movement will sweep throughout the defense industry.

The primary long-term (3 to 7 years) objective is simply to establish TQL as the normal way of doing business within the DoD. During this time the acquisition community and defense industry will focus on continuous improvement of product and service processes.

With a primary goal of removing legislative barriers blocking key TQL initiatives, another long-term objective is to enlist strong Congressional support. Revising the DoD reward structure, increasing the level of cooperation within the Defense Industry, and adjusting source selection methodologies represent

but a few of the initiatives considered vital to the overall goal. In meeting this objective DoD planners realize the need to establish, then maintain, a program of congressional education and liaison (DoD, 1988).

Successful implementation of the program throughout DoD hinges on effective education programs (Greeber & Suartz, 1989). Each service has been charged with the responsibility of building a TQL learning curve. The time has arrived for all commanders, in all facets of DoD activity, to become well acquainted with the precepts of Total Quality Leadership.

TQL in the Navy

The Department of the Navy took a decided DoD lead in implementing the Deming philosophy. During the early 1980s, long before the Executive Orders and official DoD policy guidance, the Naval Aviation Depot, Cherry Point, NC, a test program, charted a course of quality improvement. Implementation was itself a slow process, but between 1980 and 1986, the program grew to include three Quality Management Boards and 11 functioning Process Action Teams (NARF, 1986).

The highly successful program at Cherry Point has been designated as a quality improvement model for the government, and earned the organization the OMB

Director's Award for improving quality of services (Naval Aviation Depot, 1988). At Cherry Point, direct savings realized in FY 1987 alone totaled nearly 40 million dollars, of which 46% was returned to the employees though an innovative profit sharing arrangement (CNET, 1990).

The Navy Publications and Forms Center, Philadelphia, PA, is another organization that wasted no time in organizing for TQL. By viewing quality through the eyes of the customer, the center was able to identify programs for improving the quality level of receipts processing information from 91% to 95% accuracy in five short months. Additionally, for the first time they exceeded their goal of processing receipts within seven calendar days over 85% of the time (CNET, 1990).

The success stories of these "early achievers" have undoubtedly served to spur the widescale attention of DoN activities. The fact that Naval Air Station, Pensacola is home to seven separate Naval commands in varying stages of program implementation illustrates the degree to which the current Navy leadership supports this program. In virtually every corner of the Pensacola military complex, organizations are

embracing the TQL philosophy and incorporating it into the daily routine.

A Systematic Approach

Due to the potential for significant short-term improvements, the Department of the Navy implementation strategy concentrates early efforts on in-house industrial support establishments. Planners hope that this approach will best enable the Navy to meet the 3% productivity improvement goal for designated functions (DoN, 1989). Initial target programs include: Naval Shipyards, Naval Aviation Depots, Weapon System Maintenance Activities, Public Works Centers, and Supply Activities.

Many of these activities have realized greater efficiencies than were initially projected. For example, savings for the first two years at Weapon Systems Maintenance Activities exceeded 187 million dollars against a target of 150 million dollars (DoN, 1989).

According to the plan, fiscal years 1989 through 1992 will see nonindustrial activities fall under the Navy's quality umbrella. Navy Medicine and Dental were scheduled for inclusion during FY 90 (DoN, 1989). The final segment of the Navy to be targeted is the operational forces. On August 13, 1990, Admiral Kelso,

Chief of Naval Operations, issued a memorandum to flag officers outlining his intent to expand the shore-based Total Quality Leadership initiative to the fleet.

Appendix (A) outlines the Deming fourteen points adapted to meet the needs of the operational forces (Phillips, 1991). Although the theme closely follows Deming's philosophy, Kelso has obviously maintained a sensitivity to the unique culture which has evolved in the naval operational forces. The major difference in Kelso's version is a change in terminology which allows a more "grass roots" understanding of TQL for the operational audience.

TQL in Navy Medicine

The Navy Medical Department was able to meet the FY 90 challenge. In May, 1989 the Commander, Navy Medical Command issued a message soliciting organizationwide input for a preliminary draft of the Medical Department implementation plan. High-level strategic planning focussing on TQL represented the first true indication that the transformation had begun.

During September, 1990 the Naval Medical Quality Institute distributed a training schedule and implementation roadmap to medical department commands (Zimble, 1990). The roadmap does not provide strict

guidance concerning implementation, rather, it offers a broad framework by which to build a tailored program. Medical Department tenet activities are free to incorporate innovative approaches with full support of, and guidance from, the "corporate office".

Summary

Total Quality Leadership has been shown to be a powerful leadership approach which can transform an organization into a more efficient and effective unit; an organization better able to provide goods and services considered to be of value to the most important judge--the customer. The DoD is strongly committed to utilizing TQL as a tool for answering the many challenges facing public sector concerns. With this as the charge, the Navy has taken a decided lead in devoting time and resources for implementation of continuous quality improvement programs. More recently, the Navy Medical Department has become strongly invested in ensuring that the TQL transformation reaches all facets of Medical Department activity.

Managing the transformation will not be easy. Long-held paradigms will have to be discarded; a difficult task to be sure. Additionally, for the program to flourish the executive leadership will need

to provide a long-term strategic course, provide visible support for the program and, most importantly, be patient in expecting results. Finally, TQL calls for the transformation of the corporate culture which forms the basis by which the organization operates. For institutions in which the ideas and concerns of all members are considered to be valuable, the cultural transformation will occur with little pain. On the other hand, those organizations which are rigid and inflexible in managing the work force will likely experience much "pain" in orchestrating the transformation.

The world is changing, and a whole host of "new realities" are but a by-product. Methodologies which are effective one day become obsolete the next. This new world provides tremendous opportunities for those who refuse to be tied to the "old" and demand to consider the "new". As Kanter (1983, p. 65) so eloquently states, "the individuals who will succeed and flourish will also be masters of change: adept at reorienting their own and other's activities in untried directions to bring about higher levels of achievement. They will also be able to acquire and use power to produce innovation." Recent history has shown that this discussion aptly describes those individuals who

strongly believe in the power of the TQL philosophy, and have dedicated themselves to making sure that TQL becomes one of the "new realities".

Organizational Climate Survey

The organizational climate survey was conducted to determine the command culture as it relates to TQL. Results of the survey serve to illuminate the degree to which the command culture can be expected to support incorporation of the TQL philosophy. Obviously, an unsupportive organizational culture would require a different implementation strategy than would a supportive climate.

The climate survey included a total of 70 questions organized in a six-point Likert-scale format. Response range varied from 1, or strongly disagree to 6, or strongly agree. Questions were designed to capture employee perceptions concerning six broad categories including, (1) Strategic focus, (2) Leadership and Management, (3) Work Force, (4) Customer Orientation, (5) Communications; and, (6) Overall Climate. Several categories have sub-categories which are also reported.

The *Quality and Productivity Self-Assessment Guide for Defense Organizations* was chosen as the survey tool for several reasons. One advantage to utilizing a pre-

developed instrument is that issues of validity and reliability have already been addressed. An obvious advantage of this particular instrument is that various DoD activities were chosen as test samples. Another desirable feature is that the survey can be used as a self-assessment or teaching guide as well as an organizational diagnostic tool.

When used as a self-assessment guide the survey provides a snapshot of a respondents current awareness of quality improvement concepts. As mentioned earlier, respondents for this study were encouraged to seek individual results. Twelve individuals requested results, with no individuals reporting to self score. Whether used as a command diagnostic tool, or for self-assessment purposes, the guide offers suggested strategies for addressing weaknesses (General Research Corporation, 1989).

A final consideration which led to selection of this instrument is that the total package includes a separate survey designed to expose the degree to which continuous quality improvement tools and policies are functioning within an organization. Once the program at Naval Hospital, Pensacola is firmly established, future surveying efforts can include this valuable segment.

Validity and Reliability

Survey reliability, or internal consistency, refers to the number of questions in the scale and their interrelationships. Formulation of the Cronbach's Alpha was utilized to estimate survey reliability. Ranging from .70 to .90, the Cronbach's Alphas all fell within a very acceptable range and indicated moderate to high interrelationships (General Research Corporation, 1989).

In order to place confidence in the results of a survey the issue of validity must also be answered. Validity, or the degree to which the instrument accurately measures desired attributes was also satisfactorily addressed by the survey developers. Through multiple regression analysis, climate, processes, and tools were found to be significantly related to reported quality improvement outcomes ($F_{(3,41)} = 20.01$, $p < .001$). Together, climate, processes, and tools accounted for 60% of the variance in outcomes (General Research Corporation, 1989). This indicates a positive correlation between high survey scores and high levels of quality improvement activity.

Analysis of Climate Scores.

Of the 217 distributed surveys, 159 were returned yielding a response rate of over 73%. Breakdown by

directorate was: Director, Nursing Service (DNS) 53% or 21 out of 40 surveys returned; Director Medical Services (DMS) 72% or 20 out of 29 surveys returned; Director Surgical Services (DSS) 77% or 17 out of 22 surveys returned; Director, Ancillary Services (DAS) 86% or 24 out of 28 surveys returned; Director, Administrative Services (DA), including Special Assistants, 80% or 33 out of 41 surveys returned; Director, Branch Clinics (DBMC), including Occupational Health Directorate, 68% or 39 out of 57 surveys returned; and, 5 surveys returned in which the respondent failed to indicate directorate. Although the last category was included in the final consolidated index score, no separate analysis is provided.

Appendix (C) outlines the commandwide cumulative climate scores and also provides breakdown by directorate. A score of 3.5 or below represents an area in which some practices typically considered helpful for quality or productivity may be absent (General Research Corporation, 1989). The command should feel justifiably pleased with the finding that no cumulative mark breeches the 3.5 barrier. When examined by Directorate however, the 3.5 bench mark is approached in several areas.

With a mean of 4.09, category (1) *Strategic Focus* posted the lowest overall score. The range of scores in this category was a high of 4.77 for the DBMC to a low of 3.90 for the DA.

A sub-category of Strategic Focus, *Innovation*, served to lower the overall Strategic Focus index. At 4.59 only the DBMC had a mean score greater than 4.0 in this area. At 3.77 the DA closely approached the 3.50 limit.

Organizations that score low in the category of innovation likely do things simply because they have always been done that way (General Research Corporation, 1989). We go back to the power of paradigms to explain this condition (Barker, 1989).

Reducing the level of fear individuals have in trying new things is one mechanism for management to encourage innovative behaviors (Deming, 1986). Instituting a suggestion system that is viewed as being credible is another method that may help. Finally, implementing formal mechanisms for implementing new ideas, then publicizing success stories can be used to foster innovation (General Research Corporation, 1989).

Under category (2), *Leadership and Management*, the overall command climate score averaged 4.23. The DBMC scored the highest average (4.89) and also showed the

highest overall scores in the sub-categories of top management involvement and commitment to goals. With standard deviations ranging from .27 to .43, the DBMC also showed the greatest degree of consistency in answers for this category.

The sub-category of *Top Management Involvement*, averaging 3.97. provided the greatest impact in lowering the Leadership and Management index. Contributing to the 3.97 commandwide score in this sub category was DMS at 3.92, and DA & DSS at 3.96 each. Across Directorates, scores in other sub-categories of Leadership and Management were in the low 4.0s with the sub-category *Concern for Improvement* posting an impressive 5.10 for DNS.

Results in this category indicate that top management at Naval Hospital, Pensacola is committed to quality. Unfortunately, it appears that at times the leadership fails to transmit this commitment to subordinates. This represents a minor weakness that can be solved both quickly and easily.

Work Force Involvement, category (3), posted a very acceptable consolidated climate score of 4.45. In this category DNS posted the highest mean score of 4.83 followed by DMS which posted a 4.70. This category exposes the degree of individual employee

commitment to quality. It is encouraging to see patient care specialty areas such as nursing and medicine score high in this category.

Other than a relatively low 3.91 posted by DSS in sub-category *Involvement*, all scores in sub-categories of Work Force Involvement were quite acceptable. This tends to indicate that the work force is interested and active in the command's quality mission.

At 4.91 the consolidated mean score for category (4), *Customer Orientation*, can also be considered quite favorable. Three directorates posted scores in excess of 5.0, with the highest score being reported by DNS.

Obviously, both internal and external customer relations are being nurtured within the command. With the notion of customer orientation being at the very foundation of the TQL philosophy this high score is encouraging.

Additionally, no negative scores, either command-wide or by directorate, were identified in category (5) *Communications.* However, with a standard deviation of .92 there was obviously a wide range of individual scores posted. Notably, this category had 13 individuals who scored below the 3.50 threshold. Although communications do not appear to represent a major problem area for the command, some segments

obviously perceive there to be problems. Further study in this area may be warranted.

Finally, with a mean score of 4.41 the consolidated command-wide *Climate Score*, category (6), appears very satisfactory. This indicates that with few noted exceptions, employees perceive the working environment at Naval Hospital, Pensacola as being positive. However, in keeping with the notion of continuous improvement, there remains opportunity for improving perceptions and molding the culture to better support the growth of TQL.

A Roadmap for Change

The Total Quality Leadership *Implementation* Roadmap developed for Naval Hospital, Pensacola can be found in Appendix (B). Unlike a blueprint which implies a required program of action, this "roadmap" should be viewed more as a general path for transitioning to TQL.

The command is encouraged to alter elements of the seven-phase roadmap which fail to provide desired results, or which fail to address concerns that surface as TQL implementation unfolds. Consistent with the notion of flexibility, phase six provides the mechanism for yearly review of the program and encourages alterations when indicated.

When reading the roadmap it is important to note that the seven phases reflect a general flow of activity. No clear boundaries exist between phases. For example, elements of phase three, *provide training to staff*, occur prior to completion of phase two, *develop command TQL infrastructure.*

Addressing Change

As has been stated, the TQL transformation necessitates organizational change. Every attempt has been made to ensure a strategy which addresses both technical and social aspects of this change. Technical aspects are primarily addressed during phases three and four and include training, as well as strategies for organizing and conducting quality improvement team activities.

The "technical" task of organizing teams to address problems through the use of statistical quality control techniques should be relatively easy. Although this is an important objective of TQL, it should only be viewed in the context of the larger objective of instituting an entire leadership philosophy that impacts individual behaviors as well as team conduct. Neglecting to look beyond the team problem solving aspect of TQL would likely result in a sterile program that lacks true work force commitment. It is doubtful

that a program maintaining this focus would enjoy any long term success.

As previously noted, it is the social impact of change that is often quite difficult to identify and address (Henning & Knudson, 1991). Social concerns involve the "how will this affect me" questions that organization members invariably ask of themselves. Top management must keep abreast of these issues and work to provide acceptable answers to employee concerns (Kanter, 1983; Stuelpnagel, 1988).

In addressing social concerns the roadmap includes several elements. Perhaps the most important of these elements, found in phase one, involves visible support of the TQL effort by the Commanding Officer. As previously discussed, the "L", or leadership, in TQL involves trust, vision, and empowerment (Johnson, 1989). Individual fears will likely diminish as commitment to the ideals of TQL, beginning at the top, are transmitted throughout all aspects of the organization. By serving as a TQL "coach" the commanding officer can begin the long-term process of producing an organizational culture supportive of the TQL philosophy.

A second major element, designed to measure the development of a supportive TQL culture, is

administration of the command climate survey. The initial survey conducted March, 1991, provides a diagnostic starting point. Periodic readministration will hopefully show a positive trend in work force perceptions. To gain maximum benefit from the survey it is important that the Quality Council act quickly to develop plans to address problems uncovered by the survey.

Instilling a philosophy which incorporates all of Deming's fourteen points is certainly a formidable undertaking. To ensure that the essence of the Deming fourteen points are not forgotten, the roadmap includes an element establishing Fourteen Point Action Officers. These individuals will be challenged to thoroughly research their assigned Deming point, and will report findings directly to the Quality Council. Ideally, individuals assigned to this function will have a vested interest in seeing progress with incorporating the assigned Deming point.

Planning for Quality

Although organizing for strategic planning activity was not a major objective of this project, the impact of planning on the ultimate success of the Naval Hospital, Pensacola TQL initiative cannot be ignored. The value of planning has been well documented (Peters,

1987; Miller, 1989; Doherty, 1990). One local organization only recently realized that it was a lack of thoughtful planning that prevented their program from reaching its potential. Strategic planning is now the focal point of their continuous quality improvement program (Gulsby, 1990).

As can be seen, phase four is largely devoted to planning, and includes activity at the command level as well as the department level. A command Vision Statement, which represented a starting point, took the Quality Council approximately eight weeks to complete. Approved but unpublished, the Vision Statement for Naval Hospital, Pensacola reads:

- We will be an efficient source of high quality health care activities which anticipates and exceeds the needs and expectations of our beneficiaries.

- We will preserve the individual dignity of patients and staff.

- We will always remember that our most valuable asset is our people and will ensure an organizational climate that encourages the professional and personal development of all employees.

- We will be guided by shared values, beliefs, and a commitment to serve, and will continuously seek opportunities to improve.

This statement was developed by the Quality Council with a draft version offered to hospital staff, through Department Heads, for comment. In general remarks were very positive, reflecting wide scale support for this vision.

With the completion of this preliminary statement it is important for the Quality Council to continue to work towards development of a comprehensive planning document. Efforts spent upfront in planning will no doubt pay dividends in long-term success of the program.

Discussion of Implementation Progress

The time available for completing this project is insufficient to expect improvement outcomes which lend substantive and decisive proof of continuous quality improvement theories. The very nature of the task forbids this from occurring. Organizations should expect the transformation to be slow and at times quite frustrating (Berry, 1991). Ultimate program success at Naval Hospital, Pensacola will hinge upon top management's willing support of a program that may provide very little visible, short-term gain.

The notion that continuous quality improvement initiatives progress slowly appears consistent with the experiences of local organizations. For example, three

years after inaugurating a Hospital-Wide Quality Improvement Program at West Florida Regional Medical Center, the program coordinator indicated that tangible "monetary" benefits had yet to be realized (Gulsby, 1990). In another example, a full five years after beginning an aggressive TQL program at Naval Aviation Depot, Pensacola, FL, with tangible benefits being reported, segments of the organization are still showing resistance to adopting the TQL approach (Rowan, 1990).

Consistent with reports found in the literature, local area organizations are finding that on average, quality improvement teams need four to twelve months to resolve assigned issues. These organizations understand well that far-reaching benefits take time and years of patience (Gulsby, 1990; Rowan, 1990; Stankowski, 1990; Berry, 1991).

Early Indicators of Success

According to General Research Corporation (1989) the degree of application of the procedures and tools of TQL correlate positively with outcomes. If this intuitively fitting statement is correct, the early TQL efforts at Naval Hospital, Pensacola can be viewed as successful. By the end of March, 1991 seven formal teams were functioning. Team composition consists of a

cross section of ranks, ages, and races. The common thread is that all members work with and impact the process in question. By fostering teamwork and empowering employees to identify innovative avenues for improvement, TQL will likely result in increased levels of pride and satisfaction for work force participants.

Issues being examined by teams range from improving the contaminated trash disposal process to refining patient education on the postpartum ward. With the help of trained facilitators these teams are applying the systematic FOCUS PDCA approach toward improving these processes.

Teams are already asking both *internal and* external customers what it is they really desire. It makes sense that as this customer-oriented activity increases in the command, satisfaction with services will also increase. It follows that satisfaction levels of customer commands should also improve as the hospital implements programs which better address the needs of these important beneficiaries. It is easy to see how a relatively simple change in managerial and employee behaviors will, in the long run, enable the organization to better meet its primary mission element of providing support to the active duty forces.

Although it is too early to report successful outcomes from the efforts of team activity, the free exchange of information is encouraging. Perhaps even more encouraging is the level of "quality talk" that is spreading throughout large segments of the command. Departments from Fiscal to Patient Administration are now devoting time to the discussion of quality issues. The entire Nursing Directorate led this charge by setting aside 45 minutes of each weekly department head meeting for discussion of quality-related issues. Under the "old" system most of these issues would likely remain hidden.

Enhanced communications is but one of the expected benefits expected from establishment of TQL. As Ishikawa (1985, p. 14) notes, "Total Quality Control within a company opens up channels of communications, filling it with a breath of fresh air". The frank interchange of information being experienced within Naval Hospital, Pensacola will undoubtedly allow managers at the hospital to discover minor failures and problems and formulate solutions before they turn into major disasters.

Adherence to the roadmap may also be seen as an indicator that the command is on course with instilling the TQL philosophy. The incorporation of elements

found in the roadmap is on track and on time. Specifically, the TQL coordinator has been appointed; the Quality Council consisting of the Commanding Officer, Executive Officer, Directors, and TQL Coordinator has been established and is functioning; team facilitators have been trained and are assisting teams; TQL awareness training has been provided to upper management and department heads; and, an awareness seminar has been developed and is being presented to the remaining work force.

In addition to development of a command Vision Statement, the Quality Council has developed a command Quality Statement. This simple statement designed to show the essence of the commands quality focus reads: "Quality at Naval Hospital, Pensacola is *getting better every day in every way*". Both the Vision Statement and Quality Statement will be published and distributed throughout the command.

A command TQL resource office, with a reference library, has also been established. In addition to a wide variety of TQL-related journal articles, books reflecting current thoughts on the subject are available for check-out. Quality related video tapes have also been purchased and are available for check-

out. Over the course of the past three months interest in these resources has picked up.

The Quality Council has also assigned individuals to participate in the fourteen point task force. The idea is for assigned individuals to study a single and focused portion of the Deming Philosophy and periodically report to the Quality Council where the command stands in relation to this concept. More importantly, action officers will study initiatives, both civil sector and DoD, and provide recommended actions to assist the command in incorporating the element. Individuals studying the fourteen points have been encouraged to be innovative and creative and leave outdated paradigms behind.

Conclusion

Medical inflation, caps on spending, and changing medical standards have created an environment of uncertainty in the civilian health care industry and have impacted the public health care sector as well. Having embarked on a course toward Total Quality Leadership, the top management of Naval Hospital, Pensacola understands that new leadership methodologies may be required to meet the challenges facing military medicine. The hospital leadership is hopeful that TQL

will provide a mechanism for addressing and solving these problems.

Following the course as outlined on the implementation roadmap developed for the command, it appears that early efforts are successful. Due to the time limit of this project, the complete integration of TQL has not been accomplished, however, early indicators look very promising. Progress toward complete implementation of TQL is visible throughout various levels of the command with numerous teams and working groups actively discussing quality issues.

An encouraging indicator of the success of the Naval Hospital, Pensacola program is the relative lack of resistance expressed by staff members during the introductory phase. Additionally, the command culture, as revealed in the climate survey conducted for this project, shows a favorable environment for the growth of TQL within the organization. There is every indication that if the command remains patient with results and continues to follow general guidelines of the roadmap, the complete TQL transformation will occur.

Returning to the command in three or four years to conduct a quality improvement outcomes study would be a natural way to provide closure to this project. This

study would hopefully reveal a working environment incorporating all tenants of the TQL philosophy. One of the final indications that the TQL transformation has occurred will likely be the visible decrease in reliance on TQL buzz words and acronyms. As the transformation proceeds, Total Quality Leadership will simply become an every day work practice for hospital employees. Staff members will need little "front office" direction concerning improvement strategies. All employees will know how, when, and where to use the tools of quality improvement.

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APPENDIX A

Fourteen Points Adapted for the Operational Forces

1. Understand the mission and principles of the Navy. Have a clear understanding of how your command supports the Navy's mission and how the principles apply to your day-to-day activities.
2. Quality is the essence of TQL. Insist on quality performance and material. Do the job correctly the first time.
3. Know your job. Analyze and understand every facet of your responsibilities and those of your people.
4. Words alone don't solve problems. Look first at the process and the system for faults and solutions, not the people. Improve the process, train the people.
5. Quality training is the key to success. People must be fully trained to do their jobs. You are never too senior to learn.
   - To do your best is not good enough unless you are properly trained to do the job.
6. Use analytical methods to understand and improve your jobs. Graphs and charts, properly used, are invaluable tools in this effort.

7. We are a team. We must work together across departments and commands.

- We must listen to the most junior people. All are charged with making the work place and quality of life better. All suggestions for improvement must be explained and action taken or rejected by the leadership.
- The leadership must provide those who suggest improvements and ideas with feedback as to what is being done with the suggestion. The leadership will not necessarily adopt all ideas but the leadership must provide the feedback on every suggestion.

8. Create an atmosphere of trust and open communications where everyone shares a sense of pride in their work.

- Get fear out of the work place. Create an atmosphere in which people tell you what is wrong in order that it can be fixed.
- Unless we recognize the problems we cannot improve.
- We need to reward people who have the courage to tell us what they see that needs improvement so we can get better.
- Good ideas and lessons learned must be transmitted and shared between departments and commands.

9. Inspect smarter. Inspections should be methods of learning and improvement rather that threatening events.

   - As all learn to do the job correctly the first and every time, the number of inspections will decrease.

10. Demand quality, not quotas.

   - Quality in the work place and in our lives is what we strive for.

11. Education and self-improvement are just as important as training. We must always get better.

   - Everyone must be involved in training and self education.

12. All improvements, big and small alike, are important.

13. Be a leader. Your job as a supervisor is to guide and assist your people.

   - The leader gets his people the tools and training they need to do their jobs correctly.

   - It is the leader's responsibility to insure his

people are properly trained for the job before they are placed in a position of standing a watch, starting pump, lighting off a radar, firing a gun, loading a missile, etc.

14. All hands, from seaman to admiral, must learn and use TQL.

APPENDIX B

NAVAL HOSPITAL, PENSACOLA
QUALITY IMPROVEMENT INITIATIVE

- *A ROADMAP FOR CHANGE* -

15 March 1991

PHASE ONE

COMMANDING OFFICER BEGINS JOURNEY

:TIONS\READINESS INDICATORS:	RESPONSIBILITY:	TARGET COMPLETION:
ommanding Officer receives Total Quality Leadership (TQL) awareness raining, understands and supports concepts of continuous quality mprovement.	CO - Naval Medical Quality Institute (NMQI)	* June 1990

PHASE TWO

DEVELOP COMMAND TQL INFRASTRUCTURE

:TIONS\READINESS INDICATORS:	RESPONSIBILITY:	TARGET COMPLETION:
ppointment of command TQL Coordinator	CO	* Sept 1990
stablishment of TQL Resource Office	CO	* Oct 1990
stablishment of Quality Council	CO	* Dec 1990
rganizational manual amended to reflect TQL function with direct eport to Commanding Officer	TQL Coordinator / CO	* Feb 1991
egin fusing TQL and Quality Assurance (QA) functions	TQL Coordinator / QA Dept Head	* June 1992

PHASE THREE

PROVIDE TRAINING TO STAFF

TIONS\READINESS INDICATORS:	RESPONSIBILITY:	TARGET COMPLETION:
per management trained in concepts of TQL	Coordinator / NMQI	* Nov 1990
partment Heads trained in concepts of TQL	NMQI	* Jan 1991
L Team Facilitators trained	TQL Coordinator	* Jan 1991/Ongoing
troduce TQL concepts to remaining hospital staff	TQL Coordinator	
-25% of staff trained		July 1991
-50% of staff trained		Dec 1991
-75% of staff trained		June 1992
vanced TQL issues courses (statistical quality control, am building, etc.) developed and offered to staff	TQL Coordinator	June 1992

PHASE FOUR

PLAN AND NURTURE THE QUALITY PHILOSOPHY

TIONS\READINESS INDICATORS:	RESPONSIBILITY:	TARGET COMPLETION:
velopment of plan for selecting Process Action Teams	Quality Council	* Apr 1991
rmulation of Command Vision Statement	Quality Council	* Apr 1991
rmulation of Command Quality Statement	Quality Council	* Apr 1991
mpleted analysis of internal and external customers (command level)	Quality Council	May 1991
ourteen Point" action officers established and functioning	Quality Council	May 1991
velopment of Command Mission Statement	Quality Council	June 1991
chanism for recognizing team accomplishments in place and functioning	Quality Council	Sept 1991
tablishment of command quality goals, strategies and, itical success factors	Quality Council	Oct 199
partment level planning to include analysis of customers; development mission statement; and development of goals, strategies and critical ccess factors	Department Heads	Dec 1991

PHASE FIVE

ORGANIZE FOR QUALITY

ACTIONS\READINESS INDICATORS:	RESPONSIBILITY:	TARGET COMPLETION:
- Process Action Teams operational and reporting progress to Quality Council	Quality Council	Feb 1991
- Quality Circles operational and reporting progress to Department Heads	Department Heads	Feb 1991

PHASE SIX

REVIEW PROGRESS \ REVISE PLAN

ACTIONS\READINESS INDICATORS:	RESPONSIBILITY:	TARGET COMPLETION:
- Conduct and report results of command climate survey	TQL Coordinator	* Mar 1991/Yearly
- Conduct and report results of customer satisfaction survey	TQL Coordinator	* Aug 1991/Yearly
- Review and revise Command Mission and Quality Goals	Quality Council	Jun 1992/Yearly
- Review and revise Department Mission and Quality Goals	Department Heads	Dec 1992/Yearly

PHASE SEVEN

CONTINUOUSLY IMPROVE SERVICES

ACTIONS\READINESS INDICATORS:	RESPONSIBILITY:	TARGET COMPLETION:
- Improvement if external service indicators such as patient waiting times, frequency of complaints, etc.	All Hands	Ongoing
- Improvement of internal service indicators such as frequency of retests (clinical), turn around times, etc.	All Hands	Ongoing

** INDICATES ELEMENT WHICH MUST BE ACCOMPLISHED PRIOR TO BEGINNING NEXT PHASE*

APPENDIX C

CONSOLIDATED COMMAND CLIMATE SCORES

	MEAN	STANDARD DEVIATION	RANGE
1. STRATEGIC FOCUS (OVERALL)	4.09	.62	2.9 - 5.7
Elements of Strategic Focus:			
Awareness of Strategic Challenge	4.28	.64	2.8 - 5.8
Vision for the Future	4.15	.79	1.8 - 6.0
Innovation	3.93	.72	1.0 - 6.0
Quality Policy/Philosophy	4.18	.58	3.0 - 6.0
Value Systems/Ethics	4.57	.75	1.0 - 6.0
2. LEADERSHIP AND MANAGEMENT (OVERALL)	4.23	.72	2.2 - 6.0
Elements of Leadership and Management:			
Top Management Involvement	3.97	.69	1.5 - 6.0
Visible Commitment to Goals	4.53	.71	1.6 - 6.0
Role in Quality improvement Process	4.62	.73	2.0 - 6.0
Concern for Improvement	4.53	.82	1.0 - 6.0
System/Structure for Quality Improvement	4.38	.65	1.0 - 6.0
3. WORK FORCE INVOLVEMENT (OVERALL)	4.45	.56	1.8 - 5.9
Elements of Work Force:			
Awareness of Productivity/Quality Issues	4.42	.72	1.0 - 6.0
Attitude/Morale	4.72	.61	2.3 - 6.0
Cooperation	4.73	.56	2.3 - 6.0
Involvement	4.59	.47	1.0 - 6.0
Perceptions of Work Environment	4.62	.66	1.0 - 6.0
Social Interactions	4.97	.36	1.0 - 6.0
Task Characteristics	4.36	.78	1.0 - 5.8
Consequential Constraints	4.23	.72	1.2 - 6.0
4. CUSTOMER ORIENTATION	4.91	.30	2.0 - 6.0
5. COMMUNICATIONS	4.41	.92	1.0 - 6.0
6. COMMAND CLIMATE (OVERALL)	4.41	.61	2.5 - 6.0

DIRECTOR NURSING SERVICES - CONSOLIDATED CLIMATE SCORES

	MEAN	STANDARD DEVIATION	RANGE
1. STRATEGIC FOCUS (OVERALL)	4.75	.29	4.0 - 5.5
Elements of Strategic Focus:			
Awareness of Strategic Challenge	5.12	.29	4.0 - 5.8
Vision for the Future	4.72	.49	3.4 - 5.6
Innovation	3.91	.53	3.0 - 5.0
Quality Policy/Philosophy	5.00	.26	4.1 - 5.6
Value Systems/Ethics	5.00	.29	4.3 - 5.7
2. LEADERSHIP AND MANAGEMENT (OVERALL)	4.57	.39	3.5 - 5.5
Elements of Leadership and Management:			
Top Management Involvement	4.42	.44	4.3 - 5.7
Visible Commitment to Goals	5.02	.54	3.6 - 6.0
Role in Quality improvement Process	4.98	.55	3.0 - 6.0
Concern for Improvement	5.10	.48	3.5 - 6.0
System/Structure for Quality Improvement	4.78	.33	4.0 - 6.0
3. WORK FORCE INVOLVEMENT (OVERALL)	4.83	.59	3.8 - 5.6
Elements of Work Force:			
Awareness of Productivity/Quality Issues	4.07	.66	2.5 - 5.5
Attitude/Morale	5.07	.48	2.5 - 5.5
Cooperation	5.06	.58	3.5 - 6.0
Involvement	5.07	.49	3.5 - 6.0
Perceptions of Work Environment	5.12	.35	4.0 - 6.0
Social Interactions	5.25	.45	3.0 - 6.0
Task Characteristics	4.80	.49	3.8 - 5.8
Consequential Constraints	4.62	.58	2.8 - 5.7
4. CUSTOMER ORIENTATION	5.46	.41	3.5 - 6.0
5. COMMUNICATIONS	4.89	.39	3.5 - 6.0
6. COMMAND CLIMATE (OVERALL)	4.89	.44	3.5 - 6.0

DIRECTOR, MEDICAL SERVICES CONSOLIDATED CLIMATE SCORES

	MEAN	STANDARD DEVIATION	RANGE
1. STRATEGIC FOCUS (OVERALL)	4.57	.67	2.9 - 5.6
Elements of Strategic Focus:			
Awareness of Strategic Challenge	4.72	.57	3.1 - 5.5
Vision for the Future	4.19	.76	2.6 - 6.0
Innovation	3.88	.85	1.0 - 6.0
Quality Policy/Philosophy	4.97	.24	4.0 - 4.8
Value Systems/Ethics	4.79	.89	1.0 - 6.0
2. LEADERSHIP AND MANAGEMENT (OVERALL)	4.32	.42	3.7 - 5.9
Elements of Leadership and Management:			
Top Management Involvement	3.92	.54	3.3 - 6.0
Visible Commitment to Goals	4.52	.31	3.6 - 6.0
Role in Quality improvement Process	4.49	.59	3.6 - 6.0
Concern for Improvement	4.40	.76	2.0 - 6.0
System/Structure for Quality Improvement	4.85	.38	3.5 - 6.0
3. WORK FORCE INVOLVEMENT (OVERALL)	4.70	.69	3.1 - 5.9
Elements of Work Force:			
Awareness of Productivity/Quality Issues	4.66	.70	3.0 - 6.0
Attitude/Morale	5.13	.34	4.0 - 6.0
Cooperation	4.75	.88	1.5 - 6.0
Involvement	4.66	.45	3.5 - 6.0
Perceptions of Work Environment	4.90	.44	3.0 - 6.0
Social Interactions	5.16	.84	2.0 - 6.0
Task Characteristics	4.62	.76	2.4 - 6.0
Consequential Constraints	4.11	.88	2.1 - 5.8
4. CUSTOMER ORIENTATION	5.38	.77	2.0 - 6.0
5. COMMUNICATIONS	4.80	.79	1.3 - 6.0
6. COMMAND CLIMATE (OVERALL)	4.69	.49	3.0 - 5.8

DIRECTOR, SURGICAL SERVICES CONSOLIDATED CLIMATE SCORES

	MEAN	STANDARD DEVIATION	RANGE
1. STRATEGIC FOCUS (OVERALL)	4.09	.43	3.5 - 5.7
Elements of Strategic Focus:			
Awareness of Strategic Challenge	4.55	.39	3.5 - 5.8
Vision for the Future	4.03	.76	1.8 - 5.8
Innovation	3.82	.61	2.0 - 5.5
Quality Policy/Philosophy	4.65	.45	3.0 - 5.8
Value Systems/Ethics	4.36	.71	3.0 - 6.0
2. LEADERSHIP AND MANAGEMENT (OVERALL)	4.05	.69	2.1 - 6.0
Elements of Leadership and Management:			
Top Management Involvement	3.96	.71	2.0 - 6.0
Visible Commitment to Goals	4.35	.77	2.0 - 6.0
Role in Quality improvement Process	4.08	.71	2.0 - 6.0
Concern for Improvement	4.32	.65	2.0 - 6.0
System/Structure for Quality Improvement	4.26	.70	2.0 - 6.0
3. WORK FORCE INVOLVEMENT (OVERALL)	4.09	.77	1.8 - 5.5
Elements of Work Force:			
Awareness of Productivity/Quality Issues	4.08	.89	1.0 - 5.0
Attitude/Morale	4.17	.73	2.5 - 6.0
Cooperation	4.30	.74	1.5 - 6.0
Involvement	3.91	.81	1.0 - 5.5
Perceptions of Work Environment	4.17	.70	1.0 - 6.0
Social Interactions	4.29	.71	1.0 - 6.0
Task Characteristics	4.11	.69	1.4 - 5.4
Consequential Constraints	4.02	.75	1.2 - 5.8
4. CUSTOMER ORIENTATION	5.00	.34	3.0 - 6.0
5. COMMUNICATIONS	4.33	.77	1.0 - 5.8
6. COMMAND CLIMATE (OVERALL)	3.99	.62	2.5 - 5.7

DIRECTOR, ANCILLARY SERVICES CONSOLIDATED CLIMATE SCORES

	MEAN	STANDARD DEVIATION	RANGE
1. STRATEGIC FOCUS (OVERALL)	4.38	.58	2.9 - 5.9
Elements of Strategic Focus:			
Awareness of Strategic Challenge	4.72	.46	3.1 - 5.8
Vision for the Future	3.90	.73	1.8 - 6.0
Innovation	3.82	.66	1.5 - 6.0
Quality Policy/Philosophy	4.59	.53	3.4 - 6.0
Value Systems/Ethics	4.75	.44	3.6 - 6.0
2. LEADERSHIP AND MANAGEMENT (OVERALL)	4.16	.53	2.7 - 5.7
Elements of Leadership and Management:			
Top Management Involvement	4.07	.54	2.3 - 6.0
Visible Commitment to Goals	4.51	.61	2.4 - 6.0
Role in Quality improvement Process	4.26	.48	2.0 - 6.0
Concern for Improvement	4.37	.61	2.5 - 6.0
System/Structure for Quality Improvement	4.45	.55	2.3 - 6.0
3. WORK FORCE INVOLVEMENT (OVERALL)	4.32	.48	3.1 - 5.9
Elements of Work Force:			
Awareness of Productivity/Quality Issues	4.27	.65	2.0 - 6.0
Attitude/Morale	4.53	.42	2.3 - 5.9
Cooperation	4.32	.51	2.8 - 6.0
Involvement	4.23	.65	1.0 - 6.0
Perceptions of Work Environment	4.41	.48	2.3 - 6.0
Social Interactions	4.81	.64	2.0 - 6.0
Task Characteristics	4.43	.37	3.6 - 6.0
Consequential Constraints	4.01	.67	2.2 - 5.7
4. CUSTOMER ORIENTATION	4.93	.68	2.5 - 6.0
5. COMMUNICATIONS	4.27	.53	2.3 - 6.0
6. COMMAND CLIMATE (OVERALL)	4.35	.48	3.3 - 5.9

DIRECTOR, ADMINISTRATIVE SERVICES - CONSOLIDATED CLIMATE SCORES

	MEAN	STANDARD DEVIATION	RANGE
1. STRATEGIC FOCUS (OVERALL)	3.90	.64	2.9 - 5.9
Elements of Strategic Focus:			
Awareness of Strategic Challenge	4.53	.78	2.8 - 5.8
Vision for the Future	3.91	.82	1.6 - 6.0
Innovation	3.77	.80	1.0 - 6.0
Quality Policy/Philosophy	4.74	.49	3.2 - 6.0
Value Systems/Ethics	4.31	.62	2.0 - 6.0
2. LEADERSHIP AND MANAGEMENT (OVERALL)	4.22	.78	2.2 - 6.0
Elements of Leadership and Management:			
Top Management Involvement	3.96	.80	1.5 - 6.0
Visible Commitment to Goals	4.64	.87	1.6 - 6.0
Role in Quality improvement Process	4.34	.74	2.0 - 6.0
Concern for Improvement	4.43	.81	1.0 - 6.0
System/Structure for Quality Improvement	4.12	.77	1.0 - 6.0
3. WORK FORCE INVOLVEMENT (OVERALL)	4.58	.82	2.4 - 5.8
Elements of Work Force:			
Awareness of Productivity/Quality Issues	4.59	.78	2.5 - 6.0
Attitude/Morale	4.80	.80	2.3 - 6.0
Cooperation	4.66	.75	2.3 - 6.0
Involvement	4.55	.71	2.2 - 6.0
Perceptions of Work Environment	4.42	.83	2.0 - 6.0
Social Interactions	5.12	.87	1.6 - 6.0
Task Characteristics	4.41	.73	1.6 - 6.0
Consequential Constraints	4.20	.70	1.8 - 6.0
4. CUSTOMER ORIENTATION	4.82	.83	2.5 - 6.0
5. COMMUNICATIONS	4.37	.74	2.5 - 6.0
6. COMMAND CLIMATE (OVERALL)	4.39	.75	2.4 - 6.0

DIRECTOR, BRANCH CLINICS CONSOLIDATED CLIMATE SCORES

	MEAN	STANDARD DEVIATION	RANGE
1. STRATEGIC FOCUS (OVERALL)	4.77	.31	3.6 - 6.0
Elements of Strategic Focus:			
Awareness of Strategic Challenge	4.89	.25	3.6 - 5.8
Vision for the Future	4.65	.34	2.4 - 6.0
Innovation	4.59	.57	1.0 - 6.0
Quality Policy/Philosophy	4.94	.32	3.4 - 6.0
Value Systems/Ethics	4.81	.29	3.2 - 6.0
2. LEADERSHIP AND MANAGEMENT (OVERALL)	4.89	.27	3.6 - 6.0
Elements of Leadership and Management:			
Top Management Involvement	5.12	.25	3.5 - 6.0
Visible Commitment to Goals	5.08	.26	3.5 - 6.0
Role in Quality improvement Process	4.71	.35	2.7 - 6.0
Concern for Improvement	4.76	.33	2.5 - 6.0
System/Structure for Quality Improvement	4.72	.43	2.0 - 6.0
3. WORK FORCE INVOLVEMENT (OVERALL)	4.68	.24	3.5 - 5.7
Elements of Work Force:			
Awareness of Productivity/Quality Issues	4.52	.22	3.5 - 6.0
Attitude/Morale	4.69	.26	3.5 - 5.8
Cooperation	5.16	.24	3.5 - 6.0
Involvement	4.90	.25	3.5 - 6.0
Perceptions of Work Environment	4.80	.22	3.6 - 6.0
Social Interactions	4.98	.21	4.0 - 6.0
Task Characteristics	4.61	.39	2.8 - 6.0
Consequential Constraints	4.41	.35	1.7 - 6.0
4. CUSTOMER ORIENTATION	5.07	.28	3.0 - 6.0
5. COMMUNICATIONS	4.73	.41	2.8 - 6.0
6. COMMAND CLIMATE (OVERALL)	4.76	.29	3.8 - 5.7