Order Number 9238766

The applicability of the Malcolm Baldrige National Quality Award criteria to the evaluation of quality in hospitals as perceived by the chief executive nurse

Moser, Joan Patricia, Ph.D.

Ohio University, 1992

U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

THE APPLICABILITY OF THE MALCOLM BALDRIGE NATIONAL QUALITY AWARD CRITERIA TO THE EVALUATION OF QUALITY IN HOSPITALS AS PERCEIVED BY THE CHIEF EXECUTIVE NURSE

A Dissertation Presented to
The Faculty of the College of Education
Ohio University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

by
Joan P. Moser
June, 1992

This dissertation has been approved

for the School of Applied Behavioral Sciences

and Educational Leadership

Professor, Higher Education

Dean of the College of Education

Acknowledgements

I wish to express appreciation to my advisor and dissertation chairmen, Dr. Richard I. Miller, for his support and encouragement during my doctoral studies. I also gratefully acknowledge the assistance of my committee members, Dr. Donald M. Knox, Dr. Gary O. Moden, and Dr. Lucian P. Spataro for their guidance and suggestions during the development and implementation of this investigation.

I dedicate this work to my husband, Albert, who has supported and assisted me throughout the endeavor. I want to thank the rest of my family for their understanding and encouragement, especially Mary Eileen Indelicato, Mary Beth Clary, Mary Clare Moser, and Dr. Henry C. Foehl.

I also appreciate the personal support of Nursing Administration of Riverside Methodist Hospitals which contributed to my completion of this program. I especially thank Cathy Gallogly, my secretary and good friend, for her patience, hard work, and good humor throughout this accomplishment.

Finally, I want to thank my classmates of Cycle III and all of my friends for their support and encouragement of my efforts to achieve my doctor of philosophy degree.

Table of Contents

Table of Contents (cont'd)

Table of Contents (cont'd)

Table of Contents (cont'd)

Table of Contents (cont'd)

Table of Contents (cont'd)

Table of Contents (cont'd)

List of Tables

Chapter 1

Introduction

The Malcolm Baldrige National Quality Award (MBNQA) was instituted by Congress in 1988 in response to a Presidential imperative of growing importance: the United States must regain its leadership position in the world of quality products and services in order to avoid a national economic disaster. America's economic strength depends on industry's ability to improve productivity and quality (Glover, 1988). The MBNQA is intended to encourage this improvement. The Award is not merely a recognition program for its recipients, but also is a Congressional mandate designed to promote broad national awareness about the importance of quality and the characteristics of an excellent quality system (Reimann, 1988).

The MBNQA is awarded each year to companies in three categories: manufacturing companies, service companies, and small businesses. To date, nonprofit hospitals have not been allowed to apply for the MBNQA because nonprofit organizations are not eligible. Congress is considering amending the MBNQA to permit nonprofit organizations to become eligible for participation. Businesses and institutions must respond to, and are measured by, 32 criteria. This study examines whether the criteria currently applied would be applicable in evaluating the

quality of patient care delivered in nonprofit hospitals.

Background

The United States economy has been adversely affected as more and more goods and services are supplied by other countries, especially Japan and Germany. Economic experts contend that lack of quality American goods and services is a major cause. The declining ability to manufacture quality products and provide quality services by American workers motivated Congress to initiate the MBNQA. Nevertheless, the economy continues to falter even though Americans are more aware of quality and the effect it has on productivity.

Current popular literature and daily news broadcasts affirm that the American economy is in recession. This state of affairs is not new. Warren Bennis and Burt Nanus (1985) identified trends which predicted continual erosion of the economic system. They stated that growth in the average Gross National Product (GNP) was 4.1 percent in the 1960s and 2.9 percent in the 1970s. By 1982, the average GNP had declined. There are other compelling statistics from this era that support the fact that the nation has suffered a productivity loss. The United States standard of living, the world's highest in 1972, now ranks fifth. Automobiles manufactured in the United States had a 96 percent market share in 1960; today that market share has dropped to approximately 60 percent. In 1960, consumer electronics manufactured in the United States enjoyed a 94

percent market share; today that market share is only 49 percent (Bennis & Nanus, 1985).

Contributing to the economic decline in the United States is the growing cost of health care. Health care costs represent 10 to 12 percent of the GNP and are, therefore, a major factor of the American economic system. The reasons for escalated health care costs center on increased technology and consumer expectations, aging of Americans, increased severity of illness, an outmoded superstructure, and continual inspection and control by federal, state, and private regulating organizations.

Hospitals, where health care services are primarily provided, represent a major portion of the nation's health care costs. A substantial portion of any hospital's operating budget is the cost of delivering patient care provided by the nursing department. Since Congress initiated the MBNQA to reduce quality problems in order to improve the nation's economic status, and since 85 percent of the hospitals in the United States as of 1992 were nonprofit institutions (American Hospital Association's Manual of Hospital Listings, 1990), it seems prudent to allow nonprofit health care institutions to apply for the Award. Assuming the MBNQA is expanded to permit participation by health care institutions, the next issue that must be addressed is whether the MBNQA criteria are applicable to measure quality in health care institutions.

This investigation will study the applicability of the MBNQA criteria to hospitals as perceived by the Chief Executive Nurse (CEN).

What Is the MBNQA?

The Award

Public Law 100-107, the Malcolm Baldrige National Quality Improvement Act of 1987, signed by President Reagan on August 20, 1987, established an annual Unites States National Quality Award. The purposes of the Award are not only to promote quality awareness but also to recognize quality achievements of companies located in the United States and publicize successful quality strategies. The Secretary of Commerce and the National Institute of Standards and Technology (NIST) were given the responsibility to develop and administer the Award with cooperation and financial support from the private sector.

The framers of the law supported the concept that improved quality results will increase productivity which positively affects the national economy. Inspection and correction costs due to poor quality are a significant part of the costs of doing business. The new approach to quality embodied in the Award encompasses doing it right the first time.

The Award's Background

The MBNQA burst onto the national scene in 1987, but there were many years of planning behind it. It was the

culmination of years of effort by a diverse coalition that began in the 1980s. Under the leadership of the American Society for Quality Control (ASQC) and Alvin O. Gunneson, then Corporate Vice President of Quality for Revlon Corporation (DeCarlo and Sterett, 1990), several organizations and committees were formed which were committed to improving productivity, quality, and competitiveness in American business. The National Advisory Council for Quality (NACQ), the American Productivity and Quality Center (APQC), and the National Productivity Advisory Committee (NPAC) generally agreed that America needed a national quality award similar to the Deming Prize in Japan.

Substantive work on the Award commenced in September, 1985. An entirely private-sector group of academicians and corporate quality business leaders from ASQC, APQC, NACQ, NPAC, Ford Motor Company, McDonald Douglas Corporation, and other organizations collaborated to name, fund, administer, and formulate the criteria for winning the Award. In August 1986, Don Fugua (D-FL) introduced House Bill 5321 to establish a National Quality Improvement Award. This bill subsequently died when Fugua left the House of Representatives.

Doug Walgren (D-PA) revived interest in the Award in 1987 by introducing House Bill 812, "National Quality Improvement Act of 1987", which was essentially the same as

Fugua's bill. An investigation by Congress of the merits of a quality award garnered testimonials by John J. Hudiburg, Chairman and Chief Executive Officer of Florida Power and Light Company (the only American company that has won the prestigious Japanese Deming Prize); John Hansel, Chairman of the American Society for Quality Control; Joseph M. Juran, President of the Juran Institute; and William W. Eggleston, IBM's Corporate Vice President for Quality at International Business Machines, Incorporated (Whiting, 1989). On June 8, 1987, the measure passed the House of Representatives and was sent to the Senate Committee on Commerce, Science, and Transportation. Before the Senate could act, a tragic rodeo accident killed the Commerce Secretary, Malcolm Baldrige. Three days after Baldrige's death, the Senate Committee renamed the legislation in his honor and on August 20, 1987, President Reagan signed the Malcolm Baldrige National Quality Award into law.

Eligibility Requirements

Eligibility requirements for the MBNQA are stringent and succinct. Privately- or publicly-owned businesses located in the United States may apply for the Award. Up to two awards may be given each year in each of three categories: manufacturing companies or subsidiaries, service companies or subsidiaries, and small businesses. Subsidiaries are defined as divisions or business units of larger companies. Subsidiaries must serve primarily either

the public or businesses other than the parent company. For companies engaged in both the service and manufacturing industries, classification is determined by its larger involvement based on percentage of sales. Small businesses are defined as independently owned with not more than 500 full time employees (Malcolm Baldrige National Quality Award Brochure, 1991). Nonprofit organizations are not eligible.

Criteria Development

Determination of Award recipients is based upon an examination of seven critical areas: (1) leadership; (2) information and analysis; (3) planning; (4) human resource utilization; (5) quality assurance of products and services; (6) quality result; and (7) customer satisfaction. Applicants must address a set of examination items within each of these categories for a total of 32 criteria (Appendix A).

The development of criteria for the Award was spearheaded by Curt Reimann of the NIST who was also program director for the Award. From the advice offered by 75 quality leaders throughout the United States, Reimann extracted the seven areas listed above to serve as the program's foundation. Although he concedes that the items within the categories might evolve through annual improvements, the seven examination categories are intended to remain static for continuity. The maximum total score for the Award is 1,000 points. These points are allocated

among the 32 criteria. According to Reimann, past winners' scores have ranged from the high 600s to the low 700s, indicating the growth potential of America's best companies (Haavind, 1990b).

MBNQA Application Process

Although not required, many companies find it worthwhile to conduct internal reviews of their company's quality standards and achievements, usually using the actual MBNQA criteria as guidelines. In 1990, 100,000 copies of the Award's guidelines were requested and 97 companies entered the competition; in 1989, 65,000 guidelines were distributed and 40 companies entered; in 1988, 12,000 guidelines were distributed which resulted in 66 entries (Haavind, 1989). In 1992, as many as 200 companies are expected to compete (Fuchsberg, 1992). All applicants submit an Eligibility Determination Form, available from NIST, along with a nonrefundable $50 fee. The form is intended to identify applicants that are ineligible.

Once a company's eligibility is confirmed by NIST, applicants submit the completed application together with the appropriate fee. A completed application form for the MBNQA typically has averaged 50 to 75 pages compared to the Deming Prize application of approximately 1,000 pages (Segalla, 1989). Fees are established to cover some of the costs of the review. The fee for the manufacturing and

service categories is $3,000. In the small business category, the fee is $1,000.

After completion of the application, entrants receive a first-step review by four or more members of the Board of Examiners, led by a senior examiner. Candidates that pass this review proceed to an additional review that determines which candidates receive a site visit. An applicant that is not selected for a site visit receives a feedback report based on the consensus results. The few candidates still in the running at this point are scheduled for a personal inspection of the site by at least five members of the Board of Examiners and a senior examiner. The Award winners are selected based upon the reviews and site inspection. The final decision on Award winners must be approved by the Secretary of Commerce.

Robert Adam Mosbacher, current Secretary of Commerce, was recently interviewed after a conference in Mexico where he spoke of a free trade agreement with Mexico, the MBNQA, and the role of the United States Hispanic business community. He stated, "Even to those who don't win, the process makes them a better company, and makes them more competitive" ("Striving For," 1991).

Quality Examiners

The Board of Examiners is comprised of quality experts selected from industry, professional and trade organizations, and universities. Each fall, applications

are solicited from quality experts to serve as examiners for the following year. Those selected as examiners meet high standards of qualification and peer recognition. The selection process considers the applicant's background in the quality field and is aimed at striking an industrial, as well as a geographical, balance. In 1990, 593 applicants applied for 175 positions (Haavind, 1990b).

Examiners must take part in a preparation program which instructs them on the MBNQA criteria, scoring system, and examination process. According to Reimann, rigorous conflict-of-interest guidelines prevent any connection between an examiner and an applicant, whether by employment, client status, significant stock ownership, or competitive relationships (Haavind, 1990a).

Why Is The Award Prestigious?

The nation has begun to recognize the importance of quality excellence because of the United States trade deficit and growth in competition for world markets. President George Bush stated, "The improvement of quality products and the improvement of quality in service - these are national priorities as never before" (Application Guidelines Cover, 1991). Consistent with this statement of priorities Federal agencies, The Foundation for the Malcolm Baldrige National Quality Award, and the industrial private sector have combined forces to promote the MBNQA as the most

prestigious quality award in the nation for business and industry.

The MBNQA is prestigious because it proclaims to the world that the recipient's business or service is one of the best in the nation. Only six honors, two in each of three categories, are awarded each year by the United States Department of Commerce. The Awards are presented in Washington by the President of the United States. The Award allows the winners to capitalize on the honor in advertising their businesses or services. Thus, winning the Award provides a competitive edge for businesses. An Opinion Research Cooperation study revealed that winning a prestigious national award for quality has a positive impact when United States executives choose a supplier ("Winning the Baldrige," 1990). Eighty-seven percent of the executives surveyed said that their desire to do business with a company would increase if that company had won the MBNQA.

The criteria governing the Award have been accepted as national quality standards that are beginning to reshape business practices across the nation (Scheuing, 1990). This concept is reinforced by the 100,000 businesses and services requesting the application guidelines in 1990. Relatively few firms actually apply for the coveted award, but many use the vigorous application process to spur quality

improvement. There are other sets of quality criteria but none have been acclaimed as a national standard.

The Award is impressive in appearance -- a large gold medal suspended within a tall glass crystal base. It is also very meaningful to the winner because it formally recognizes the company for quality leadership (Abrahamson, 1989) and permits it to advertise receipt of the Award. Motorola Corporation, Cadillac Division of General Motors, Westinghouse Incorporated, and Globe Metallurgical Incorporated, former MBNQA winners, have used the MBNQA symbol advantageously for business growth and profit.

The Award has reinforced and promoted the concept of "benchmarking". Benchmarking programs, which analyze aspects of a competitor's products to assess their reliability, manufacturing process and cost, and performance, use the MBNQA winners as the standard for measuring quality excellence. Marketers are now working more closely with their colleagues in the quality management field in developing techniques, including benchmarking, for evaluating the processes of improving quality (Band, 1990).

These advantages have succeeded in making the MBNQA the most prestigious quality award in the nation. National recognition, competitive edge, increased profitability, and aggressive comparisons through benchmarking are the rewards garnered by those who successfully compete for and win the MBNQA.

Statement of the Problem

The problem addressed by this study is to determine the degree to which the evaluation criteria of the MBNQA are applicable to judging the quality of patient care delivered at hospitals as perceived by the Chief Executive Nurse (CEN), and to identify additional criteria that may be appropriate to include in the MBNQA process.

Subproblems

A number of subproblems were identified in order to provide a more complete analysis of the problem:

1. To what degree are CENs aware of the MBNQA?
2. To what degree do the CENs perceive the individual MBNQA criteria to be applicable to the measurement of quality nursing care delivered in hospitals?
3. To what degree do the CENs perceive the seven major categories of the MBNQA criteria to be applicable to the measurement of quality nursing care delivered in hospitals?
4. To what degree do the CENs perceive the MBNQA criteria to have overall applicability to the measurement of quality nursing care delivered in hospitals?
5. To what degree do the CENs' perception of applicability of the MBNQA criteria vary based on hospital size?
6. To what degree do the CENs' perception of applicability of the MBNQA criteria vary based on hospital type?

7. To what degree do the CENs' perception of applicability of the MBNQA criteria vary based on their awareness of the Award?
8. To what degree do the CENs' perception of applicability of the MBNQA criteria interact based on hospital size, hospital type, and the CENs' awareness of the MBNQA?

Hypotheses

The following null hypotheses which are based on the problem and subproblems will be tested from data that has been recorded by the CENs on the survey instrument:

H_{01}: There are no significant differences in perceived applicability among the seven categories of the MBNQA criteria.

H_{02}: There are no significant differences in the CENs' perceived applicability of the MBNQA criteria and the size of the hospital.

H_{03}: There are no significant differences in the CENs' perceived applicability of the MBNQA criteria and the type of hospitals.

H_{04}: There are no significant differences in the CENs' perceived applicability of the MBNQA criteria and the level of awareness of the MBNQA.

H_{05}: There are no significant interactions overall in the CENs' perceived applicability of the MBNQA criteria and hospital size, and/or hospital type, and/or level of awareness.

Purpose of the Study

The MBNQA, created by public law, is the highest level of national recognition for quality that a company located in the United States can receive. Its prestigious nature has been established and its criteria are being proclaimed as the national standard for determining quality in American industry. The application process provides feedback for determining the status of quality in an organization. At the present time, nonprofit service organizations have been excluded from the competition. Currently, Congress is considering amending the law to permit nonprofit organizations, such as hospitals and universities, to become eligible to receive the Award (Stratton, 1990). Because the available literature does not indicate that the criteria are appropriate for nonprofit institutions, this study will examine the applicability of the criteria to nonprofit institutions and determine whether other criteria should be included, and, if so, what those criteria might be.

Awareness of the MBNQA is also questionable among nursing administrators responsible for assuring that quality patient care is delivered. If nursing administrators were aware of the Award and, therefore of the criteria for determining quality, it is conceivable that they, too, would adopt the MBNQA measurements of quality as the standard for their departments.

If the MBNQA was available to nonprofit institutions, CEOs of health care institutions could not apply for the Award without the support of the Nursing Service Department. Implementing programs to reduce costs, improve quality, increase productivity, and discover innovative ways of providing service requires the complete cooperation, commitment, and dedication of the CEN.

Total Quality Management (TQM) has become a key element in leading and managing departments of nursing/patient services. At this time, nurse executives are very dependent upon the standards mandated by the Joint Commission for Accreditation of Hospitals Organization (JCAHO) in determining the degree of quality in their departments. The JCAHO is attempting to incorporate TQM principles in their latest QA standards. The MBNQA, however, might afford another system of TQM for evaluation of quality of patient care in health care institutions.

The survey tool used in this study requested CENs to measure the applicability of the current 32 criteria that are used to determine which organizations will receive the MBNQA. Additional input was sought regarding other criteria that may be appropriate for inclusion when measuring quality patient care. Since Congress is considering expanding the availability of the Award to nonprofit service institutions, it will be important to determine the appropriateness of the current criteria for evaluating such institutions. It may

be necessary to make changes to the current criteria and/or include additional criteria. It is intended that conclusions obtained from this study can be used to formulate recommendations to the National Institute of Standards and Technology, which is responsible for the criteria of the Award, the process for application, and the evaluation of organizations.

If the MBNQA criteria are perceived as applicable to health care institutions, the Award program might be extended to this population, providing an alternative and/or enhancement to the JCAHO criteria for accreditation.

Limitations

The proposed study is open to the following limitations:

1. The data were collected through the distribution and collection of a survey and thus were limited to responses received from CENs.

2. The study presumes that the CENs responded truthfully, honestly, and that the CENs correctly understood survey directions and survey contents.

3. Responses to the survey items are subject to the personal bias and perceptions of the CENs and the motivations of the CENs are unknown.

4. The study presumes that meaningful analysis was made from a response of less than 100 percent of those surveyed.

5. The study is not experimental and, therefore, no cause and effect can be determined.

6. There is a lack of equal cells in the sample because there are nationally unequal numbers of hospitals of different sizes and control.

7. The CENs may have delegated the actual completion of the survey to a subordinate.

8. A lack of printed information on quality research in hospitals will deter comparability.

Delimitations

The study was delimited in several ways:

1. The population of interest was limited to CENs of hospitals that are at least 300 beds or more and hospitals that are in the nongovernmental, general medical/surgical classification. This delimitation limits the generalizability of study findings to smaller institutions and to government or specialty hospitals.

2. CENs are the only nursing representatives surveyed in this study. Others within the same institutions, such as Directors of Quality Assurance, may hold differing views.

3. The entire population of interest was not surveyed but rather a sample was selected. The resultant data are subject to known limitations of sampling.

Definition of Terms

For the purpose of this study, the following definitions are operational although the researcher

acknowledges that other definitions are possible.

Chief Executive Nurse. The Chief Executive Nurse (CEN) is the highest ranking nurse in a hospital hierarchial administration. The CEN has the authority, responsibility, accountability, and autonomy to assess, plan, implement, and evaluate all fiscal and human activities in the nursing/patient services department to assure quality patient care. The CEN is known by many titles, including Vice President of Patient Services, Vice President of Nursing Service, Director of Nursing, Administrator of Patient Services, and Executive Administrator of Patient Services.

Customer. A customer is anyone who receives or is affected by a product or process, which could be internal or external to an organization.

Hospital Type. Hospital type is a classification code of the American Hospital Association which designates through a numbering system whether a hospital is a government institution, nonfederal or federal; a nongovernment nonprofit institution; or an investor-owned for-profit institution.

Hospital Size. Hospitals are listed in the American Hospital Association's Manual of Hospital Listings by actual number of beds located within a hospital (American Hospital Association's Manual of Hospital Listings, 1990). Three categories of size are designated for this study: large

hospitals (800 plus beds), medium hospitals (500 to 799 beds), and small hospitals (300 to 499 beds).

Joint Commission on Accreditation of Healthcare Organizations (JCAHO). JCAHO is a private, nonprofit organization composed of representatives of the American College of Surgeons, American College of Physicians, American Hospital Association, American Medical Association, and American Dietetics Association. JCAHO's purpose is to establish standards for the operation of health care facilities and services, conduct surveys, and award accreditation.

Quality. The continuous improvement of goods and services to meet the needs and expectations of the patients, physicians, payors, employees, and communities that are served.

Seven Major Categories. The MBNQA criteria are divided into seven major categories (1991 MBNQA Application Guidelines):

1. The Leadership category examines how senior executives create and sustain clear and visible quality values along with a management system to guide excellence. Also examined are the senior executives', and the company's, quality leadership in the external community, and the company's integration of its public responsibilities with its quality values and practices.

2. The Information and Analysis category examines the

scope, validity, use, and management of data and information that underlie the company's overall quality management system. Also examined are the adequacy of the data, information, and analysis to support a responsible, prevention-basis approach to quality and customer satisfaction.

3. The Strategic Quality Planning category examines the company's planning process for achieving or retaining quality leadership and the company's integration of quality improvement planning into its overall business planning. The company's short-term and longer-term plans to achieve and/or sustain a quality leadership position are also examined.

4. The Human Resource Utilization category examines the effectiveness of the company's efforts to develop and realize the full potential of the work force, including management, and to maintain an environment conducive to full participation, quality leadership, and personal and organizational growth.

5. The Quality Assurance of Products and Services category examines the systematic approaches used by the company for assuring quality of goods and services based primarily upon process design and control, including control of procured materials, parts, and services. The integration of process control with continuous quality improvement is also scrutinized.

6. The Quality Results category examines quality levels and quality improvement based upon objective measures derived from analysis of customer requirements and expectations and from analysis of business operations. Current quality levels in relation to those of competing firms are also examined.

7. The Customer Satisfaction category examines the company's knowledge of the customer, overall customer service systems, responsiveness, and its ability to meet requirements and expectations. Also examined are current levels and trends in customer satisfaction.

Short term stay. A short term hospital stay is defined as an admitted patient's average length of stay being less than 30 days (American Hospital Association's Manual of Hospital Listings, 1990).

Total Quality Management. Total Quality Management is a systematic way of guaranteeing that organized quality activities happen the way they are planned.

Summary

Chapter One described the economic problem facing the United States and the purpose of the MBNQA. The introduction also explained that nonprofit health care institutions are presently not eligible for MBNQA competition but that Congress was considering amending the Award to permit participation by nonprofit organizations. The applicability of the MBNQA criteria to nonprofit

hospitals was discussed.

The MBNQA was detailed regarding its background, eligibility requirements, criteria development, and application process. Quality examiners and the Award's prestige were also discussed.

A statement of the problem, subproblems, and hypotheses followed. The purpose of the study, limitations, and delimitations were established. The chapter concluded with the operational definitions used throughout the study.

Chapter 2

Literature Review

Chapter Two details and integrates a literature search that does not purport to be exhaustive. Many books and articles have been written about quality, health care, and the Malcolm Baldrige National Quality Award, but little has been written about how the MBNQA has effected or could affect quality in the health care setting. To the extent that research has been undertaken in the area, very few results have been recorded that address what quality really is, how the health care industry is affected by quality results, and whether the MBNQA criteria are applicable to the health care industry.

What Is Quality

Current conditions in the health care arena demand that CENs be held accountable for the quality of nursing care delivered. Nursing administrators today face multiple challenges which include incorporating the expanding role of the nurse, dealing with financial constraints, and meeting the demands of an increasingly informed public (Hirth & Lauzon, 1989). These factors combine to emphasize the need to examine what quality is for health care as well as what quality means for business and industry.

There was no clear agreement in the literature as to the definition of quality. Reimann (1988) wrote that quality in the past was viewed in a very narrow sense -- how

a product performed, how reliable it was, or how it conformed with specifications. He found that as time passed, quality took on a much larger meaning. In the broader context, quality encompassed goods and services. It also covered the processes used to produce and deliver those goods and services.

McLaughlin (1988), former United States Secretary of Labor, equated quality goods and services with a quality workforce. She stated that building a quality work force was perhaps the major challenge of America in seeking to maintain a competitive economy amid changing technology and markets. William J. Bennett (1988), former United States Secretary of Education, agreed. He wrote: "If America is to maintain and improve its strong position in commerce and industry, our people must be well-educated" (p. 9). A quality education definition started with the basics of reading, writing, listening, and speaking well. Quality basic education was needed by the work force if it was to recognize problems and find solutions. On this foundation of learning, other skills could be built.

Glover (1989) wrote that the criteria for the MBNQA amounted to a practical definition of outstanding quality. He quoted Reimann as saying that the criteria for the Award were substantive, comprehensive, well-defined, and widely accepted. He cited the 1989 winners of the MBNQA and their persistent pursuit of excellence in all phases of their

business operations.

Electronic Business (Kerr, 1989) conducted an informal telephone poll of 65 CEOs to determine their perceptions of quality. The results were not encouraging. According to the poll, many CEOs scrambled to patch together a definition of quality. The executives' answers showed scant recognition that quality was a moving target or that defects could be driven out. Passive terms such as "conformance" and "compliance" indicated that CEOs viewed quality as a process of meeting specifications, not of exceeding them, nor striving for zero defects, nor anticipating customers' future needs. This poll also discovered that, of the 65 respondents, only two percent of the companies had a quality program and, although 61 percent were aware of the MBNQA, only 30 percent had seen or read the application guidelines for the MBNQA. Yet 80 percent of those polled felt that the United States should have a national program to improve quality.

Definitions of quality from physicians, nurses, patients, and hospital administrators were equally as vague as those provided by leaders in business and industry (Pettit & White, 1991). Some definitions were consumer directed, others provider driven. Still others were based on professional standards. The patient findings supported Abdellah and Levin's (1957) research of 30 years ago of what constituted quality care. Patients valued that their basic

needs of cleanliness were met, pain was controlled or absent, and a caring attitude by professionals was evident.

Other definitions of quality will be explored in reviewing the work of quality experts.

Historical Overview

In the 1950s and 1960s, when the United States was the lone star of the industrial world, quality was little understood and implemented even less (Bhote, 1989). Tom Peters and Richard Waterman (1982) cited two specific causes. First, the number one managerial problem in America was that managers were out of touch with their employees, their customers, and their suppliers. Second, most American managers had low expectation levels for quality improvement.

In more recent times, American companies concerned with finding a definition of quality, could choose from those associated with a multitude of theories. Should a company follow one of the quality experts, like Deming, Juran, or Crosby? A closer examination of these three theorists and others might provide an answer.

W. Edwards Deming

The Deming Prize is Japan's national quality award, named after W. Edwards Deming, the American who taught the Japanese about quality (Aguayo, 1990). Initially, Dr. Deming tried to influence American industry after World War II. Receiving very little attention in America, he took his expertise and approach to Japan where his success proved to

be phenomenal. "Made in Japan" was no longer a laughing matter but a serious threat to the role of American industry in world competition. Deming's 14 points of quality improvement have in recent years become the system of quality management for many American companies. Deming's strategies were: create constancy of purpose for the improvement of product and service, adopt the new quality philosophy, cease dependence on mass inspection, end the practice of awarding business on price tag alone, improve constantly and forever the system of production and service, institute leadership, and eliminate numerical quotas for productivity. The rest of Deming's points focused on the employee or worker -- drive out fear; institute training and retraining; break down barriers between staff areas; eliminate slogans, exhortations, and targets for the workforce; remove barriers to pride in workmanship; and institute a vigorous program of education and retraining. His fourteenth point, take action to accomplish the transformation, embodied his Plan-Do-Check-Act System that was used as the basis for continuous quality improvement (Walton, 1986).

Deming wrote in the forward of Mary Walton's The Deming Management Method that the cause of the United States industry's decline was that management had walked off the job of management, and instead, strived for dividends and good performance of the price of the company's stock. Top

management needs to agree to the philosophy of the Deming Cycle -- the Plan, Do, Check, and Act System, in order to ensure quality goods and services (Moser, 1991).

In addition to teaching the 14 point management system, Deming (1986) warned of seven cardinal diseases and obstacles. One of the diseases was the performance evaluation. Miller (1991) wrote that Western industry had became focused on rating outcomes when what industry really needed were methods that would improve outcomes. It was easier to rate outcomes, than to face the problems of people. The traditional company placed blame for defects on the workers. Deming philosophized that defects were caused by the system 85 percent of the time and not by people.

Ford Motor Company, American Telephone and Telegraph, and Campbell Soup Company are examples of American companies that consulted with Deming and incorporated the Deming Management Method. Only one American company, Florida Power and Light Company, won a Deming Prize. The Deming Prize's judging criteria are divided into 10 major categories: policy and objectives, organization and operation, education and its extensions, assembling and disseminating information, analysis, standardization, control, quality assurance, effects, and future plans (Kathawala, Elmuti, & Toepp, 1991). There is much similarity in the Deming Prize criteria and the MBNQA criteria.

Under the Deming theory, improvement in quality and productivity is not limited to manufacturing operations. The greatest benefit the Deming style of management offers may be to the service industries. The United States Census Bureau (where Deming for many years applied his knowledge), municipal agencies, insurance companies, banks, and trucking and freight companies have successfully implemented Deming systems (Aguayo, 1990).

Joseph M. Juran

Joseph M. Juran defined quality in several ways: fitness for use, conformance to manufacturer's specifications, conformance to customer's requirements, and analysis of customer's needs (Rosander, 1989). His theory was known as the Juran Trilogy which included the processes of quality planning, quality control, and quality improvement. In writing of his trilogy, he emphasized management involvement. "Over the centuries the strategies of managing for quality have undergone continuing change in response to a continuing procession of changing political, social, and economic forces. During this progression of events, upper management became detached from the process of managing for quality" (Juran, 1989a, p. 1). He believed that if you improve quality, profit took care of itself.

Management leadership and organization, rather than statistical tools and techniques, were the focus of the Juran Institute's training programs for achieving quality.

Consequently, Juran courses emphasized management's roles and responsibilities in quality improvement (Juran, 1989b). Quality assurance projections for health care organizations should evolve into the quality measurement functions of management leadership and organization as described in the Juran model (Jennison, 1991).

Dr. Juran warned about the limitations of certain processes of quality, such as Quality Circles and Statistical Quality Control (Rosander, 1989). Quality Circles, limited in scope, corrected only the special problems at the employee level. They could not solve the faults of the system. Only management could do this at higher levels. Statistical Quality Control (SQC) was used to freeze the status quo instead of improving quality because of improper application and understanding of its techniques. Juran further cautioned that exhortations and slogans at all levels did not improve quality and were no substitutes for knowledge, ability, understanding, and desire to make improvements.

Phillip B. Crosby

Phillip B. Crosby has been well known as the prime mover in the "quality revolution" for the past 36 years. Formerly Vice President at International Telephone and Telegraph Corporation and now Chairman of Phillip Crosby Associates, he is one of America's highly respected and sought-after international management consultants and educators.

Crosby was one of the best-selling authors in the field, with such outstanding works to his credit as Quality is Free; Quality Without Tears; The Art of Getting Your Own Sweet Way; Running Things; The Eternally Successful Organization; and Let's Talk Quality. In his latest book, Leading: The Art of Becoming an Executive, Crosby (1990) reemphasized the basic precepts of his quality management system.

In all of his writings, Crosby advocated four key principles of quality management: (a) conformance to requirements; (b) defect prevention, rather than inspection; (c) companywide commitment; and (d) noncompliance measurement. Crosby's quality improvement concepts served as a "how to" approach for organizational change. Management commitment, a quality improvement team, quality measurement, cost of quality evaluation, quality awareness, corrective action, zero defects, supervisor training, goal setting, error-cause removal, recognition, quality councils, and repetition of the process encompassed his quality management system (Crosby, 1979).

In a recent interview, Crosby stated: "Quality still has not been properly internalized at many companies. A lot of executives continue to look at quality as a separate program, almost like a charity...." ("Quotes From," 1991). He theorized that American businesses needed to focus on building things right the first time rather than correcting

defects after a product leaves the assembly line, which amounted to trying to inspect quality after the fact. Fundamental changes in quality depended on fundamental changes in corporate quality.

Other Quality Experts

Armand Feigenbaum. Armand Feigenbaum wrote a frequently cited book on quality over 40 years ago, entitled Total Quality Control. This book has been re-released many times and its principles remain current and applicable today. Although Dr. Feigenbaum's studies indicated productivity in America was still declining, he believed that there were signs of renaissance in the quality field. He stated: "My company (General Systems) is getting inundated with inquiries for quality solutions. Then there's the Baldrige National Quality Award, which has established a national will. I have been involved with that since the early days" (Cook, 1991, p. 70). Dr. Feigenbaum recognizes the MBNQA as a good quality improvement model for companies.

Tom Peters. Tom Peters (1987) advanced to a large audience the vital importance of quality and the need for a continuous 12 point program. There was nothing new in his 12 points when compared to Deming, Juran, and Crosby. He discovered from his observations and studies that customers paid a lot for best quality; firms that provided this quality thrived; workers wanted the opportunity to provide

top quality; no product had a safe lead in quality. He advocated using a guiding plan, following plans by Crosby, Deming, Juran, or some other similar guide.

Kaoru Ishikawa. Professor Ishikawa, who had been a leader in the field of Japanese quality control since the 1950's, discussed six topics in his book, What Is Total Quality Control? -- The Japanese Way: quality control, total quality control, quality circles, quality control in subcontracting and purchasing, quality control in marketing, and statistics in quality control. Ishikawa felt that several obstacles would hinder any quality improvement program. These obstacles included top executives and managers who were apathetic; those who felt that there were no problems; those who felt that their company was best; those who opposed new methods; those who were self-centered; those who refused to learn; those who operated in a state of despair, jealousy, or envy; those who were narrow-minded; and those who lived in the past (Rosander, 1989).

Genichi Taguchi. Genichi Taguchi, one of Japan's quality masters, had won the Deming Prize for individuals three times (Miller & Woodruff, 1991). Taguchi's creed was to create products so perfect that they could withstand random fluctuations during manufacturing that might lead to defects. His approach centered on a statistical method of zeroing in rapidly on the variations in a product that distinguished the bad parts from the good (Heinzlmeir,

1991). The Taguchi approach blended engineering methods with innovative statistical techniques.

Quality Services

Two quality improvement services that incorporate many recommendations of quality experts are Stat-A-Matrix (STAM) and DuPont Quality Management Services (Lodge, 1989). Stanley Marash formed the Stat-A-Matrix organization in 1968 to provide quality improvement through problem-solving programs. The approach integrated the philosophies of the international quality experts with sophisticated statistical tools into a modular system with a flexible format that could be tailored to any organization. Marash stated: "A primary goal of STAM is to get management to learn how to convert data into usable information to make sound decisions" (Lodge, 1989, p. 36).

The DuPont Quality Management Services group perceived quality as meeting or exceeding customer needs or expectations; therefore, any quality improvement program must be customer-centered. The Dupont program was designed to be tailored to the client company's culture and individual needs. The services covered everything from assisting in putting a total quality management process in place to providing training in basic statistical process control (Lodge, 1989). DuPont's programs, like STAM's, included and promoted the theories of quality experts.

Health Care Expert

Avedis Donabedian is credited with developing the conceptual framework for quality assurance in health care. As a result of his work, structure, process, and outcome became standard terms in health services quality assurance programs (Darr, 1991). Structure accounted for the material and social instrumentalities used to provide care. These included the number, mix, and qualifications of the staff; the manner in which the staff was organized and governed; space, equipment, and physical facilities (Greenspan, 1980). The performance of health care was attributed to process and outcome. Process was generally measured by setting specific criteria and standards. According to Greenspan, Donabedian believed that standards and criteria tended to be unreliable unless determined by extremely competent and highly motivated professionals who were also skilled in doing assessments (Greenspan, 1980).

Donabedian (1985) concluded from his studies that the quality of technical care was better when practitioners had better or more training, were more specialized, and were more experienced though not too old. Quality of care was also better when practitioners provided ambulatory care by assignment to a not overly large caseload in well-equipped premises and in association with colleagues. He further concluded that practitioners provided quality care in larger hospitals with significant teaching functions. Although he

found no consistent correlation between quality and age, sex, place of residence (urban, suburban, or rural), occupation, income, or ethnicity of patients, there were some intimations of a relationship between socioeconomic disadvantage (structure) and poorer technical care (process and outcome).

Current Theory

Total Quality Management

Many health care professionals think about quality of care the way United States Supreme Court Justice Stewart characterized his ability to recognize pornography (Chassin, 1991): "I shall not today attempt further to define the kinds of material I understand to be embraced within that shorthand description (hard-core pornography); and perhaps I could never succeed in intelligibly doing so. But I know it when I see it...." (Jacobellis v. State of Ohio, 1964). Quality is elusive when trying to define it, but everybody knows what it is when they see it. The concept of Total Quality Management (TQM) began to appear in the literature in the 1980's. It appears from the magnitude of writings that, unlike quality itself, TQM was easily defined, but health care services experienced great difficulty in implementing it.

Definition of TQM. Total quality management is an organized and integrated system of continuous quality improvement aimed at meeting customer's expectations. Its

foundation lies in the philosophy and methods pioneered by W. Edwards Deming, Joseph M. Juran, Kaoru Ishikawa and Armand Feigenbaum (Sinioris, 1990). John J. Hudiburg, former chairman of Florida Power and Light Company and a past president of the Malcolm Baldrige National Quality Award Foundation, defined TQM as a universal management system in which corporate vision of quality was translated into specific goals ("Conversations," 1991). Hudiburg believed that the definition encompassing TQM in all its manifestations was a valuable tool in communicating the concept throughout the organization and in establishing and maintaining a focus on goals.

Differences Between QA and TQM. Total quality management differs from Quality Assurance (QA) in the degree of involvement of the employees. Quality Assurance (QA) is carried out by the development of a separate department whose job is to be the inspector. QA functions are driven by external regulations. In contrast, the TQM approach focuses on constant improvement rather than on minimum standards. The continuing effort to improve quality is carried out by the department itself (Sahney & Warden, 1990). Jennison (1991) described traditional QA as mandated, reactive, focused on individuals, performing clinical inspection, idealized, limited, independent, and distant. In contrast, her description of quality management was self-motivated, proactive, having many internal and

external customers, focused on processes and their improvement, pervasive, integrated, and tangible. The paradigm shift from QA to TQM encompassed more attention to full staff involvement, a process approach, why-focused, and made no assumptions about irreducibility of problems. Darr (1991) explained that despite their differences and the extent of the paradigm shift, TQM and QA had complementary elements. QA's monitoring of clinical indicators provided the basis for priorities to the processes to be improved via TQM tools and techniques.

Basic Quality Improvement Concepts. The following lists of basic quality improvement concepts were used successfully by service and hospital industries (Lin & Chai, 1991; Sahney & Warden, 1990). The basic ingredients of quality implementation included: (a) defining quality as seen by the customers of the product or service, (b) defining quality needs in measurable ways, (c) measuring quality, (d) setting targets for improvements, and (e) developing systematic methods of improvement. Another listing of key concepts included: top management leadership, the creation of a corporate framework for quality, the transformation of corporate culture, customer focus, process focus, collaborative approach to process improvement, employee education and training, education by practice and teaching, establishing benchmarks, quality management and statistical reports at every level,

recognition and reward, and integration of management and the quality system.

Value-driven. The attitudes and beliefs about quality improvement advocated that great gains in quality were achieved if quality was built in from the beginning. Another fundamental principle advocated by Tackett (1990) was that processes, not individuals, were the objects of quality improvement. These values had to be adopted by senior management as the creed for their organizations if TQM was to be successful.

Management Involvement. Without strong support from senior administrative, medical, and nursing staff, hospital-wide efforts to improve work processes would soon lose direction and momentum. Labovitz (1991) wrote in Healthcare Executive that TQM was a top-down process, driven by senior managers who shaped and communicated a unifying vision of quality, set clear quality improvement goals, and served as the organization's most avid champions of continuous improvement. Sherman (1991) cited the closing of 81 hospitals in 1990 as the result of poor management. He stated "the needs for 21st century health care will not be delivered by a management system borrowed in the 1930s from American industries which have long since been slain by smarter approaches to managing work, serving customers, and releasing the power of the organization's people" (p. 28). Lin and Chai (1991) wrote about the key elements for top

management strategy which were: (a) establishment of a statement of goals and means, (b) alignment of the policies and actions of the organization's infrastructure with the task established earlier, and (c) involvement of management and executives in the strategic decision process.

Cost. It had been estimated that the cost of quality deficiencies, the price paid for rework, waste, customer dissatisfaction, and monitoring -- could run as high as 30 percent of gross sales in service organizations (Labovitz, 1991). Masters and Schmele (1991) estimated that the Gross National Product expended for national health costs rose from 9.1 percent in 1980 to 12.1 percent in 1990. And although costs are increasing, quality is decreasing. The cost of poor quality health care was estimated to amount to as much as 40 percent of the total operating costs in a service agency (Schmele & Foss, 1989). TQM can provide an opportunity to decrease costs.

Process. Successful implementation of a TQM program is dependent upon the following important aspects of the quality issue: (a) using outcome data wisely, (b) evaluating aggregate organization performance, (c) evaluating individual performance, (d) watching systems, services, and communication, (e) creating legitimate initiatives, and (f) recognizing quality (Thompson, 1991).

When executives were committed to change, the process of maintaining a state of organizational readiness included

developing a detailed plan of the change model, creating a change process that moved the organization's culture and systems from where they were to a new desired position, and building sources of dissatisfaction change energy that would fuel the change effort and energize it throughout the intensive and demanding changeover period (Sherman, 1991). "Overall change management strategy is at least as important as the quality initiative to come to a successful conclusion" (Sherman, 1991, p. 31).

The components of a comprehensive TQM program included at least the development of standards, monitoring of practice, evaluation and resolution of problems, and reporting of activities and accomplishments in a continuous process which involved as many staff as possible (Pinkerton & Shraeder, 1988).

Pitfalls. Merry (1991) considered TQM to be a painful and potentially costly learning experience for organizations that viewed TQM as a quick fix that could somehow compensate for fundamental organizational weaknesses and serious environmental threats. Berger and Sudman (1991) developed these warning signs: defining quality too narrowly, inadequately measuring results, mistaking program initiative, failing to develop a change strategy, and not allowing enough time.

Customer Satisfaction

The final judge of quality was the consumer (Hunter,

1988). More and more health care institutions were coming to realize that quality as perceived by customers was the key to success, if not survival. Pettit and White (1991) determined from their research that consumers' perceptions of quality care differed radically from that of the providers of quality care. Patients were more concerned about caring professionals and lack of pain than on teaching excellence. Taylor, Hudson, and Keeling (1991) stated that quality can mean almost anything but was generally based on individual value judgments at a given point in time.

Management literature confirmed this concept. Zemke and Schaaf (1989) wrote in The Service Edge that a service strategy must focus on what could be done for the customers. Top service organizations continually and carefully listened to customers, understood what they were saying and responded creatively. Stew Leonard's philosophy on acute awareness of the customer was responsible for his retailing reputation that resulted in $115 million in annual sales (Barrier, 1991). Brown (1989) stated that the essence of customer service was simple but absolute: treat the customer with respect, give him more than he expects, and make the experience of dealing with your company as easy as possible.

MBNQA aspirants like 3M Corporation have adapted the MBNQA criteria as its internal standards in all its operations throughout the world because the criteria focused on customer expectations (Scheuing, 1990). Award winners,

Xerox Corporation and Milliken and Company, won through their efforts to improve customer satisfaction, which was translated into quality products (Reimann, 1990; Whittemore, 1990). It was important for service industries to see themselves through the consumer's eyes.

Summary

The preceding brief overview of quality theory, past and present, laid the foundation for understanding whether the MBNQA improves quality and what the ultimate questions should be.

MBNQA Improves Quality

Does the MBNQA improve quality? The literature regarding the Award was reviewed to determine how the MBNQA was applied, who were the winners of the MBNQA and the winners' perceptions of this honor, what had been the public's reaction to the MBNQA, and why had there been public criticism of the Award. The answers to some of these questions will assist in determining whether the MBNQA has improved quality in the manufacturing and service industries.

Applying For The MBNQA

Edosomwan and Savage-Moore (1991) credited the MBNQA as playing an emerging role in TQM. They stated that many businesses were struggling with the appropriate method to assess their total quality posture. The Award offered them a framework for improvement. Banach (1991) wrote that

service quality could be measured by the MBNQA criteria because of the focus on customer satisfaction assessment.

The application of the MBNQA provided new national attention on quality and Award winners (Haavind, 1989). Fame and fortune awaited the MBNQA winners. Winning the Award catapulted each recipient to the lofty status of quality expert. International businesses, especially Japanese business, showed interest in the MBNQA criteria and Award winners (Leibowitz, 1989).

Reimann (1989) wrote that the Award examination was designed as a value system, an education/communications tool, a vehicle for cooperation, and a device to help evaluate quality standards. He believed that the Award criteria were adaptable to the needs of any organization, and were being used throughout the United States in four basic areas: assessment, establishment of a quality systems, communications, and education and training. According to MBNQA applicants, the biggest advantage was in filling out the Award application which forced companies to evaluate with uncompromising objectivity all aspects of their performance (Burrows, 1990).

The MBNQA criteria created quality benchmarks even for companies that did not ever plan to apply. Heaphy (1991) advised those companies that did apply to document approach, development, and results. The approach should be a prevention-based system showing continual improvement and

excellent integration. Development of the approach should extend to all products and services. The results should be sustained and excellent.

At the MBNQA news briefing on November 2, 1989, United States Secretary of Commerce Robert A. Mosbacher stated: "Everyone wins -- those who compete and those who do not. Competitors -- whether they receive the Award or not -- gain from the measures they take to meet the Award guidelines. Our winners agree to share their quality improvement strategies publicly, and that benefits all industries" ("Remarks by," 1989, p. 7).

Winners of the MBNQA

Fame for the winners of the Award was evident in the amount of industrial, popular, and business literature written about them. The lack of material written about the Award and its winners in medical, nursing, and other allied health professional literature is directly correlated with a lack of winner/entrants in these fields. This finding was not surprising because nonprofit health care organizations were not eligible. A review of Award winners is therefore limited to industrial and for-profit service winners.

In 1989, the first year of the Award, 66 companies located in the United States competed for a potential six prizes. Only three won: Motorola, Inc. and Westinghouse Electric Corporation's Commercial Nuclear Fuel Division in the large manufacturers category; and Globe Metallurgical

Incorporated in the small manufacturing category. No service company won despite nine entries (Haavind, 1989). Motorola, Inc. had prepared for the Award since 1981, launching an ambitious drive to improve quality by tenfold every five years. Westinghouse Electric Corporation started preparing in 1984, motivated by stiff competition and demanding customer requirements. Refusing to retreat from the rising tide of cheap imported commodity-grade metal, Globe Metallurgical Incorporated set out in 1985 to become the lowest cost, highest quality producer of ferroalloys and silicon metal in the United States ("Uncle Sam Salutes," 1989). The reward for these three companies' initiatives and obsession with quality was the MBNQA.

Xerox Corporation's Business Products and Systems and Milliken and Company were chosen from among 40 applicants for the 1990 MBNQA (Glover, 1989). Xerox Corporation was losing $2 billion or 20 percent of revenues annually in rework scrap, excessive inspections, and lost business (Rickard, Jr., 1991). The Japanese were taking over the copier business from this once world leader. The challenge facing Xerox Corporation was to change individual and corporate behavior so that quality was the paramount consideration in each decision everyday at all levels. The Xerox Corporation management team accepted as gospel the dictums of such renowned quality experts as W. Edwards Deming, Joseph Juran, and Phillip Crosby ("Xerox," 1990).

Benchmarking their Japanese counterparts was also a key strategy. A key strategy was to use the quality of their Japanese counterparts' products in establishing benchmarks for their own products.

In 1981, Milliken and Company, a major textile manufacturer, examined why some Japanese competitors achieved higher quality, less waste, greater productivity, and fewer customer complaints while using technology less advanced than the technology used by Milliken and Company ("Pushing to Improve," 1990). As a result of their Pursuit of Excellence program, they not only won an MBNQA but became a major supplier of high quality upholstery to Japanese and Korean car manufacturers. Teamwork and training were hallmarks of the Milliken and Company quality process.

In 1990, Federal Express Corporation became the first service company to win a MBNQA. The other Award winners that year were Cadillac Motor Car Division of General Motors and International Business Machine Corporation-Rochester (IBM) in the large manufacturing category. Wallace Company, Incorporated, Houston, won in the small business division. There were 97 companies who applied for the Award in 1990.

The Award to Federal Express Corporation indicated that service industries represented the new frontier in quality (Rohan, 1990). Although quality by a service organization was recognized, quality was difficult to measure in the service industries, because data were easily missed on

quality indicators such as unanswered phone calls and delays in deliveries.

Three journalists, Lowell (1991), Rohan (1990), and Sellers (1990), have attributed Cadillac Corporation success to quality improvement and product development teams. New attitudes toward labor/management relations, quality, and productivity developed at all organizational levels in order to win the MBNQA. Cadillac Corporation defined quality as how they do business. Teams discussed quality and process issues, business issues, business plans, and financial data.

Control of design and manufacturing were at the heart of the quality program at IBM. IBM's quality planning pinpointed six critical success factors: improved definition of products and service requirements, enhanced product strategy, a six-sigma defect elimination strategy, further cycletime reductions, improved education, and increased employee involvement and ownership (Geber, 1991). IBM intended to keep using the MBNQA criteria each year as a self-assessment tool in order to continue their success in quality improvement.

The small business winner, Wallace Company, Incorporated, emphasized total commitment of all employees to quality goals with continued monitoring of progress. The CEO of Wallace Company, Incorporated, Michael Spiess, stated: "A sad aspect of industry today is the underutilization of the American work force, the most

innovative people in the world. Quality is all about people" (Wingo, 1991, p. 20). Spiess added that quality energizes people, eliminates waste and rework, and drives profits.

The 1991 MBNQAs were won by Solectron Corporation (San Jose, CA) and Zytec Corporation (Eden Prairie, MN), in the manufacturing category, and Marlow Industries (Dallas, TX) in the small business category. Solectron Corporation competed on the basis of service, quality, and cost. The company went to great lengths to determine how existing and prospective customers defined superior performance. As the foundation for continuous improvement, Zytec Corporation's senior executives chose Deming's 14 points for managing productivity and quality. Attention to establishing benchmarks for competitor's products and services, employee involvement, and supplier management were crucial aspects of the Zytec Corporation effort.

Marlow Industries' TQM system included manufacturing products that exceed performance specifications by wider margins, on-time deliveries, extended warranties, and prices that remained stable or decreased over time (Bemowski, 1991; "Three Companies," 1991).

Reaction to the MBNQA

Malcolm Baldrige, United States Secretary of Commerce and the namesake of the MBNQA, stated, "President Reagan's economic program provides incentives for improving

productivity" (Baldrige, 1982). Little did he know then, that in 1988, his name would be affixed to what proved to be a controversial quality improvement award. The positive aspects of the MBNQA will be examined first.

Rohan (1991) wrote that winners can capitalize on the Award quickly in advertising and sales promotion. Winners also were committed to sharing with other industries how they accomplished the feat. "The Award sets a very high stretch standard for our country", stated Curt Reimann ("News From Cadillac," 1990, p. 2). Houston (1990) wrote that requests for information concerning the Award by 180,000 companies in 1990 reflected the renewed commitment of American businesses to improving quality. Applying for the MBNQA and getting the feedback the examiners provided were invaluable to a company (Main, 1990). Improving customer satisfaction and teamwork were two by-products of the application process that benefited both consumers and employees. C. Jackson Grouper, founder of the American Quality and Productivity Center in Houston, believed that the MBNQA helped in the pursuit of quality by establishing standards for other companies (Cook, 1991).

Critique of MBNQA

The aftermath of winning the MBNQA involved speeches by the hundreds and guests by the thousands. This process resulted in questionable expenses and the loss of productivity (Rohan, 1991; Carey, 1991). Carey also

criticized the Commerce Department, supervisor of the Award program, as having neither the expertise nor the resources to perform detailed, financial analyses on Award candidates.

David Snediker, Vice President for Quality at Battelle Institute, a Columbus, Ohio research center, stated: "The Baldrige represents creeping bureaucracy" (Main, 1990, p. 113). Contributing to his resentment was a lack of impartiality in choosing the recipients of the Award. Six of the Awards given to date were won by companies whose chairman were trustees of the financing foundation (Byron, 1991).

Other negative criticisms included: the time required to complete the application process; the expense of applying for the Award; the complexity of guidelines and the confusion inherent in the application process; and the lack of service organizations and small businesses involved in the competition.

Zemke (1991) wrote that the MBNQA had turned into a consulting phenomenon. Applicants complained that seminars and consulting services focused mainly or entirely on how to pass the examination and not on how to improve quality. Zemke stated: "The loudest complaint about the criteria is that they are biased against companies in the service sector" (p. 32). Zemke's comment reflects many resentments which arose from the lack of success that service companies have had in winning the Award.

Does MBNQA Improve Quality?

This portion of the literature review deals with the literature that addresses the question whether the MBNQA improves quality. Most authors and journalists of business literature would answer in the affirmative. Many companies were becoming more and more aware of the MBNQA criteria and were using the criteria as a self-audit to determine their quality status. These companies noted general improvement in employee relations, operations, customer satisfaction, and financial results. The zealous quest for the MBNQA affected training programs and employee education about quality (Kaeter, 1991). The intense preparation helped achieve a genuine change in corporate culture to focus on the customers, the employees, and the suppliers. Profits increased and competitors followed the example of the Award winners as a natural consequence to preparing for applying for the Award (Haavind, 1989).

Hart, Bogan, and O'Brien (1990) reflected that, by developing first-class quality strategies, companies benefited from the knowledge underpinning the Award without ever applying for it. If accompanied by a credible commitment to TQM programs, a company created a focus on quality and a productive sense of urgency throughout the organization. Despite criticism from all sides, the MBNQA is positioned as an agent for transforming businesses located in the United States into international quality

leaders.

Ultimate Questions

The ultimate questions for this study are: how is quality patient care measured; are the MBNQA criteria applicable to patient care; are there better criteria than those promulgated by the MBNQA; why is there a lack of experimental research about nursing quality?

Patient Care Quality Measurement

Historically, the quality of health care had been measured through analysis of mortality and morbidity records; improvements in professional education; and establishment of professional standards of care, credentials, and reimbursement criteria. In 1966, Donabedian published a model for quality health care evaluation that included the assessment of the structure of institutions, the processes through which services were delivered, and patient outcomes. In the mid-1970s, the Joint Commission on Accreditation of Healthcare Organizations delineated the need for a systematic approach to patient care evaluation (Taylor, Hudson, & Keeling, 1991).

Kitson (1986) described two major obstacles confronting those engaged in measuring quality patient care. First, there was the difficultly in determining which features in any given nursing situation were most pertinent to quality evaluation. Second, having identified sets of influencing

factors, "one faces the task of devising appropriate measurement tools which will accurately and reliably reflect those underlying characteristics" (Kitson, 1986, p. 133).

Redfern and Norman (1990) measured quality patient care by considering: equity, accessibility, acceptability, efficiency, effectiveness, and appropriateness.

Better Methods of Assessing Quality Patient Care

JCAHO. Nursing Service Departments throughout the country have initiated and practiced quality assurance/control as mandated by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Nursing Service Departments are key to providing patient care. Monitrend data, compiled and submitted to member organizations by Voluntary Hospitals of America, reported that nursing departments usually accounted for 40 to 60 percent of a hospital's operating cost and represented one-half to two-thirds of the total full-time equivalents employed by a hospital (Lutz, 1987). Implementing programs to reduce costs, improve quality, increase productivity, and discover innovative ways of providing service require the complete cooperation, commitment, and dedication of the members of the Nursing Service Department regardless of the size or type of the institution. Attaining successful TQM in a hospital would not be possible without the support of nurses.

The JCAHO's prescription for quality assurance is

called the 10 Step Process ("The New Standards," 1990). The 10 Step Process is a planned, systematic, and ongoing process for monitoring, evaluating, and improving the quality and appropriateness of care provided to patients. The steps are: assign responsibility, delineate scope of practice, identify important aspects of care, identify indicators, establish thresholds for evaluation, collect and organize data, evaluate care, take actions to improve care/services, assess actions and document improvement, and communicate information to the Quality Assurance Program. Until the new 1990 Nursing Care Standards were introduced, the focus of this process was on quality assurance or measuring performance or outcomes based on standards (Tackett, 1990).

JCAHO's new "Agenda for Change" called for incorporation of continuous quality improvement methods and cross-organizational initiatives to evaluate and improve the processes that lead to efficient delivery of quality care (Sinioris, 1990). Sinioris (1990) stated when writing about JCAHO's Agenda for Change, "Deming's theories will soon be reflected in health care accreditation policy" (p.14). She also reported that the John A. Hartford Foundation funded 14 health care demonstration projects applying the concepts of Joseph Juran to health care improvement.

Roster (1990) indicated in the Journal of Quality Assurance that the JCAHO's new focus was away from a

concentration on numbers -- census, productivity, QA indicators, and cost cuts. Attention was now centered on promoting quality throughout the organization by involving all practitioners and personnel in quality evaluation and improvement; broadening the information base used to assess quality, especially feedback from patients; improving capabilities to display, analyze, and use performance data; and seeking opportunities to improve quality rather than simply search for and solve problems.

In spite of the JCAHO's new Agenda for Change, Sherman (1991) suggested that the JCAHO "is slow to report deficiencies to surveyed hospitals; accredits hospitals despite quality of care deficiencies; harms consumers by keeping survey details confidential; is reluctant to act against hospitals because its member organizations represent providers" (p. 27). Sherman challenged the concept that the JCAHO was the sole determinant of quality in hospitals.

Quality Circles. Health care management tried the famous Japanese model of Quality Circles (QC) with mixed results. Ishikawa, in 1961, suggested the formation of small groups of workers to address problems in their respective work areas. His basic precepts governing QC activities included: (a) contribute to the improvement and development of enterprise, (b) respect humanity and build a worthwhile and happy work environment, and (c) display human capabilities fully and eventually develop infinite

possibilities (Mohr & Mohr, 1983). Health care executives soon realized that QCs could be implemented in the health care setting. The results were increased employee morale and productivity, cost savings, decreased employee turnover rates, and improved socialization and self-actualization. (Flarey, 1991). The problem of QCs is that administrative support is essential for the QC to function effectively. Without this support, QC decisions are futile. Often only management can change a system and many solutions to problems require such changes.

ISO-9000 Standards. The International Standards Organization's ISO-9000 standards were the leading set of quality system criteria for use in companies world wide, especially in Europe (Ingman, 1991). In many respects, the MBNQA and ISO-9000 standards are alike. The major difference is that the MBNQA includes a set of evaluation criteria on customer satisfaction and continuous quality improvement which is not part of ISO-9000. Because of this difference, Ingman (1991) believed that a combination of the MBNQA criteria and the ISO-9000 standards would in the future become an international measure of quality.

QP4. Quality = People + Processes + Performance + Product or QP4 is the quality system of choice of the Air Force Logistics Command (AFLC). Over 90,000 employees oversaw the procurement and distribution of nearly 1 million separate items worth more than $65 million (Doherty, 1990).

The AFLC's theme reflected a strong orientation toward the customer (internal and external), and called for leadership and teamwork to achieve continuous improvement. Strategies for implementing QP4 included: commitment, training, targeting and deployment, management structure, resources, measurement, systems alignment, and communication. The AFLC believed that any organization, government, or industry could use this quality blueprint.

Other Health Care Methods. Other quality methods discovered in the literature that are affecting health care institutions were the Alliance for Quality, the Marker Umbrella Model for Quality Management, and Prostar. The Alliance for Quality is a group composed of the Juran Institute and four major medical suppliers, Abbott Laboratories, E. I. DuPont de Nemours Inc., General Medical Corporation, and Johnson and Johnson Corporation. The group worked together to improve value in hospital services by fostering innovation through demonstration projects and served as a network to communicate successful quality improvement efforts ("Quality Watch," 1992).

The Marker Umbrella Model for Quality Management is a nursing practice model that defines nine interdependent activities of quality management. The activities focus on a dual approach of active problem identification/resolution and monitoring compliance to structure, process, and outcome standards. Improvement is accomplished through ongoing data

collection (Marker, 1991).

Prostar was described as an innovative recognition and reward program that empowered professional staff nurses to improve nursing care quality (Rogers, Larrabee, & Knight, 1992). This version of QCs permitted registered nurses to submit ideas for improving the quality of patient care. If their proposals were accepted by a panel of judges, monetary rewards were awarded based on the amount of cost savings sustained over time and improvement in patient care improvement.

These alternative approaches to measuring quality have been used by the health care industry with varying degrees of success. Some are new; most were developed years ago. The development and use of these approaches demonstrates that quality is being scrutinized by payors, consumers, and the health care industry in general as never before.

Lack of Nursing Research

Lack of nursing research and experimental data on quality control/management hampers clear direction for quality initiatives. Schemele and Foss (1989) conducted research on Crosby's Quality Management Maturity Grid and found it helpful in measuring the quality management maturity of a nursing service department. Haglund (1990) developed and tested a multi-dimensional instrument for assessing a patient's understanding of quality patient care. She concluded that a patient's expectations of quality were

largely a function of the attention given to them by the nursing staff. Jackson-Frankl (1989) found that a disparity existed between the understanding of the meaning of quality, care, and quality of care in nursing between upper nursing management and staff nurses.

Several other research findings (Rowell, 1991; Feinwachs, 1990; House, 1990) contributed little to the determination of what system of quality measurement or process would work best for nursing departments. These studies indicated that a great deal of confusion existed among health care providers and customers as to what constituted quality patient care. No research was reported in the literature on the applicability of the MBNQA for nursing service departments.

Applicability of the MBNQA Criteria?

The United States Congress is considering the approval of criteria that would allow nonprofit organizations to apply for the MBNQA (Stratton, 1990). Currently, MBNQA Award criteria address seven major areas: leadership, information and analysis, planning, human resource utilization, quality assurance of products and services, quality results, and customer satisfaction. These categories could comprise a TQM System for nursing service departments if adopted by the CENs.

Tom Peters, as interviewed by Ron Zemke of Service America, contended that the Award was biased against service

company applicants (Zemke, 1991). Curt W. Reimann, the National Institute of Standards and Technology official who manages the MBNQA program under the auspices of the United States Department of Commerce, contends that is not true. He indicated that "service organizations were not as aware of the Award as other industries and if they were, their awareness would not necessarily equate to rational understanding of the Award process" (Zemke, 1991, p. 30).

The Commerce Department which implemented the MBNQA is considering taking entries from universities, hospitals, and other nonprofit organizations (Fuchsberg, 1991). Congress did not envision such a need five years ago when it created the annual quality improvement prize. The National Leadership Coalition for Health Care Reform, a Washington, DC advocacy group, wrote United States Secretary of Commerce Robert Mosbacher to request a category for health care. Carl Reimann thought that nonprofit organizations may be able to seek the Award soon with congressional approval. Can the MBNQA criteria, focused on business and industry, be the standards of measurement for health care? If the JCAHO is the major determinant of quality in hospitals, and if there are major concerns about the adequacy of this process, would the MBNQA criteria be a more effective measure for determining quality patient care? What other criteria should be considered?

Summary of Literature Search

This chapter was organized by defining quality as other writers perceived it, providing a historical overview of quality theory in America, reviewing current theory, how the MBNQA improves quality, and highlighting the ultimate questions regarding the MBNQA and health care improvement.

The literature review assisted in interpreting findings, drawing conclusions, defining implications, and making recommendations that are addressed in Chapters Four and Five.

Chapter 3

Methodology

An ex post facto descriptive research design was used to collect and analyze the data to determine the applicability of the MBNQA criteria to the measurement of quality nursing care delivered in hospitals as perceived by CENs. Although not as precise as experimental research, ex post facto research allows the researcher to make better than chance predictions (Alreck & Settle, 1985). This type of research measures subjects on a one response dimension and these measurements are compared with different responses. In this study, the measurements were CENs' perceptions of the applicability of the MBNQA criteria. Comparisons were made between their perceptions of various categories of MBNQA quality criteria and variables of hospital size, hospital type, and CENs' awareness of the MBNQA.

Population

The study population consisted of CENs who are employed at general medical/surgical hospitals with a short term stay. These CENs were further classified as being employed by nongovernment nonprofit or investor-owned for-profit general medical/surgical service hospitals. Excluded from the study were CENs employed by government, federal and nonfederal, and specialty hospitals, for example, psychiatric, pediatric, or rehabilitative hospitals.

Although there are approximately 6,700 hospitals in the United States, only CENs employed by hospitals of 300 and more beds and meeting the above criteria were selected for this study. Appendix B is a listing of the population of hospitals by state, size, and type, and a listing of the sample distribution by state and number of surveys returned.

The selection criteria were determined based on the researcher's literature search which indicated that small, less than 300 bed hospitals were economically unfeasible candidates for Award application due to the cost of applying and the lack of personnel resources needed to complete the application (Schemele & Foss, 1989). The researcher further decided that government controlled hospitals were tax supported and had fewer incentives for developing quality initiatives. The addition of these hospitals would introduce effects difficult to control in the research. Selecting only general medical/surgical hospitals with short stay enhanced the principal of homogeneity of the sample of institutions. The American Hospital Association's Manual of Hospital Listings for 1990 was the source for the following data:

Nonprofit:

(small)	300 to 499 bed hospitals	488
(medium)	500 to 799 bed hospitals	186
(large)	800 plus bed hospitals	46

For-Profit:

(small)	300 to 499 bed hospitals	22
(medium)	500 to 799 bed hospitals	23
(large)	800 plus bed hospitals	0
	Total	765

These 765 hospitals comprise a national population of general medical/surgical, short stay hospitals. All states were represented except for Alaska, Idaho, and Wyoming. These states do not have 300 bed or larger general medical/surgical, short stay hospitals.

Sample

A stratified random sample of small and middle size nonprofit hospitals was surveyed. The 46 large nonprofit hospitals and the 45 for-profit hospitals were all included in the sample. The total sample was one-half of the population to assure that a national study was conducted in order to enhance generalizability (Dillman, 1978). The random sampling resulted in the following configuration:

Nonprofit Hospitals:

(small)	300 to 499 bed hospitals	249
(medium)	500 to 799 bed hospitals	98
(large)	800 plus bed hospitals	46

For-Profit Hospitals:

(small)	300 to 499 bed hospitals	22
(medium)	500 to 799 bed hospitals	23

(large)	800 plus bed hospitals	0
	Total Sample	438

Appendix C is a listing of surveyed hospitals by state, size, and type.

Instrument

Subjects were surveyed using an instrument developed for this study (Appendix D). The survey had three sections. Section I elicted perceptions as to the applicability of the 32 items described in the 1991 MBNQA application guidelines to the evaluation of quality patient care delivered in hospitals. Section II consisted of a single indicator to determine the degree to which the respondent was aware of the MBNQA. Section III allowed the respondent to describe other criteria that might be applicable to measure quality nursing care delivered in hospitals and the strengths and weaknesses of the current criteria if they were applied to measuring quality nursing care in the future.

The questions in Section I requested respondents to choose one of seven points on a Likert-type scale. Attitude, opinions, and perceptions are not easily quantified but a seven point scale is preferable to a three or five point scale (Light, Singer, & Willett, 1990). Perceptions are a relative construct; therefore, the observed scores from longer scales are more likely to reflect any true variation that exists across CENs, making the measure more reliable and valid. A score of one

indicated the lowest rating of applicability and a score of seven indicated the highest rating of applicability. This scale was interval in nature and thus allowed for parametric analysis.

The survey instrument items were deemed sufficiently well developed to be used in this study because the survey items were replicated exactly as stated in the 1991 Application Guidelines for the MBNQA. These guidelines have been established as usable and relevant for awarding the MBNQA on four separate occasions. It is the intent of this study to determine the applicability of the MBNQA criteria to nonprofit service organizations and not to study the reliability and validity of the MBNQA criteria.

Data Collection

The three page survey, a cover letter (Appendix E), a MBNQA brochure (Appendix F), and a stamped addressed envelope was mailed in the Fall of 1991 to the 438 CENs in the sample. Each survey was coded in order to allow the responding CEN to be identified for follow up mailings. The cover letter invited cooperation of the subject in completing the survey. It assured anonymity of all study participants by explaining that results would be discussed and reported only in the aggregate. All respondents were offered copies of the study results.

Two weeks after the initial mailing, a follow-up mailing was sent that replicated the contents of the first

mailing. The cover letter (Appendix G) was changed, requesting subjects to complete and return the survey, if they had not already done so. It included an additional thank you. The cover letter appeal, postage paid envelope, brevity of the survey, follow-up mailing, and timeliness and importance of the topic were intended to improve the response rate. The second mailing was sent to 366 CENs.

A third mailing was required. The third mailing, which was sent to 217 CENs approximately two weeks after the second mailing, consisted of a letter of urgency (Appendix H).

Table 1 is a summary of the CENs who responded by hospital type and size. There are no 800 plus for-profit large hospitals in the sample of CENs. This is a problem for statistical analysis. Unequal cell sizes also could be problematic. A total return of 57.8 percent or 253 data sets of 438 surveys mailed is considered a good return of a national study. The highest percentage of returns are from CENs of medium size hospitals.

Table 1

A Summary of CENs Who Responded by Hospital Type and Size

	Size			
Type	Large	Medium	Small	Total
For-Profit				
Surveyed	0	23	22	45
Returned	0	15	12	27
Percent Returned	0	65.2	54.5	60
Nonprofit				
Surveyed	46	98	249	393
Returned	23	67	136	226
Percent Returned	50	68.4	54.6	57.5
Total				
Surveyed	46	121	281	438
Returned	23	82	148	253
Percent Returned	50	67.8	54.6	57.8

Over half (56%) of the sample was composed of CENs from hospitals in 9 states: California, Florida, Illinois, Michigan, New Jersey, New York, Ohio, Pennsylvania, and Texas. These same states provided 52 percent of the returns. CENs from Alaska, Idaho, and Wyoming were joined by CENs from Arkansas, Delaware, Maine, Mississippi,

Montana, New Hampshire, and Rhode Island, as not being represented because these states' CENs chose not to participate.

Data Analysis

Data was analyzed using the Statistical Package for the Social Sciences (SPSSX) on the mainframe at Ohio University. Programming entailed establishing the data file, variables and variable labels, values and value labels, and categories and category averages.

The seven categories used in the survey were established by combining criteria modeled after the categories in the MBNQA Application Guidelines. Leadership Category consists of L.1, L.2, L.3, and L.4; Information and Analysis Category consists of I.1, I.2, and I.3; Strategic Quality Planning Category has two criteria assigned: P.1, and P.2. Human Resource Utilization Category consists of five criteria: HR.1, HR.2, HR.3, HR.4, and HR.5. Quality Assurance of Products and Services Category consists of PS.1, PS.2, PS.3, PS.4, PS.5, PS.6, and PS.7. Quality Results Category involves three criteria: Q.1, Q.2, and Q.3. The largest category and the heaviest weighted in points is the Customer Satisfaction Category that consists of CS.1, CS.2, CS.3, CS.4, CS.5, CS.6, CS.7, and CS.8. Appendix A displays the MBNQA examination categories, full name items, and maximum points allocated to each item.

Means, variances, standard deviations, and percentages

are calculated on the 253 different data sets on the same dependent variable, the applicability of the MBNQA. Histogram frequencies also are obtained and analyzed.

Paired-Sample t-tests are computed using the CENs' sample means of the seven categories of the MBNQA criteria. Each category will be anzlyzed with all other categories to determine if there is a difference (Stevens, 1990).

A 2x2x3 ANOVA is computed on the means of the 32 criteria and the seven categories. The analyses consist of the effects of the independent variables (size, type, and awareness) on the dependent variable (applicability of criteria). Possible interactions among these variables also are analyzed. Responses to open-ended questions also are analyzed and discussed. The results of these analyses are presented in Chapters 4 and 5.

Chapter 4

Analysis of the Data

Presentation and Analysis of Data

The presentation and analysis of data for this study consists of four sections: (a) descriptive statistics, (b) paired-sample t-tests, (c) analysis of variance (ANOVA), and (d) comment analysis. A short summary follows before a detailed account is presented.

Descriptive Statistics

A summary of the 32 criteria is rank-ordered by mean scores of CENs' perceptions (Table 2). Leadership Criteria.3, Management for Quality, has the highest mean score of 6.739 of a maximum value of 7. The CENs perceive this criterion to be the most applicable. Quality Results Criterion.3, Supplier Quality Results, received the lowest mean score of 4.866. Overall, the CENs perceive the MBNQA criteria to be applicable (6.050 mean score).

Paired-Sample T-Tests

A summary table (Table 3) of the paired sample t-tests shows that all categories of CENs' sample means are significantly different except for categories Customer Satisfaction with Human Resource Utilization. The t-value is -.82 with a two-tail probability of .412, $p<.05$.

Analysis of Variance

Although the observations are not normally distributed, determined by the result of the analyses, and the group

sizes are unequal, the responses are independent. Independence is the most important assumption that should not be violated.

ANOVAS. ANOVAs are computed to determine the interaction between the independent variables of size, type, and awareness and the dependent variable of the CENs' perceptions. The ANOVAs determined that the independent variable, Awareness, effected significantly certain MBNQA criteria as perceived by the CENs (Table 18).

Comments Analyses

The majority (62%) of the CENs responded with comments. The comment section is divided into four parts which requested information on: (a) additional criteria for each of the seven categories, (b) additional criteria besides the criteria listed for the seven categories, (c) the strengths of the MBNQA criteria, and (d) the weaknesses of the MBNQA criteria.

Responses to the Comment Section indicated that CENs perceived the greatest strengths of the MBNQA criteria as being: comprehensiveness of the criteria, integration of the leadership role with quality results, and emphasis on customer satisfaction. The CENs' comments on the criteria weaknesses centered on the inappropriateness of using business measurements to quantify quality patient care. Quality patient care in their estimation is difficult to measure and is dependent on other factors such as mortality

rates, morbidity effects, skill of the physician, and government regulatory systems.

Clinical outcomes were the additional criteria overwhelmingly perceived to be necessary to measuring quality patient care. The CENs also believe that cost indicators for delivering quality patient care are important additional criteria for the MBNQA.

Detailed Presentation and Analysis of Data

The presentation and analysis of data for this study consists of four sections: (a) descriptive statistics, (b) paired-sample t-tests, (c) Analysis of Variance, and (d) comment analyses.

Descriptive Statistics

Awareness

One of the independent variables is awareness and the subject of the first subproblem, to what degree are CENs aware of the MBNQA? Almost half (49.4%) of the CENs indicated that they are very aware of the MBNQA, 34.4 percent of the CENs indicated that they are somewhat aware, and 15.4 percent of the CENs responded that they were not aware.

Leadership

The Leadership Category is composed of four criteria. Senior Executive Leadership (L.1) has a maximum weight of 40 points in the Leadership Category of 100 points; while Quality Values (L.2) has 15 points, Management For Quality

(L.3) has 25 points, and Public Responsibility (L.4) has 20 points. The points attributed to each criteria are established by the NIST and are known to the MBNQA applicants. The CENs, however, were not supplied with this information as part of the survey. The Leadership Criteria are defined as detailed in the 1991 Application Guidelines for the MBNQA: (a) Senior Executive Leadership (L.1) describes the senior executives' leadership, personal involvement, and visibility in developing and maintaining an environment for quality excellence; (b) Quality Values (L.2) describes the company's quality values, how well they are projected, whether they are projected in a consistent manner, and how adoption of the values throughout the company is determined and reinforced; (c) Management for Quality (L.3) describes how the quality values are integrated into day-to-day leadership, management, and supervision of all company units; and (d) Public Responsibility (L.4) describes how the company extends its quality leadership to the external community and includes the company's responsibilities to the public for health, safety, environmental protection, and ethical business practice in its quality policies and improvement activities.

The CENs' perception of the applicability of the Leadership Criteria reveals very little difference in their scoring of Leadership Criteria except for L.4., Public Responsibility (5.877). The overall mean L.1 thru L.4 is

6.486 and the standard deviation is .525 for the Leadership Category.

Information and Analysis

The Information and Analysis (I) Category has been allocated three criteria with a total point score of 70. I.1 refers to how the institution's base of data and information are used for planning, day-to-day management, and evaluation of quality, and how data and information reliability, timeliness, and access are assured. I.1 has a point score of 20 points.

I.2 describes the institution's approach to selecting quality-related competitive comparisons and world-class benchmarks to support quality planning, evaluations, and improvement. Its point score is 30 points. I.3 determines how data and information are analyzed to support the institution's overall quality objectives with a point score of 20 points.

The CENs' perception of the applicability of the Information and Analysis Criteria results in I.2 having a median of 5.000 where as the overall median for this category is 6.000.

Planning

The Strategic Quality Planning (P) Category has two criteria with an assigned point score of 60 points. The greatest point allocation in this category is attributed to the strategic quality planning process (P.1). Institutions

must describe the company's strategic quality planning process for the short-term (1-2 years) and the long term (3 years or more) to achieve and sustain a quality leadership position. Quality goals and plans (P.2) request the company to summarize its goals and strategies for achieving the strategic quality plan. Thus, while P.1 focuses on the processes of goal setting and strategic planning, P.2 focuses on actual goals and plans. The NIST places a heavier weight to the planning process.

The CENs' perception of the applicability of the Strategic Quality Planning Criteria reveals that the CENs are in agreement with the applicability of the planning process and the actual goals and plans.

Human Resource Utilization

The Human Resource Utilization (HR) Category examines the effectiveness of the company's efforts to develop and realize the full potential of the work force, including management, and to maintain an environment conducive to full participation, quality leadership, and personal and organizational growth. A total of 150 points are divided among five criteria: Human Resource Management, 20 points; Employee Involvement, 40 points; Quality Education and Training, 40 points; Employee Recognition and Performance Measure, 25 points; Employee Well-being and Morale, 25 points.

The CENs' perceptions of the applicability of the Human

Resource Utilization Criteria indicates that the means of Quality Education and Training (HR.3) and Employee Recognition and Performance (HR.4) show a slightly lesser degree of applicability than Human Resource Management (HR.1), Employee Involvement (HR.2), and Employee Well-being and Morale (HR.5).

Quality Assurance of Products and Services

Seven criteria and 140 points are allocated to Quality Assurance of Products and Services (PS) Category. The criteria can be identified as: (a) PS.1 - Design and Introduction of Quality Products and Services (35 points), (b) PS.2 - Process Quality Control (20 points), (c) PS.3 - Continuous Improvement of Processes (20 points), (d) PS.4 - Quality Assessment (15 points), (e) PS.5 - Documentation (10 points), (f) PS.6 - Business Process and Support Service Quality (20 points), and (g) PS.7 - Supplier Quality (20 points).

The CENs' perceptions of the applicability of the Quality Assurance of Products and Services Criteria shows very little differences in means, medians, and standard deviations. PS.4, which describes how a company assesses the quality of its systems, processes, practices, products, and services, is perceived most applicable by the CENs. PS.3 is perceived the next most applicable criterion. PS.3 focuses on how the processes used to produce products and services are continuously improved.

Quality Results

The Quality Results (Q) Category examines three criteria: (a) Product and Service Quality Results (90 points), (b) Business Process, Operational, and Support Service Quality Results (50 points), and (c) Supplier Quality Results (40 points). There are 180 points allocated to this category.

The CENs' perceptions of the applicability of the Quality Results Criteria reveals that the Q.3 criteriion, Supplier Quality Results, had a median of 4.000 where as Q.1 and Q.2 had a median of 6.000. Fifty percent of the CENs scored a mean of 4.866 for Q.3 criterion where as the total mean score for all criteria in the category is 5.402.

Customer Satisfaction

The Customer Satisfaction (CS) Category is the largest category of the MBNQA criteria. It has eight criteria with 300 total points allocated to this division. The Customer Satisfaction Category examines the company's knowledge of the customer, overall customer service systems, responsiveness, and ability to meet requirements and expectations. The eight criteria are further analyzed:

1. Determining Customer Requirements and Expectations (30 points). The applicant describes how the company determines current and future customer requirements and expectations.

2. Customer Relationship Management (50 points). The

applicant describes how the company provides effective management of its relationships with its customers and uses information gained from customers to improve services as well as its customer relationship management practices.

3. Customer Service Standards (20 points). The applicant describes the company's standards governing the direct contact between its employees and customers and how these standards are set and modified.

4. Commitment to Customers (15 points). The applicant describes the company's commitment to customers on its explicit and implicit promises underlying its products and services.

5. Complaint Resolution for Quality Improvement (25 points). The applicant describes how the company handles complaints, resolves them, and uses complaint information for quality improvement and for prevention of recurrence of problems.

6. Determining Customer Satisfaction (20 points). The applicant describes the company's methods for determining customer satisfaction, how satisfaction information is used in quality improvement, and how methods for determining customer satisfaction are improved.

7. Customer Satisfaction Results (70 points). The applicant summarizes trends in the company's customer satisfaction and in indicators of adverse customer response.

8. Customer Satisfaction Comparison (70 points). This

criteria compares the company's customer satisfaction results and recognition with those of competitors that provide similar products and services.

The CENs' perceptions of the applicability of the Customer Satisfaction Criteria indicates a general consensus that these eight criteria are applicable. CS.8, Customer Satisfaction Comparisons, records the lowest mean, 5.735, while CS.5, Complaint Resolution for Quality Improvement, has the highest mean, 6.597.

Summary of Descriptive Statistics

Table 2 rank orders the 32 criteria by mean scores.

Table 2

Rank Order of MBNQA Criteria by Mean Scores of CENs

Rank	Criteria		Mean	SD
1	L.3	Management for Quality	6.739	.556
2	L.2	Quality Values	6.715	.555
3	L.1	Senior Executive Leadership	6.613	.713
4	CS.5	Complaint Resolution for Quality Improvement	6.597	.710
5	CS.2	Customer Relationship Management	6.545	.758
6	HR.2	Employee Involvement	6.462	.823
7	CS.4	Commitment to Customers	6.458	.833
8	CS.3	Customer Service Standards	6.415	.790
9	HR.1	Human Resource Management	6.399	.803
10	CS.6	Determining Customer Satisfaction	6.368	.809
11	HR.5	Employee Well-Being and Morale	6.320	.857
12	CS.7	Customer Satisfaction Results	6.304	.867
13	CS.1	Determining Customer Requirements	6.265	.924
14	PS.4	Quality Assessment	6.229	.888

(table continues)

Rank	Criteria		Mean	SD
15	HR.4	Employee Recognition and Performance Measurement	6.221	.890
16	HR.3	Quality Education and Training	6.166	.899
17	PS.3	Continuous Improvement of Process	6.134	.991
18	P.1	Strategic Quality Planning Process	6.103	.889
19	P.2	Quality Goals and Plans	6.095	.872
20	I.3	Analysis of Quality Data and Information	5.945	.998
21	I.1	Scope and Management of Quality Data and Information	5.941	1.039
22	PS.6	Business Process and Support Service Quality	5.937	.974
23	PS.1	Design and Introduction of Quality Products and Services	5.905	.925
24	PS.5	Documentation	5.893	1.008
25	L.4	Public Responsibility	5.877	1.003
26	CS.8	Customer Satisfaction	5.877	1.177
27	PS.7	Supplier Quality	5.731	1.098
28	Q.2	Business Process, Operation,		

(table continues)

Rank	Criteria		Mean	SD
		and Support Service Quality Results	5.692	1.016
29	PS.2	Process Quality Control	5.652	1.042
30	Q.1	Product and Service Quality Results	5.648	1.151
31	I.2	Competitive Comparison and Benchmarks	5.478	1.122
32	Q.3	Supplier Quality Results	4.866	1.143

The criterion that CENs perceived to be most applicable is Management for Quality. By MBNQA definition, Management for Quality and Quality Values are integrated into day-to-day leadership, management, and supervision of all company units. The least applicable criterion as perceived by the CENs' is Supplier Quality Results. The overall mean for the 32 criteria is 6.050, with a median of 6.037, standard deviation of 0.592, and a skewness of -0.476.

Paired-Sample T-Test

The paired sample t-test is used when the means of two continuous variables that are both responses from the same respondents are compared. The mean scores of one of the seven categories are compared with the mean scores of the

other categories' mean scores. Twenty-one paired sample t-tests were computed.

Table 3, Paired Sample T-Test Results, in all categories when compared with other categories of the MBNQA criteria, are significantly different except Customer Satisfaction with Human Resource Utilization. This paired sample t-test results in an observed significance level of -.82.

The plus or minus sign on the t-value indicates which mean is greater. In the Leadership Category, the CENs' mean scores are all greater than the remaining categories' mean scores. In Information and Analysis Category, the CENs' mean scores are less than the remaining categories except for Quality Results. The Planning Category of CENs' mean scores are equally divided, with Leadership, Quality Assurance of Products and Services, and Quality Results Categories having a greater mean score, and Information and Analysis, Human Resource Utilization, and Customer Satisfaction Categories having a less mean score.

The CENs' mean scores of the Human Resource Utilization Category show larger mean scores with Quality Assurance of Products and Services, Quality Results, and Leadership. A less mean score is noted between Information and Analysis and Strategic Quality Planning. All of these differences are significant. Customer Satisfaction with Human Resource Utilization shows a minus difference of -.0313 and is not

significant at $p<.05$.

The Quality Assurance of Products and Services Category mean score differences are greater in Quality Results, Human Resource Utilization, Strategic Quality Planning, and Leadership. The Quality Result Category mean scores are less in all other categories' mean scores. Customer Satisfaction Category mean scores of CENs' perceptions are greater in all other categories' mean scores except for Leadership Category.

Table 3

Paired Sample T-Test Results

Key: L = Leadership
I = Information & Analysis
P = Strategic Quality Planning
HR = Human Resource Utilization
PS = Quality Assurance Products and Services
Q = Quality Results
CS = Customer Satisfaction

	L	I	P	HR	PS	Q	CS
L	X	-14.66	-8.64	-4.67	-13.33	-13.35	-3.85
I	14.66	X	6.36	10.76	2.96	-3.73	11.01
P	8.64	-6.36	X	4.45	-4.36	-8.24	4.97
HR	4.67	-10.76	-4.45	X	-10.79	-11.87	.82
PS	13.33	-2.96	4.36	10.79	X	-6.88	10.69
Q	13.35	3.73	8.24	11.87	6.88	X	11.74
CS	3.85	-11.01	-4.97	**-.82**	-10.69	-11.74	X

Analysis of Variance

Analysis of Variance (ANOVA) is used to determine the answers to the remaining questions posed in the subproblems

and to accept or reject the null hypotheses. When one variable is assumed to be causing or affecting another, ANOVA is the statistical technique for measuring the relationship. The object of the analysis is to determine if the mean values of the test scores (perceptions of the CENs) differ significantly between or among the groups. The variance among the groups is divided by the variance between the groups to compute the F-ratio. The larger the F-ratio value, the smaller the probability and the greater the likelihood of significance (Alreck & Settle, 1985). The smaller the F-ratio, the less likely the relationship will be significant at a given probability. The level of significance of .050 is used in this study.

Assumptions

An ANOVA is based on the following three assumptions.

1. The observations are normally distributed on the dependent variable in each group. In this study, the distributions of the scores are negatively skewed (see Table 4). Most of the CENs' scores are distributed in Values Five, Six, and Seven. Glass, Peckham, and Sanders' study (cited in Stevens, 1990) indicates that, "non-normality has only a slight effect on the Type I error rate, even for very skewed or kurtotic distributions" (p. 41).

2. The population variances for the groups are equal. In this study, the variances (Table 5) and the group sizes (Table 6) are unequal. "Many researchers would not consider

this serious" (Stevens, 1990, p.42). Alreck and Settle (1985) indicate that the variance in the dependent variable must be about the same within each category of the independent variable. "However, that analysis of variance can be conducted regardless of whether or not the requirements are met" (p.313).

Table 4

Distributions Based on Skewness of Categories

Category	SD	Skewness
Leadership	.525	-1.114
Information and Analysis	.902	-0.668
Planning	.821	-0.786
Human Resources	.655	-1.245
Products and Services	.773	-0.490
Quality Results	.922	-0.322
Customer Satisfaction	.632	-1.072

Table 5

Variances of Categories

Category	Variance
Leadership	.275
Information and Analysis	.813
Planning	.675
Human Resources	.429
Products & Services	.598
Quality Results	.850
Customer Satisfaction	.399

Table 6

Group Sizes of the CENs

	Large	Medium	Small	Total
For-Profit	0	15	11	26
Nonprofit	23	67	137	227
Total	23	82	148	253

3. The observations are independent. Although the independence assumption is listed last, it is "by far the most important assumption, for even a small violation of it produces a substantial effect on both the level of

significance and the power of the F statistic" (Stevens, 1990, p.43). All observations in this study are independent of each other. The CENs surveyed were from different hospitals, cities, and/or states, making it unlikely they collaborated on their responses to the survey items.

Interactions Between the Variables (ANOVAs)

The multiple analysis of variance (ANOVA) is used to compute the interactions between the independent variables of size, type, and awareness and the dependent variable of the CENs' perceptions. ANOVA does not include the multiple-comparison procedures that One-Way Designs offer, but it does allow the researcher to analyze the effects and interactions of several factors at once (Norusis, 1988).

In order to compute ANOVAs, no empty cells may exist. For-Profit, Large Size Hospital CENs do not exist in this study. Therefore, Nonprofit, Large Size Hospital CENs and Nonprofit, Medium Size Hospital CENs' scores were collapsed into one cell, titled 500 Plus Bed Hospitals. This collapsed cell is used throughout the ANOVAs' computations. The resultant design is called a two by two by three design. The first number two signifies 500 Plus Bed Hospitals and Small Size hospitals; the second number two signifies For-profit and Nonprofit types; the third number indicates three levels of CEN Awareness: Not Aware, Somewhat Aware, and Very Aware.

Table 7 through Table 16 reveals that the independent

variable, Awareness, effects significantly certain MBNQA criteria as perceived by the CENs. Tables 7 (Leadership.3) and 10 (Human Resource Utilization.3) note significant interactions between type and awareness for L.3 and HR.3. Table 16, Customer Satisfaction.6 manifests a main effect in type of hospital. Table 17, Condensed ANOVA Report, is a composite of these criterion tables.

When the criteria showing differences in the awareness variable are rank-ordered, there are no outstanding particular significances noted between the mean scores and awareness variable (Appendix J, page 210). The mean scores range from 6.715 (Leadership.3) through 6.562 (Products and Services.2). However, when the mean scores are analyzed based on the degree of awareness variable, the CENs, who are very aware of the MBNQA, have a slightly higher mean score than the average mean and the CENs who are somewhat aware or not aware (Appendix J, page 211).

When the MBNQA criteria are combined into their categories only Planning has a main effect by Awareness at .035 F-probability, $p<05$. The same result occurs when all scores are combined for the 32 criteria.

Table 7

Leadership.3 by Size by Type by Awareness

Source	SS	df	MS	F	p<.05
Main Effects	3.362	4	.841	2.715	**.031**
Size	.554	1	.554	1.789	.182
Type	.490	1	.490	1.582	.210
Awareness	2.467	2	1.233	3.985	**.020**
2-Way Interactions	4.016	5	.803	2.595	**.026**
Size by Type	.415	1	.415	1.340	.248
Size by Awareness	.517	2	.258	.835	.435
Type by Awareness	3.043	2	1.521	4.915	**.008**
Explained	5.077	9	.564	1.822	.065
Residual	74.605	241	.310		
Total	79.681	250	.319		

Table 8

Information & Analysis.3 by Size by Type by Awareness

Source	SS	df	MS	F	p<.05
Main Effects	9.688	4	2.422	2.465	**.046**
Size	.607	1	.607	.618	.432
Type	.817	1	.817	.832	.363
Awareness	6.375	2	3.188	3.245	**.041**
2-Way Interactions	6.868	5	1.374	1.398	.226
Size by Type	.181	1	.181	.184	.669
Size by Awareness	.993	2	.496	.505	.604
Type by Awareness	5.101	2	2.551	2.598	.092
Explained	13.580	9	1.509	1.536	.136
Residual	236.747	241	.982		
Total	250.327	250	1.001		

Table 9

Planning.1 by Size by Type by Awareness

Source	SS	df	MS	F	p<.05
Main Effects	5.021	4	1.255	1.578	.181
Size	.147	1	.147	.185	.668
Type	.248	1	.248	.311	.577
Awareness	5.014	2	2.507	3.152	**.045**
2-Way Interactions	3.346	5	.669	.841	.521
Size by Type	.000	1	.000	.000	.987
Size by Awareness	1.532	2	.766	.963	.383
Type by Awareness	1.981	2	.991	1.245	.290
Explained	6.832	9	.759	.954	.479
Residual	191.678	241	.795		
Total	198.510	250	.794		

Table 10

Human Resource Utilization.3 by Size by Type by Awareness

Source	SS	df	MS	F	p<.05
Main Effects	13.158	4	3.290	4.344	**.002**
Size	2.063	1	2.063	2.725	.100
Type	2.267	1	2.267	2.267	.085
Awareness	9.932	2	4.852	6.408	**.002**
2-Way Interactions	9.932	5	1.986	2.623	**.025**
Size by Type	1.338	1	1.338	1.767	.185
Size by Awareness	.631	2	.315	.416	.660
Type by Awareness	6.322	2	3.161	4.174	**.017**
Explained	16.481	9	1.831	2.418	.012
Residual	182.491	241	.757		
Total	198.972	250	.796		

Table 11

Products & Service.1 by Size by Type by Awareness

Source	SS	df	MS	F	p<.05
Main Effects	11.111	4	2.778	3.360	**.011**
Size	2.425	1	2.425	2.933	.088
Type	.192	1	.192	.232	.630
Awareness	8.784	2	4.392	5.313	**.006**
2-Way Interactions	5.834	5	1.167	1.412	.221
Size by Type	2.133	1	2.133	2.580	.110
Size by Awareness	.612	2	.306	.370	.691
Size by Awareness	2.654	2	1.327	1.605	.203
Explained	14.481	9	1.609	1.946	.046
Residual	199.225	241	.827		
Total	213.705	250	.855		

Table 12

Products & Services.2 by Size by Type by Awareness

Source	SS	df	MS	F	p<.05
Main Effects	11.622	4	2.906	2.817	**.026**
Size	2.581	1	2.581	2.502	.115
Type	.793	1	.793	.769	.381
Awareness	10.231	2	5.116	4.959	**.008**
2-Way Interactions	6.694	5	1.339	1.298	.266
Size by Type	2.305	1	2.305	2.234	.136
Size by Awareness	3.644	2	1.822	1.766	.173
Type by Awareness	2.292	2	1.146	1.111	.331
Explained	21.605	9	2.401	2.327	.016
Residual	248.610	241	1.081		
Total	270.215	250	1.081		

Table 13

Products & Services.3 by Size by Type by Awareness

Source	SS	df	MS	F	p<.05
Main Effects	12.662	4	3.165	3.366	**.011**
Size	1.687	1	1.687	1.793	.182
Type	.276	1	.276	.293	.589
Awareness	11.921	2	5.961	6.338	**.002**
2-Way Interactions	4.596	5	.919	.977	.432
Size by Type	2.013	1	2.013	2.140	.145
Size by Awareness	.293	2	.147	.156	.856
Type by Awareness	3.729	2	1.864	1.982	.140
Explained	14.889	9	1.654	1.759	.077
Residual	226.656	241	.940		
Total	241.546	250	.966		

Table 14

Products & Services.4 by Size by Type by Awareness

Source	SS	df	MS	F	p<.05
Main Effects	8.729	4	2.182	2.816	**.026**
Size	.213	1	.213	.275	.600
Type	.498	1	.498	.643	.423
Awareness	7.001	2	3.501	4.518	**.012**
2-Way Interactions	3.317	5	.663	.856	.511
Size by Type	.030	1	.030	.039	.843
Size by Awareness	1.148	2	.574	.741	.478
Type by Awareness	1.948	2	.974	1.257	.286
Explained	10.402	9	1.156	1.492	.151
Residual	186.729	241	.775		
Total	197.131	250	.789		

Table 15

Customer Satisfaction.1 by Size by Type by Awareness

Source	SS	df	MS	F	p<.05
Main Effects	9.690	4	2.422	2.947	**.021**
Size	.030	1	.030	.037	.555
Type	.287	1	.287	.350	.555
Awareness	9.083	2	4.541	5.525	**.005**
2-Way Interactions	4.547	5	.909	1.106	.358
Size by Type	.049	1	.049	.060	.807
Size by Awareness	2.626	2	1.313	1.597	.205
Type by Awareness	1.530	2	.765	.930	.396
Explained	15.016	9	1.668	2.030	.037
Residual	198.099	241	.822		
Total	213.116	250	.852		

Table 16

Customer Satisfaction.6 by Size by Type by Awareness

Source	SS	df	MS	F	p<.05
Main Effects	6.279	4	1.570	2.541	**.041**
Size	.117	1	.117	.189	.664
Type	2.573	1	2.573	4.165	**.042**
Awareness	3.224	2	1.612	2.609	.076
2-Way Interactions	3.589	5	.718	1.162	.329
Size by Type	.231	1	.231	.373	.542
Size by Awareness	2.760	2	1.380	2.234	.109
Type by Awareness	1.460	2	.730	1.182	.309
Explained	9.898	9	1.100	1.780	.073
Residual	148.898	241	.618		
Total	158.797	250	.635		

Table 17

Condensed ANOVA Report: Results of Individual MBNQA Criteria by Size, Type, and Awareness

Criteria	Variation	F	p<.05
Leadership.3	Main Effects	2.715	.031
	Awareness	3.985	.020
	2-Way Interactions:		
	Type by Awareness	4.915	.008
Information &			
Analysis.3	Main Effects	2.465	.046
	Awareness	3.245	.041
Planning.1	Awareness	3.152	.045
Human Resources			
Utilization.3	Main Effects	4.344	.002
	Awareness	6.408	.002
	2-Way Interactions:		
	Type by Awareness	4.174	.017
Products &			
Services.1	Main Effects	3.360	.011
	Awareness	5.313	.006
Products &			
Services.2	Main Effects	2.817	.026

(table continues)

Criteria	Variation	F	p<.05
	Awareness	4.959	.008
Products & Services.3	Main Effects	3.366	.011
	Awareness	6.338	.002
Products & Services.4	Main Effects	2.816	.026
	Awareness	4.518	.012
Customer Satisfaction.1	Main Effects	2.947	.021
	Awareness	5.525	.005
Customer Satisfaction.6	Main Effects	2.541	.041
	Type	4.165	.042

CENs' Comments Analysis

The majority of the CENs (62%) responded to the survey with comments. The comment section is divided into four parts requesting information on: (a) additional criteria for each of the seven categories, (b) additional criteria besides the criteria listed for the seven categories, (c) the strengths of the MBNQA criteria, and (d) the weaknesses of the MBNQA criteria. The CENs' unedited comments are

listed in Appendix I. Parts of the Comment Section were not completed by some CENs.

Additional Criteria For The Seven Categories

Leadership. Comments center on the CEO being involved and committed to developing a vision and implementing a quality improvement program. The CENs support the inclusion of Board of Trustees and physicians in providing leadership to any quality program. Many CENs state that quality initiatives must include the leaders of the organization being involved with the community in order to advance the quality effort of the hospital.

Information and Analysis. The CENs of the large size hospitals agree that information and analysis is critical for managing quality health care, especially information provided by external agencies. The Small Size Hospital CENs indicate that information and analysis should be made available to them and shared with all employees. The CENs in this category place an emphasis on computerization and integrity of the information. One CEN questions the value to the health care industry of establishing benchmarks.

Strategic Quality Planning. The CENs perceive that Strategic Quality Planning should be accomplished with all levels of staff, physicians, and community involvement. They determine that, although strategic planning is an important aspect of quality programs, good solid planning is difficult. Changing regulatory standards, state and federal

inspections, and lack of flexibility hinder the process. A Medium Size Hospital CEN added, "budget for adequate resources to develop TQM and maintain the program."

Human Resource Utilization. CENs' perceptions about Human Resource Utilization focus on recruitment and retention and their effect on quality initiatives. An indication of quality should include vacancy and turnover rates for employees. When selecting and integrating new employees, the hospital's quality goals should be apparent. Maintaining competency of all levels of employees should be a quality indicator. Several CENs refer to the cost of implementing and maintaining human resource quality initiatives.

Quality Assurance of Products and Services. This category received the fewest comments. Generally, the comments indicate that CENs do not have a clear understanding of this concept. Remarks such as, "Service should be the benchmark rather than products", "Develop criteria that all agree as preferred results with allowances for individual patient responses", and "I'm not sure any of this really assures quality" demonstrate more education is required for this area.

Quality Results. The CENs' perceptions of Quality Results reveal a focus on patient outcomes. Criteria should include acceptable exceptions because of the mortality and morbidity variable. One CEN views Q.A. findings important

for the basis of changing policies, practices, and procedures. Another CEN believes the development of national norms could function as a measure for establishing benchmarks.

Customer Satisfaction. Surprisingly, few comments were directed to the Customer Satisfaction Category. Perhaps, the CENs believe that the MBNQA criteria for this category are inclusive. A concern reported by some CENs is that customer satisfaction is varied and complex. The patient's perceptions of quality are different than the professional health care provider. These comments parallel the findings of Haglund (1991). Physicians are cited as important customers and their satisfaction is necessary for quality patient care.

Other Criteria Than the MBNQA Criteria

The CENs indicate the addition of outcome criteria is necessary in order to evaluate quality patient care. Clinical outcome criteria was repeatedly stated as appropriate yet missing from the MBNQA criteria. Some specific items for outcome criteria are suggested by the CENs: morbidity and mortality rates, quality of life, decubitus prevalence, nosocomial infection rates, readmission rates, and length of hospital stay.

"Resource consumption costs", "appropriate utilization of resources", and "resource consumption analyses" are descriptors used by the CENs indicating additional cost

criteria are needed. Community perception, family involvement, and dedication of staff are also mentioned as possible other criteria for the MBNQA. Overall no single item, except patient outcomes, is stressed as being important to measuring quality patient care.

Overall Strengths of the MBNQA Criteria

The CENs wrote complimentary statements regarding the strengths of the MBNQA criteria. Adjectives used in their comments included objective, integrated, comprehensive, highly applicable, systematic, flexible, and adaptable. The seven categories were described as "very appropriate to any service or manufacturing process", and "broad base of criteria, i.e. seven categories, allows individuality of methods to achieve quality improvement".

Total quality management was mentioned by several CENs. "Total approach to the delivery of care", "the criteria follows the TQM process and is all inclusive", and "the emphasis on leadership, measuring outcomes, human resources development, planning, etc. - all components of TQM" are examples of TQM recognition.

Leadership and customer satisfaction comments included statements such as "emphasis on top management modeling quality initiatives and involvement required by all levels in the organization", "they focus on customer satisfaction and the role of leadership in creating an environment where quality is delivered", and "strength is in customer

satisfaction and internal trends of quality improvement".

Overall Weaknesses of the MBNQA Criteria

The CENs' perceptions of the weaknesses of the MBNQA criteria focus on the subjectivity of the criteria, the fact that the criteria are not related to patient care, and the lack of outcome-based criteria. The subjectivity of the MBNQA criteria is often mentioned. The CENs say that quality is difficult to define because the "product is less tangible and more subjective". Unlike automobiles, quality patient care is dependent upon variables that are sometimes uncontrollable. "They don't appreciate the complexity of measuring quality in the area of patient care".

The CENs' perceptions also reflect concern that patient care criteria cannot be the same as manufacturing and industrial criteria. Data are not always available or are poor indicators for measuring quality health care. Sometimes a poor level of health for a particular individual is the best that can be achieved for that individual even if quality patient care is delivered. Quality is a very elusive concept to measure in patient care. "We know it when we see it - sometimes."

Lack of outcome-based criteria is again mentioned as an overall weakness of the MBNQA criteria. "Should be focused more on outcomes and less on process." "Does not speak to the outcome of health care more than merely patient satisfaction." "Don't easily address outcome, focus too

much on process." These statements reflect the CENs' concern about lack of outcome-based MBNQA criteria.

Summary

Chapter Four presents and analyzes the data computed for this study. Descriptive statistics, paired-sample t-test, ANOVAs, and CEN Comments are displayed in table format and in appendixes. Significant differences are highlighted. This analysis contributes to the discussion, conclusions, and recommendations of Chapter Five.

Chapter 5

Conclusions, Discussion, Recommendations

The researcher's intent for this study is to determine the applicability of the Malcolm Baldrige National Quality Award criteria to the evaluation of quality patient care by surveying a national sample of chief executive nurses (CENs). The CENs were requested to complete a survey that was composed of questions relating to the 32 MBNQA criteria arranged in seven categories, an awareness indicator, and a comment section. The resulting perceptions of the CENs were compiled to determine descriptive statistics, paired-sample t-tests, and ANOVAs. The data is analyzed in Chapter Four. In Chapter Five, the researcher draws conclusions from this data about the hypotheses and subproblems, discusses the implications of the findings, relates the theory to the results of the findings, and makes recommendations.

Conclusions

Hypotheses

The following null hypotheses which are based on the problem and subproblems are tested from data that has been recorded by the CENs on the survey instrument.

H_{01}: There are no significant differences in perceived applicability among the seven categories of the MBNQA criteria. H_{01} is rejected. Paired-sample t-tests are computed for each category with all other categories. The results indicate that significant differences do occur

between groups. Table 3 shows the Leadership Category as the most significantly different. CENs support senior executive leadership and personal involvement in developing and maintaining an environment for quality excellence. CENs would be more cognizant of the applicability of the Leadership Category because of the nature of their positions and their accountability for patient care. The Customer Satisfaction Category is the next greatest category showing significant differences compared to the other categories. Patient care is the product of the health care industry and involves human interactions on all levels.

In contrast, the Quality Assurance of Products and Services Category is compared less favorably with the other categories because these criteria are based primarily upon process design and control, including control of procured materials, parts, and services. These activities are the functions of other departments within the hospital and would not require CEN attention. Therefore, CENs have little familiarity with these activities and would perceive them as less applicable.

The least amount of significant difference is noted in the Quality Results Category. Quality Results Category examines quality levels and quality improvement based upon objective measures derived from analysis of customer requirements and expectations. In all paired sample t-test, the mean scores of Quality Results are less than the other

categories. The researcher did not expect this result because CENs are acutely aware of the significance of Q.A. when surveyed for accreditation purposes by JCAHO.

H_{02}: There are no significant differences in the CENs' perceived applicability of the MBNQA criteria and the size of the hospital. This hypothesis is accepted. The ANOVAs indicate that size is not a source of variability as perceived by the CENs.

H_{03}: There are no significant differences in the CENs' perceived applicability of the MBNQA criteria and the type of hospitals. This hypothesis is accepted. The ANOVAs observed probability level indicate that Customer Satisfaction.6 criterion was significantly different at .042, $p<.05$.

H_{04}: There are no significant differences in the CENs' perceived applicability of the MBNQA criteria and level of awareness of the MBNQA. H_{04} is rejected. Analyses using ANOVAs shows that there is significant difference in the CENs' scores for certain criterion by their level of awareness. Table 18 demonstrates that HR.3, Quality Education and Training, and PS.3, Continuous Improvement of Processes, have the greatest differences. Quality experts agree that employee education and training is a key component of any quality program. The CENs' sensitivity to a continuous improvement process supports the newer TQM theory.

Table 18

ANOVA Summary of Awareness Variable

Criteria	p<.05	Interaction	p<.05
Human Resource Utilization.3	.002	Awareness by Type	.017
Products & Services.3	.002	No	
Customer Satisfaction.1	.005	No	
Products & Services.1	.006	No	
Products & Services.2	.008	No	
Products & Services Category	.009	No	
Products & Services.4	.012	No	
Leadership.3	.020	Awareness by Type	.008
Products & Services.2	.026	No	
Planning Category	.035	No	
Information & Analysis.3	.041	No	
Planning.1	.045	No	

H_{05}: There are no significant interactions overall in the CENs' perceived applicability of the MBNQA criteria and

hospital size and/or hospital type, and/or level of awareness. This hypothesis is accepted. The 2 by 2 by 3 (size x type x awarness) ANOVA, using CENs' total perception scores, indicates a main effect of F-probability .029, $p<.05$ for awareness but no two-way interactions. When the individual criterion ANOVAs are computed, there is a significant difference in two criteria, Human Resource Utilization.3 and Leadership.3 (see Table 17).

Subproblems

A number of subproblems were identified in order to provide a more complete analysis of the problem. Each subproblem is discussed below.

Subproblem 1. To what degree are CENs aware of the MBNQA? Of the 253 responses, 49.4 percent of the CENs were very aware and 34.4 percent of the CENs were somewhat aware of the Award.

Subproblem 2. To what degree do the CENs perceive the individual MBNQA criteria to be applicable to the measurement of quality nursing care delivered in hospitals? The CENs' perception of the applicability of the 32 criteria is very high. Table 2 provides a rank ordering of the 32 criteria by mean scores. CENs perceive that the criteria are applicable. The Leadership and Customer Satisfaction criteria rank the highest by the CENs which indicate their acceptance of current theory, advocated by Deming, Juran, Crosby, and other quality experts.

Subproblem 3. To what degree do the CENs perceive the seven major categories of the MBNQ criteria to be applicable to the measurement of quality nursing care delivered in their hospitals? CENs perceive the MBNQA categories to be applicable by reviewing and ranking the overall mean scores of each category (Table 19). The results of ranking these categories by mean scores is not surprising. Leadership, customers (patients), human resources (staff), and planning are components of CENs' job responsibilities that they practice every day. The newer dimensions of TQM such as Quality Assurance of Products and Services, Information and Analysis, and Quality Results could be threatening or foreign to CENs due to their lack of knowledge and expertise. Table 3, Paired Sample of T-Test Results, supports these conclusions.

Table 19

Rank Order of CENs' Perceptions of Categories Applicability

Rank	Categories	Means
1	Leadership	6.486
2	Customer Satisfaction	6.336
3	Human Resource Utilization	6.314
4	Strategic Quality Planning	6.099

(table continues)

Rank	Categories	Means
5	Products & Services	5.926
6	Information and Analysis	5.788
7	Quality Results	5.402

Subproblem 4. To what degree do the CENs' perceive the MBNQA criteria to have overall applicability to the measurement of quality nursing care delivered in their hospitals? The CENs' overall perception of applicability is very high, reflected by a mean score of 6.050 of a possible 7.

Subproblem 5. To what degree do the CENs' perception of applicability of the MBNQA criteria vary based on hospital size? There are no significant differences in the perception of the CENs based on the size of their hospital.

Subproblem 6. To what degree do the CENs' perception of applicability of the MBNQA criteria vary based on hospital type? Criterion Customer Satisfaction.6's ANOVA reveals a significant difference. Otherwise, the remainder criteria show no difference based on type of hospital.

Subproblem 7. To what degree do the CENs' perception of applicability of the MBNQA criteria vary based on their awareness of the Award? Before receiving the letter of invitation to participate in the study, fifteen percent of

the CENs were not aware, 34.4 percent are somewhat aware, and 49.4 percent are very aware of the MBNQA. The specific variances are discussed under H_{04}.

Subproblem 8. To what degree do the CENs' perception of applicability of the MBNQA criteria interact based on hospital size, hospital type, and the CENs' awareness of the MBNQA? The answer to this problem is replicated from H_{05}. There are no significant interactions between the hospital size by hospital type by awareness.

Discussion

Agreement on Applicability

The CENs highly agree that the MBNQA criteria are applicable to evaluating quality patient care in hospitals. Their comments indicate that Award criteria implementation could infuse customer-related quality into the entire internal system which is advocated by the newer theory of TQM. CENs' perceptions about leadership, customer satisfaction, and human resource utilization categories especially imply consensus.

Leadership and Customer Satisfaction

CENs rank the Leadership and Customer Satisfaction Criteria and Categories to be the most applicable to patient care. The literature review supports that leadership is extremely important for any quality effort to be successful. Leadership is needed to orchestrate large reforms in delivering quality patient care, which reforms are unlikely

without leadership and public consensus (Gergen & Slafsky, 1992).

Public consensus (customer satisfaction) is the newest hallmark for improving quality in the United States and has the greatest weight in the Award process, accounting for 300 out of a possible 1,000 points. The CENs' perception of leadership and customer satisfaction indicate their agreement with current quality theory.

Cooperation of Quality Agencies

CENs have been preoccupied in the past with applying to their institutions JCAHO standards for measuring quality. Other standards could be useful and acceptable if appropriately sanctioned. Eighteen states are leading the way in diversification by developing their own standards for state quality awards (Heaphy, 1991). Fragmentation and less prestige of the MBNQA could result from this action. If the MBNQA criteria, however, are used as the basis for the state awards, the principles of TQM would remain intact. Application of MBNQA quality indicators would grow and develop, increasing awareness and improving national and state industrial quality. Increased cooperation between state and federal agencies could serve as a model for integrating JCAHO standards and MBNQA criteria for improving quality patient care.

CENs' Awareness and Leadership

As CENs become more aware of TQM concepts, their

perceptions of applicability of Quality Assurance of Products and Services, Quality Results, and Information and Analysis Categories would improve. These concepts could become the components of a hospital TQM system which would compliment JCAHO's 10 Step Process. However, without CEN's awareness of TQM principles combined with CENs' leadership, a TQM system for hospitals is not possible.

CENs' responsibilities include strategically incorporating indicators that continue to define, use, and share measures of quality in achieving positive patient outcomes. Unfortunately, attempts in the past at seeking a consensus on important aspects of nursing care have been thwarted. A number of organizations, such as The American Nurses Association, The Agency for Health Care Policy and Research, and Professional Review Organizations, should collaborate with JCAHO and NIST to promulgate one set of quality criteria for patient care.

These issues deter CENs from striving for development of quality patient care indicators and from focusing on implementation of a TQM system (Arikian, 1991). "The health care sector, as vulnerable to the forces of competition, changing technology, reimbursement, and dwindling resources as any other major enterprise in the United States, must take a clear-eyed and rational look at factors that will guarantee the 'survival of the fittest' in the next decade" (Arikian, 1991, p. 46). Nursing, the largest work force

within most patient care organizations, seeks effective ways not only to provide high-quality professionalism and service but to lead other members of the patient care team in doing likewise. Accepting and implementing the MBNQA criteria as a TQM system would serve to point the way toward achieving and sustaining quality patient care throughout the health care industry.

Lack of Outcome Criteria

CENs are concerned about the lack of outcome criteria. When examined closely, the MBNQA criteria are outcome- as well as process-focused. The real issue concerns the assumption that what has worked well in manufacturing can be carried over and applied to any and all service operations. Service quality improvement limits the area of application, does not recognize that services are not the same as physical products, does not acknowledge significant differences in the quality function in different service industries, ignores many techniques which can be widely used in services but which are not widely used in manufacturing such as mortality and morbidity rates, and ignores the fact that services are dominated by subjective human elements and not by precise physical measurements (Sinioris, 1990). Knowledge and expertise in using TQM principles by the CENs will eventually correct this misconception that the MBNQA criteria is not outcome-focused.

Recommendations

The researcher, after careful investigation and analysis of the applicability of the MBNQA criteria for measuring quality in hospitals as perceived by CENs, offers the following recommendations:

A. Recommendations for Practical Application:

1. The MBNQA criteria provides a measurement standard for evaluating patient care and should be adopted as a TQM system by hospitals.

2. CENs should be educated and made aware of all 32 criteria and the implications of ignoring quality indicators such as Quality Results, Quality Assurance of Products and Services, and Information and Analysis Categories.

3. Partnerships should be encouraged between JCAHO, NIST, and other organizations to develop national patient care standards that could be used to award the MBNQA to nonprofit service-oriented organizations.

4. The MBNQA criteria should be used to assess the working environment and cultural changes necessary for implementation of a TQM system.

5. Lastly, but most importantly, because the CENs perceive the MBNQA criteria to be applicable to the evaluation of quality in hospitals, efforts should commence to allow hospitals, nonprofit and for-profit, large, medium, and small, to apply for the MBNQA as soon as possible.

B. Recommendations for Future Research:

1. Further research should be conducted to determine what specific clinical criteria are needed to improve the MBNQA criteria.

2. Future research should include a replication of the study to determine if increased awareness and knowledge of all 32 criteria effects the applicability of the MBNQA criteria as perceived by CENs.

Summary

This study, Applicability of MBNQA Criteria to the Evaluation of Quality in Hospitals as Perceived by the CEN, concludes that the MBNQA criteria are applicable. The researcher recommends that in the near future Congress approves eligibility of hospitals for the MBNQA thereby instituting a national standard for measuring quality patient care. In conjunction with federal, state, and local agencies and organizations, hospital management and other personnel engaged in patient care should be involved in establishing, maintaining, and improving criteria used in patient care systems. Mutual respect and cooperation by all parties involved will produce the results needed to provide quality patient care in the United States.

References

Abdellah, F. E., & Levin, E. (1957). Developing a measure of patient and personnel satisfaction with nursing care. Nursing Research, 5(3), 100-108.

Abrahamson, P. (1989, May 22). Malcolm Baldrige Award encourages U. S. industry's quest for quality. Business America, 110, 8-9.

Aguayo, R. (1990). Dr. Deming, The American who taught the Japanese about quality. New York: Carol Publishing Group.

Alreck, P. L., & Settle, R. B. (1985). The Survey Research Handbook. Homewood, IL: Richard D. Irwin, Inc.

American Hospital Association's Manual of Hospital Listings (1990). AHA Catalog No. G01-010090. Chicago, IL: American Hospital Association.

Application Guidelines Malcolm Baldrige National Quality Award (1991). Washington, DC: United States Department of Commerce, National Institute of Standards and Technology.

Arikian, V. L. (1991). Total quality management: Applications to nursing service. Journal of Nursing Administration, 21(6), 46-50.

Baldrige, M. (1982). Designing for productivity. Design News, 38(7), 11.

Banach, E. (1991, April). Yes, service quality can be measured. Savings Institutions, p. 40.

Band, R. W. (1990, October 1). Use Baldrige criteria as guide to improving quality. Marketing News, 24, 2, 18.

Barrier, M. (1991). A new sense of service. Nation's Business, 80(6), 16-18.

Bemowski, K. (1991). Three U. S. electronic firms win 1991 Baldrige Award. Quality Progress, 24(11), 39-42.

Bennett, W. J. (1988, May 9). Education: The key for American economic strength, competitiveness. Business America, 109, 9-10.

Bennis, W., & Nanus, B. (1985). Leaders. New York: Harper & Row.

Berger, S., & Sudman, S. K. (1991). Making total quality management work. Healthcare Executive, 6(2), 22-25.

Bhote, K. R. (1989). Motorola's long march to the Malcolm Baldrige National Quality Award. National Productivity Review, 8, 365-375.

Brown, P. B. (1989). Book reviews: Quality is free. Inc., 11(5) 25-26.

Burrows, P. (1990). Five lessons you can learn from award entrants. Electronic Business, 16(19), 56-58.

Bryon, C. (1991). Riding on air. New York, 24(2), 12-13.

Carey, J. (1991). The ecstasy and the agony. Business Week, 3236, 40.

Chassin, M. R. (1991). Quality of care: Time to act. Journal of American Medical Association, 266, 3472-3473.

Conversations for the 90s: The total quality management story (1991). Chicago, IL: Harris Bank.

Cook, B. M. (1991). Quality: The pioneers survey the landscape. Industry Week, 240, 68-73.

Crosby, P. B. (1979). Quality is free. New York: New American Library.

Crosby, P. B. (1990). Leading: The art of becoming an executive. New York: McGraw-Hill.

Darr, K. (1991). Quality improvement and quality assurance compared. Hospital Topics, 69(3), 4-5.

DeCarlo, N. J., & Sterett, W. K. (1990). History of the Malcolm Baldrige National Quality Award. Quality Progress, 23(3), 5-11.

Deming, W. E. (1986). Out of the crisis. Cambridge, MA: Massachusetts Institute of Technology.

Doherty, S. (1990, September/October). Developing a blueprint for quality. Journal Quality Assurance, pp. 34-37.

Donabedian, A. (1985). The epidemiology of quality. Inquiry, 22, 282-292.

Edosomwan, J. A., & Savage-Moore, W. (1991). Assess your organization's TQM posture and readiness to successfully compete for the Malcolm Baldrige Award. Industrial Engineering, 23(2), 22-24.

Feinwachs, D. (1990). The correlation of patient perceptions and medical outcomes (Doctoral

dissertation, University of Minnesota, 1989). Dissertation Abstracts International, 50, 2804B.

Flarey, D. L. (1991). Quality circles: The nurse executive as mentor. Health Care Supervisor, 10(2), 52-61.

Fuchsberg, G. (1991, March 14). Nonprofits may get own Baldrige prizes. The Wall Street Journal, p. B1.

Fuchsberg, G. (1992, March 5). Baldrige Award gives more weight to results. The Wall Street Journal, p. B1.

Geber, B. (1991). The IBM way of winning. Training, 28(3), 39-40.

Gergen, D., & Slafsky, T. (1992). Looking for leadership. Health Management Quarterly, 14, 2.

Greenspan, J. (1980). Accountability and quality assurance in health care. Bowie, MD: Charles Press Publishers.

Glover, M. K. (1988, December 5). The quest for excellence. Business America, 109, 2-13.

Glover, M. K. (1989, November 20). Malcolm Baldrige National Quality Award: The quest for excellence. Business America, 110, 9-10.

Haavind, R. (1989). Baldrige Quality Award: Industry's version of Oscar. Electronic Business, 15(20), 34-35.

Haavind, R. (1990a). The Baldrige examiners: Tips from the top. Electronic Business, 16(20), 36.

Haavind, R. (1990b). The long, hard road to the Baldrige. Electronic Business, 16(20), 32-36.

Haglund, C. L. (1991). The development and testing of a multidimensional instrument for assessing patients satisfaction with hospital care (Doctoral dissertation, University of Washington, 1990). Dissertation Abstracts International, 51, 5233B.

Hart, C. W. L., Bogan, C., & O'Brien, D. (1990). When winning isn't everything. Harvard Business Review, 70(1), 208-209.

Heaphy, M. S. (1991). Baldrige benchmarks. Manufacturing Engineering, 107(6), 10.

Heinzlmeir, L. A. (1991, Spring). Under the spell of the quality gurus. Canadian Manager, 16, 22.

Hirth, A., & Lauzon, L. (1989). Development of quality assurance tool for critical care. Canadian Journal of Nursing Administration, 2(4), 15-18.

House, P. (1990). The effect of cost, competition, profit, and cost containment policy on hospital quality of care (Doctoral dissertation, University of Illinois at Urbana-Champaign, 1990). Dissertation Abstracts International, 51, 2804B.

Houston, P. (1990). Dubious achievement? Business Month, 135, 40-44.

Hunter, E. S. (1988, May 9). Quality -- A consumer perspective. Business America, 109, 10-11.

Ingman, L. C. (1991). Quality systems. Pulp and Paper, 65(1), 137-139.

Jackson-Frankl, K. A. (1989). Symbotics in nursing administration (Doctoral dissertation, Indiana University, School of Nursing, 1989). Dissertation Abstracts International, 51, 4382B.

Jacobellis v. State of Ohio, 84S ct 1676 (1964).

Jennison, K. (1991). Total quality management - fad or paradigmatic shift? In J. B. Couch (Ed.), Health Care Quality Management for the 21st Century (pp. 410-432). Washington, DC: American College of Medical Quality.

Juran, J. M. (1989a). Juran on leadership for quality. New York: The Free Press.

Juran, J. M. (1989b). Juran Institute, Inc. Plastic World, 47(8), 34.

Kaeter, M. (1991, March). Quality training. Quality, pp. 15-25.

Kathawala, Y., Elmuti, S., & Toepp, L. (1991). An overview of the Baldrige Award: America's tool for global competitiveness. Industrial Management, 33(2), 27-29.

Kerr, J. (1989). Meeting specs? Is that all there is to quality? Electronic Business, 15(20), 270-271.

Kitson, A. L. (1986). Indicators of quality in nursing care - an alternative approach. Journal of Advanced Nursing, 11, 133-144.

Labovitz, G. H. (1991). Beyond the total quality management

mystique. Healthcare Executive, 6(2), 15-17.

Leibowitz, M. R. (1989). Baldrige winners start ahead of the pack. Electronic Business, 15(20), 80-82.

Light, R. J., Singer, J. D., & Willett, J. B. (1990). By design: Planning research on higher education. Cambridge, MA: Harvard University Press.

Lin, B., & Chai, W. (1991). Developing a quality-of-care system in hospitals. Health Care Supervisor, 10(2), 39-47.

Lodge, C. (1989). Six gurus show the way to improved product quality. Plastic World, 47(8), 29-38.

Lowell, J. (1991). Cadillac goes for the gold and gets it. WARD'S Auto World, 27(4), 25.

Lutz, S. (1987). Nation's largest alliance faces tough challenges. Modern Healthcare, 17(20), 26-36.

Main, J. (1990). How to win the Baldrige Award. Fortune, 122(8), 101-113.

Malcolm Baldrige National Quality Award Brochure, (1991). Gaithersburg, MD: National Institute of Standards and Technology.

Marker, C. G. S. (1991). Total quality management and the Marker management system. Aspen's Advisor, 7(3), 5-8.

Masters, F., & Schmele, J. A. (1991). Total quality management: An idea whose time has come. Journal Nursing Quality Assurance, 5(4), 7-16.

McLaughlin, A. (1988, May 9). Education: The key for American economic strength, competitiveness. Business America, 109, 2-12.

Merry, M. D. (1991). Illusion vs. reality. Healthcare Executive, 6(2), 18-21.

Miller, K. L., & Woodruff, D. (1991). A design master's end run around trial and error. Business Week, 3237, 24.

Miller, R. I. (Ed), (1991). Applying the Deming Method to Higher Education. Washington, DC: The College and University Personnel Association.

Mohr, W. L., & Mohr, H. (1983). Quality circles. Reading, MA: Addison-Wesley.

Norusis, M. J. (1988). SPSS/PC+: Studentware. Chicago, IL: SPSS Inc.

Moser, J. P. (1991). Point fourteen: Take action to accomplish the transformation. In R.I. Miller (Ed.), Applying the Deming Method to Higher Education (pp. 123-130). Washington, DC: The College and University Personnel Association.

News from Cadillac (1990, December 13). Cadillac Motor Car Division, Detroit, Michigan.

Peters, T. J., & Waterman, R. H. (1982). In Search of Excellence. New York: Harper and Row.

Peters, T. J. (1987). Thriving on Chaos. New York: New American Library.

Pettit, L. S., & White, C. L. (1991). Providers' and

consumers' perceptions of quality health care. Journal of Nursing Staff Development, 7, 5-10.

Pinkerton, S. E., & Schroeder, P. (1988). Commitment to excellence. Rockville, MD: Aspen Publishers.

Pushing to improve quality (1990). Technology Management, 33(3), 19-22.

Quality watch (1992). Hospitals, 66(4), 16.

Quotes from a quality guru (1991). Traffic Management, 30(5), 49-51.

Redfern, S. J., & Norman, I. J. (1990). Measuring the quality of nursing care: A consideration of different approaches. Journal of Advanced Nursing, 15, 1260-1271.

Reimann, C. W. (1988, May 9). National quality Award brings opportunities for industry. Business America, 109, 5-7.

Reimann, C. W. (1989). The Baldrige Award: Leading the way in quality initiatives. Quality Progress, 22(7), 35-39.

Reimann, C. W. (1990). America unites behind the Baldrige quality crusade. Electronic Business, 16(20) 63.

Remarks by Secretary of Commerce Robert A. Mosbacher at the National Quality Award News Briefing, November 2, 1989 (1989, November 20). Business America, 110, 6-7.

Rickard, N. E., Jr. (1991). The quest for quality: A race without a finish line. Industrial Engineering,

23, 25-27.

Rogers, K. C., Larrabee, J. H., & Knight, M. R. (1992). PROSTAR: A recognition and reward program for empowering nurses to improve quality. Journal Nursing Care Quality, 6(2), 1-8.

Rohan, T. M. (1990, November 5). Services win Baldrige. Industry Week, 239, 52-53.

Rohan, T. M. (1991, April 1). Do you really want a Baldrige? Industry Week, 240, 11-12.

Rosander, A. C. (1989). The quest for quality in services. Milwaukee, WI: Quality Press.

Roster, S. L. (1990). Total quality improvement. Journal of Quality Assurance, 4(5). 18-21.

Rowell, P. A. (1991). Hospital quality assurance and outcomes of hospitalization (Doctoral dissertation, University of Minnesota, 1989). Dissertation Abstracts International, 50, 2804B.

Sahney, V. K., & Warden, G. L. (1990). The quest for quality and productivity in health services. Frontiers of Health Services Management, 7(4), 2-40.

Scheuing, E. E. (1990). Baldrige criteria become national quality standard. Planning Review, 18, 44-45.

Schmele, J. A., & Foss, S. J. (1989). The quality management maturity grid: A diagnostic method. Journal of Nursing Administration, 19(9), 29-34.

Segalla, E. (1989). All for quality, and quality for all.

Training & Development Journal, 43(9), 36-45.

Sellers, P. (1990). To Saturn and beyond. Fortune, 123(11), 12-13.

Sherman, V. C. (1991). Total management, not total quality management. Journal of Quality Assurance, 12, 26-29.

Sinioris, M. E. (1990). TQM: The new frontier for quality and productivity improvement in health care. Journal of Quality Assurance, 12(5), 14-17.

Stevens, J. (1990). Intermediate statistics: A modern approach. Hillsdale, NJ: Lawrence Erlbaum Associates.

Stratton, B. (1990). Making the Malcolm Baldrige Award better. Quality Progress, 23(3), 2-4.

Striving for excellence (1991). Hispanic, p. 62.

Tackett, S. (1990). Letter from the editor. Journal of Quality Assurance, 4(5), 2.

Taylor, A. G., Hudson, K., & Keeling, A. (1991). Quality nursing care: The consumers' perspective revisited. Journal of Nursing Quality Assurance, 5(2), 23-31.

The New Standards for Nursing Care (1990). Oakbrook Terrace, IL: Joint Commission on Accreditation of Healthcare organizations.

Thompson, R. E. (1991). The six faces of quality. Healthcare Executive, 6(2), 26-27.

Three companies win 1991 Baldrige Quality Award (1991, October 21). Business America, 111, 2-8.

Uncle Sam salutes top quality achievers with national

Appendix A

Examination Process

Examination Categories/Items/Points		Maximum Points
Leadership		100
L.1 Senior executive leadership	40	
L.2 Quality values	15	
L.3 Management for quality	25	
L.4 Public responsibility	20	
Information and Analysis		70
I.1 Scope and management of quality data and information	20	
I.2 Competitive comparisons and benchmarks	30	
I.3 Analysis of quality data and information	20	
Strategic Quality Planning		60
P.1 Strategic quality planning process	35	
P.2 Quality goals and plans	25	
Human Resource Utilization		150
HR.1 Human resource management	20	

(table continues)

Examination Categories/Items/Points		Maximum Points
HR.2 Employee involvement	40	
HR.3 Quality education and training	40	
HR.4 Employee recognition and performance measurement	25	
HR.5 Employee well-being and morale	25	
Quality Assurance of Products and Services		140
PS.1 Design and introduction of quality products and services	35	
PS.2 Process quality control	20	
PS.3 Continuous improvement of processes.	20	
PS.4 Quality assessment	15	
PS.5 Documentation	10	
PS.6 Business processes and support service quality	20	
PS.7 Supplier quality	20	
Quality Results		180
Q.1 Product and service quality results	90	
Q.2 Business process, operational,		

(table continues)

Examination Categories/Items/Points		Maximum Points
and support service quality results	50	
Q.3 Supplier quality results	40	
Customer Satisfaction		300
CS.1 Determining of customer requirements and expectations	30	
CS.2 Customer relationship management	50	
CS.3 Customer service standards	20	
CS.4 Commitment to customers	15	
CS.5 Complaint resolution for quality improvement	25	
CS.6 Determining customer satisfaction	20	
CS.7 Customer satisfaction results	70	
CS.8 Customer satisfaction comparison	70	
Total Points		1,000

Note. Source: MBNQA 1991 Application Guidelines

Appendix B

Population and Sample Distribution of Hospitals by State, Size, and Type

Note.

NF = Nonprofit type hospitals

FP = For-Profit type hospitals

0 = Other type hospitals such as government, specialty, and/or rehabilitative hospitals

VS = Small size hospitals with less than 300 beds

S = Small size hospitals with 300 to 499 beds

M = Medium size hospitals with 500 to 799 beds

L = Large size hospitals with 800 plus beds

State	# of Hosp	NP	FP	0	VS	S	M	L
Alabama	140	38	42	60	121	11	6	2
Alaska	27	8	3	16	26	1	0	0
Arizona	93	53	16	24	80	4	8	1
Arkansas	98	42	20	36	89	6	2	1
California	560	258	168	134	452	61	24	23
Colorado	91	50	10	31	76	8	6	1
Connecticut	63	45	2	16	44	14	3	2
Delaware	13	8	2	3	9	1	1	2

(table continues)

State	# of Hosp	NP	FP	O	VS	S	M	L
District of Columbia	18	13	1	4	7	6	2	3
Florida	292	110	133	49	226	37	16	13
Georgia	204	61	56	87	170	20	8	6
Hawaii	26	12	1	13	20	5	1	0
Idaho	49	10	4	35	48	1	0	0
Illinois	249	169	17	63	165	43	27	14
Indiana	135	62	11	62	98	19	12	6
Iowa	135	57	2	76	111	11	10	3
Kansas	158	66	11	90	139	14	4	1
Kentucky	123	62	26	35	104	14	3	2
Louisiana	174	32	63	79	145	23	6	0
Maine	45	36	1	8	39	3	3	0
Maryland	82	56	9	17	56	18	3	5
Massachusetts	166	105	14	47	126	29	7	4
Michigan	209	144	7	58	163	26	13	7
Minnesota	168	88	3	77	142	12	8	6
Mississippi	114	29	15	56	99	8	2	5
Missouri	165	89	18	58	123	19	13	10
Montana	62	42	1	19	61	0	1	0
Nebraska	103	51	2	50	88	10	3	2

(table continues)

State	# of Hosp	NP	FP	0	VS	S	M	L
Nevada	33	7	12	14	28	4	1	0
New Hampshire	43	29	10	4	39	4	0	0
New Jersey	120	98	3	19	61	39	14	6
New Mexico	62	24	9	29	58	2	1	1
New York	308	198	32	78	174	51	46	37
North Carolina	158	77	21	61	125	14	12	7
North Dakota	58	51	0	7	54	2	2	0
Ohio	253	193	7	53	175	46	21	11
Oklahoma	140	44	18	78	123	7	6	1
Oregon	76	44	10	22	60	12	1	3
Pennsylvania	303	249	20	34	210	56	21	16
Rhode Island	19	14	0	5	14	4	1	0
South Carolina	89	32	16	41	75	9	4	1
South Dakota	66	47	1	18	61	3	2	0
Tennessee	156	59	52	45	125	16	7	8
Texas	536	151	199	186	462	39	21	16
Utah	52	25	15	12	45	5	1	1
Vermont	19	17	0	2	17	2	0	0
Virginia	137	82	31	24	103	17	10	7
Washington	114	44	10	60	98	12	2	2
West Virginia	66	34	15	17	56	6	2	2

(table continues)

State	# of Hosp	NP	FP	0	VS	S	M	L
Wisconsin	149	128	3	18	128	13	5	3
Wyoming	32	8	3	21	31	0	1	0
Totals	6756	3451	1145	2151	5352	787	373	239

Sample Distribution by State and Numbering of Surveys Returned

State	# Surveyed	# Returned
Alabama	8	8
Alaska	0	0
Arizona	6	4
Arkansas	5	0
California	31	14
Colorado	4	3
Connecticut	5	2
Delaware	2	10
District of Columbia	4	2
Florida	30	18
Georgia	7	3
Hawaii	1	1
Idaho	0	0
Illinois	28	21
Indiana	13	10
Iowa	6	4
Kansas	5	2
Kentucky	11	9
Louisiana	4	2

(table continues)

State	# Surveyed	# Returned
Maine	1	0
Maryland	12	9
Massachusetts	12	8
Michigan	17	8
Minnesota	7	3
Mississippi	1	0
Missouri	14	9
Montana	1	0
Nebraska	2	1
Nevada	3	3
New Hampshire	1	0
New Jersey	21	10
New York	42	20
North Carolina	6	4
North Dakota	1	1
Ohio	19	12
Oklahoma	4	3
Oregon	5	3
Pennsylvania	27	16
Rhode Island	2	0
South Carolina	4	1
South Dakota	1	1

(table continues)

State	# Surveyed	# Returned
Tennessee	10	7
Texas	31	13
Utah	2	1
Vermont	1	1
Virginia	9	6
Washington	5	4
West Virginia	3	1
Wisconsin	3	3
Wyoming	0	0
Total	438	253

Appendix C

Hospitals Listed by Type, Size, City and State

For-Profit Medium Size Hospitals:

Ami Brookwood Medical*
Birmingham, AL

Humana Hospital - Biscayne
Miami, FL

HCA New Port Richey*
New Port Richey, FL

Parkway Regional Medical Center*
Fort Myers, FL

Florida Medical Center
Fort Lauderdale, FL

Southwest Florida Regional Medical Center*
Fort Myers, FL

West Florida Regional Medical Center*
Pensacola, FL

Humana Hospital - Overland Park
Overland Park, KS

HCA Wesley Medical Center*
Wichita, KS

Humana - Univ. of Louisville*
Louisville, KY

Humana Hospital - Audubon*
Louisville, KY

AMI Saint Joseph Hospital*
Omaha, NE

Humana Hospital - Sunrise*
Las Vegas, NV

Centennial Medical Center
Nashville, TN

For-Profit Medium Size Hospitals cont'd)

Humana Hospital - Medical City Dallas* Dallas, TX
AMI Park Plaza Hospital* Houston, TX
Houston Northwest Medical Center* Houston, TX
Memorial City Medical Center* Houston, TX
Humana Hospital - San Antonio San Antonio, TX
Humana Hospital - Clear Lake Webster, TX
HCA Chippenham Hospital* Richmond, VA
HCA Lewis - Gale Hospital* Salem, VA

Note. * = CENs Who Returned the Survey From These Hospitals

For-Profit Small Size Hospitals:

Humana Hospital-Huntsville*
Huntsville, AL

HCA Doctors Hospital
Little Rock, AR

Humana Hospital-Phoenix
Phoenix, AZ

Brotman Medical Center
Culver City, CA

AMI Presbyterian-St. Luke's Medical Center*
Denver, CO

HCA L.W. Blake Hospital*
Bradenton, FL

AMI Palmetto General Hospital*
Hialeah, FL

Humana Hospital-Pembroke
Pembroke Pines, FL

Palms of Pasadena Hospital*
St. Petersburg, FL

Humana Hospital-Augusta*
Augusta, GA

Humana Hospital-Suburban
Louisville, KY

Southern Maryland Hospital*
Clinton, MD

AMI Columbia Regional Hospital*
Columbia, MO

Valley Hospital Medical Center*
Las Vegas, NV

HCA Trident Regional Medical Center*
Charleston, SC

HCA Park West Medical Center
Knoxville, TN

For-Profit Small Size Hospitals (cont'd):

Sierra Medical Center El Paso, TXSun Towers Hospital
El Paso, TX
AMI Twelve Oaks Hospital Houston, TX
McAllen Medical Center McAllen, TX
HCA Henrico Doctor's Hospital* Richmond, VA

Note. * = CENs Who Returned the Survey From These Hospitals

Nonprofit Large Size Hospitals:

Longbeach Memorial Medical Center*
Long Beach, CA

Cedars-Sinai Medical Center
Los Angeles, CA

Hartford Hospital
Hartford, CT

Medical Center of Delaware
Newark, DE

Washington Hospital Center*
Washington, DC

Florida Hospital Medical Center*
Orlando, FL

Orlando Regional Medical Center
Orlando, FL

Rush-Presbyterian-St. Luke's Medical Center*
Chicago, IL

Christ Hospital and Medical Center*
Oak Lawn, IL

Lutheran General Hospital
Park Ridge, IL

Community Hospitals of Indiana*
Indianapolis, IN

Methodist Hospital of Indiana*
Indianapolis, IN

St. Vincent Hospital and Health Care Center
Indianapolis, IN

John Hopkins Hospital*
Baltimore, MD

Massachusetts General Hospital*
Boston, MA

University of Michigan Hospitals
Ann Arbor, MI

Nonprofit Large Size Hospitals (cont'd):

Henry Ford Hospital*
Detroit, IL

William Beaumont Hospital*
Royal Oak, IL

Health One Corporation Metropolitan Hospital
Minneapolis, MN

Riverside Medical Center*
Minneapolis, MN

Saint Mary's Hospital of Rochester
Rochester, MN

St John's Regional Health Center*
Springfield, MO

Barnes Hospital*
St. Louis, MO

St. John's Mercy Medical Center
St. Louis, Mo

Buffalo General Hospital*
Buffalo, NY

Beth Israel Medical Center*
New York, NY

Brookdale Hospital Medical Center*
Brooklyn, NY

Catholic Medical Center of Brooklyn and Queens
Jamaica, NY

Kingsbrook Jewish Medical Center
Brooklyn, NY

Long Island Jewish Medical Center
New Hyde Park, NY

Montefiore Medical Center
Bronx, NY

Mount Sinai Medical Center*
New York, NY

Nonprofit Large Size Hospitals (cont'd):

New York University Medical Center*
New York, NY

Presbyterian Hospital in the City of New York
New York, NY

Society of the New York Hospital
New York, NY

St. Luke's-Roosevelt Hospital Center
New York, NY

Duke University Hospital
Durham, NC

Cleveland Clinic Hospital
Cleveland, OH

Riverside Methodist Hospitals*
Columbus, OH

Allentown Hospital-Lehigh Valley Hospitals*
Allentown, PA

Baptist Memorial Hospital
Memphis, TN

Methodist Hospitals of Memphis*
Memphis, TN

Baylor University Medical Center
Dallas, TX

Memorial Hospital System
Houston, TX

Methodist Hospital*
Houston, TX

Charleston Area Medical Center
Charleston, WV

Note. * = CENs Who Returned the Survey From These Hospitals

Nonprofit Medium Size Hospitals:

Baptist Medical Center-Montclair*
Birmingham, AL

Mobile Infirmary Medical Center*
Mobile, AL

Good Samaritan Regional Medical Center*
Phoenix, AZ

St. Joseph's Hospital and Medical Center*
Phoenix, AZ

Baptist Medical Center
Little Rock, AR

St. Vincent Infirmary Medical Center
Little Rock, AR

St. Joseph Medical Center*
Burbank, CA

Mills-Peninsula Hospitals*
Burlingame, CA

Kaiser Foundation Hospital*
Los Angeles, CA

Huntington Memorial Hospital
Pasadena, CA

Sharp Memorial Hospital*
San Diego, CA

University of California San Francisco Medical Center*
San Francisco, CA

Saint John's Hospital and Health Center*
Santa Monica, CA

Penrose Hospitals*
Colorado Springs, CO

Saint Francis Hospital and Medical Center*
Hartford, CT

Georgetown University Hospital
Washington, DC

Nonprofit Medium Size Hospitals (cont'd):

Manatee Memorial Hospital*
Bradenton, FL

Lakeland Regional Medical Center
Lakeland, FL

Baptist Hospital*
Pensacola, FL

Emory University Hospital*
Atlanta, GA

Piedmont Hospital*
Atlanta, GA

University Hospital
Augusta, GA

Northwestern Memorial Hospital*
Chicago, IL

St. Joseph Hospital and Health Care Center*
Chicago, IL

Evanston Hospital*
Evanston, IL

Saint Francis Medical Center*
Peoria, IL

Memorial Medical Center*
Springfield, IL

St. John's Hospital*
Springfield, IL

Deaconess Hospital*
Evansville, IN

St. Mary's Medical Center of Evansville*
Evansville, IN

Methodist Hospitals Northwest Indiana
Gary, IN

Nonprofit Medium Size Hospitals (cont'd):

Ball Memorial Hospital*
Muncie, IN

Alliant Health System*
Louisville, KY

Francis Scott Key Medical Center*
Baltimore, MD

Beth Israel Hospital
Boston, MA

Brigham and Women's Hospital
Boston, MA

Baystate Medical Center*
Springfield, MA

Oakwood Hospital
Dearborn, MI

Harper Hospital*
Detroit, MI

St. John's Hospital and Medical Center
Detroit, MI

Butterworth Hospital*
Grand Rapids, MI

St. Luke's Hospital
Kansas City, MO

Lester E. Cox Medical Centers*
Springfield, MO

Christian Hospital Northeast-Northwest*
St. Louis, MO

Deaconess Hospital
St. Louis, MO

DePaul Health Center*
St. Louis, MO

St. Anthony's Medical Center*
St. Louis, MO

Nonprofit Medium Size Hospitals (cont'd):

Elizabeth General Medical Center*
Elizabeth, NJ

Englewood Hospital*
Englewood, NJ

Morristown Memorial Hospital
Morristown, NJ

United Health Services*
Binghamton, NY

Millard Fillmore Hospitals*
Buffalo, NY

North Shore University Hospital*
Manhasset, NY

Flushing Hospital Medical Center*
Flushing, NY

Interfaith Medical Center*
Brooklyn, NY

Lenox Hill Hospital
New York, NY

Long Island College Hospital
Brooklyn, NY

Lutheran Medical Center
Brooklyn, NY

Maimonides Medical Center
Brooklyn, NY

Methodist Hospital
Brooklyn, NY

Our Lady of Mercy Medical Center
Bronx, NY

Staten Island University Hospital
Staten Island, NY

Rochester General Hospital*
Rochester, NY

Nonprofit Medium Size Hospitals (cont'd):

Sisters of Charity Hospital
Buffalo, NY

Crouse-Irving Memorial Hospital
Syracuse, NY

Presbyterian Hospital*
Charlotte, NC

Moses H. Cone Memorial Hospital*
Greensboro, NC

Akron City Hospital
Akron, OH

Christ Hospital*
Cincinnati, OH

Jewish Hospital of Cincinnati*
Cincinnati, OH

University of Cincinnati Hospital*
Cincinnati, OH

Mount Carmel Health Center*
Columbus, OH

Toledo Hospital*
Toledo, OH

St. Anthony Hospital*
Oklahoma City, OK

Saint Francis Hospital
Tulsa, OK

St. John Medical Center*
Tulsa, OK

Geisinger Medical Center*
Danville, PA

Polyclinic Medical Center of Harrisburg*
Harrisburg, PA

Lancaster General Hospital
Lancaster, PA

Nonprofit Medium Size Hospitals (cont'd):

Albert Einstein Medical Center*
Philadelphia, PA

Hahnemann University Hospital*
Philadelphia, PA

Mercy Catholic Medical Center
Darby, PA

Thomas Jefferson University Hospital
Philadelphia, PA

Mercy Hospital of Pittsburgh*
Pittsburgh, PASt.

Francis Medical Center*
Pittsburgh, PA

York Hospital
York, PA

St. Francis Hospital*
Memphis, TN

Baptist Hospital*
Nashville, TN

St. Thomas Hospital*
Nashville, TN

Vanderbilt University Hospital and Clinic*
Nashville, TN

Presbyterian Hospital
Dallas, TX

St. Joseph Hospital*
Houston, TX

St. Luke's Episcopal Hospital*
Houston, TX

Methodist Hospital*
Lubbock, TX

Santa Rosa Health Care Corporation
San Antonio, TX

Nonprofit Medium Size Hospitals (cont'd):

Swedish Hospital Medical Center* Seattle, WA
Sacred Heart Medical Center* Spokane, WA
St. Joseph's Hospital Marshfield, WI
Sinai Samaritan Medical Center* Milwaukee, WI

Note. * = CENs Who Returned the Survey From These Hospitals

Nonprofit Small Size Hospitals:

Carraway Methodist Medical Center*
Birmingham, AL

St. Vincent's Hospital*
Birmingham, AL

Jackson Hospital and Clinic*
Montgomery, AL

Scottsdale Memorial Hospital*
Scottsdale, AZ

Walter O. Boswell Memorial Hospital
Sun City, AZ

St. Mary's Hospital and Health Center
Tuxcon, AZ

Sparks Regional Medical Center*
Fort Smith, AZ

St. Bernard's Regional Medical Center*
Jonesboro, AZ

Seton Medical Center*
Daly City, CA

Glendale Adventist Medical Center
Glendale, CA

Daniel Freeman Marina Hospital
Marina Del Rey, CA

St. Mary's Hospital and Medical Center
San Francisco, CA

Northridge Hospital Medical Center
Northridge, CA

San Antonio Community Hospital*
Upland, CA

Torrance Memorial Medical Center
Torrance, CA

Little Company of Mary Hospital
Torrance, CA

Nonprofit Small Size Hospitals (cont'd):

St. Joseph's Medical Center
Stockton, CA

Santa Barbara Cottage Hospital
Santa Barbara, CA

O'Connor Hospital
San Jose, CA

Mercy Hospital and Medical Center*
San Diego, CA

Good Samaritan Hospital of Santa Clara
San Jose, CA

Sutter Memorial Hospital*
Sacramento, CA

Queen of Angels*
Los Angeles, CA

White Memorial Medical Center*
Los Angeles, CA

St. Francis Medical Center
Lynwood, CA

San Pedro Peninsula Hospital
Los Angeles, CA

Valley Presbyterian Hospital
Van Nuys, CA

Porter Memorial Hospital*
Denver, CO

St. Mary-Corwin Hospital Regional Medical Center
Pueblo, CO

St. Vincent's Medical Center
Bridgeport, CT

Manchester Memorial Hospital*
Manchester, CT

Norwalk Hospital
Norwalk, CT

Nonprofit Small Size Hospitals (cont'd):

St. Francis Hospital
Wilmington, DE

George Washington University Hospital
Washington, DC

Sibley Memorial Hospital*
Washington, DC

JFK Medical Center
Atlantis, FL

Boca Raton Community Hospital*
Boca Raton, FL

Holy Cross Hospital*
Fort Lauderdale, FL

Alachua General Hospital*
Gainesville, FL

Leesburg Regional Medical Center
Leesburg, FL

Baptist Hospital of Miami*
Miami, FL

Mercy Hospital*
Miami, FL

South Miami Hospital
Miami, FL
Sacred Heart Hospital of Pensacola
Pensacola,FL

University Hospital*
Tamarac, FL

Naples Community Hospital*
Naples, FL

Venice Hospital
Venice, FL

Indian River Memorial Hospital
Vero Beach, FL

Nonprofit Small Size Hospitals (cont'd):

Winter Haven Hospital*
Winter Haven, FL

Saint Joseph's Hospital of Atlanta
Atlanta, GA

The Medical Center
Columbus, GA

Northeast Georgia Medical Center
Gainesville, GA

Queen's Medical Center*
Honolulu, HI

Memorial Hospital*
Belleville, IL

St. Elizabeth's Hospital
Belleville, IL

Bromenn Health Care
Bloomington, IL

Columbus Hospital*
Chicago, IL

Grant Hospital of Chicago*
Chicago, IL

Holy Cross Hospital*
Chicago, IL

South Chicago Community Hospital
Chicago, IL

St. James Hospital Medical Center
Chicago Heights, IL

United Samaritans Medical Center*
Danville, IL

St. Mary's Hospital
Decatur, IL

Good Samaritan Hospital*
Downers Grove, IL

Nonprofit Small Size Hospitals (cont'd):

St. Francis Hospital*
Evanston, IL

Methodist Medical Center of Illinois*
Peoria, IL

Swedishamerican Hospital*
Rockford, IL

Covenant Medical Center*
Urbana, IL

Victory Memorial Hospital*
Waukegan, IL

Saint Therese Medical Center*
Waukegan, IL

St. Anthony Medical Center*
Crown Point, IN

Welborn Memorial Baptist Hospital*
Evansville, IN

Lutheran Hospital of Indiana*
Fort Wayne, IN

North Central Indiana Health System*
Fort Wayne, IN

Reid Memorial Hospital*
Richmond, IN

St. Joseph's Medical Center
South Bend, IN

Burlington Medical Center*
Burlington, IA

Mercy Medical Center*
Cedar Rapids, IA

Iowa Lutheran Hospital
Des Moines, IA

Marian Health Center*
Sioux City, IA

Nonprofit Small Size Hospitals (cont'd):

St. Luke's Regional Medical Center
Sioux City, IA

Covenant Medical Center*
Waterloo, IA

Bethany Medical Center
Kansas City, KS

St. Francis Hospital and Medical Center
Topeka, KS

Stormont-Vail Regional Medical Center*
Topeka, KS

King's Daughters' Medical Center*
Ashland, KY

Good Samaritan Hospital*
Lexington, KY

St. Joseph Hospital*
Lexington, KY

Baptist Hospital East*
Louisville, KY

Jewish Hospital*
Louisville, KY

Regional Medical Center of Hopkins County
Madisonville, Ky

Western Baptist Hospital*
Paducah, KY

Rapides Regional Medical Center*
Alexandria, LA

Our Lady of the Lake Regional Medical Center
Baton Rouge, LA

Pendleton Memorial Methodist Hospital*
New Orleans, LA

Touro Infirmary
New Orleans, LA

Nonprofit Small Size Hospitals (cont'd):

Eastern Maine Medical Center*
Bangor, ME

Anne Arundel Medical Center*
Annapolis, MD

Franklin Square Hospital Center*
Baltimore, MD

Greater Baltimore Medical Center*
Baltimore, MD

Sinai Hospital of Baltimore*
Baltimore, MD

St. Agnes Hospital of Baltimore
Baltimore, MD

Prince George's Hospital Center
Cheverly, MD

Washington Adventist Hospital
Takoma Park, MD

St. Joseph Hospital*
Towson, MD

Carney Hospital*
Boston, MA

St. Elizabeth's Hospital of Boston
Brighton, MA

University Hospital*
Boston, MA

Atlanticare Medical Center*
Lynn, MA

Holy Family Hospital and Medical Center
Methuen, MA

Walthamweston Hospital and Medical Center*
Waltham, MA

St. Luke's Hospital of New Bedford*
Bedford, MA

Nonprofit Small Size Hospitals (cont'd):

St. Vincent Hospital*
Worcester, MA

Hutzel Hospital*
Detroit, MI

Botsford General Hospital
Farmington Hills, MI

Flint Osteopathic Hospital*
Flint, MI

St. Joseph Hospital
Flint, MI

Blodgett Memorial Medical Center*
Grand Rapids, MI

W. A. Foote Memorial Hospital*
Jackson, MI

Marquette General Hospital*
Marquette, MI

Midmichigan Regional Medical Center
Midland, MI

St. Joseph Mercy Hospital
Pontiac, MI

Hackley Hospital
Muskegon, MI

Providence Hospital*
Southfield, MI

Mercy-Memorial Medical Center
St. Joseph, MI

St. Mary's Medical Center
Duluth, MN

North Memorial Medical Center*
Robbinsdale, MN

St. Cloud Hospital*
St. Cloud, MN

Nonprofit Small Size Hospitals (cont'd):

St. Paul-Ramsey Medical Center
St. Paul, MN

St. Dominic-Jackson Memorial Hospital
Jackson, MS

Menorah Medical Center*
Kansas City, MO

Trinity Lutheran Hospital*
Kansas City, MO

St. Mary's Health Center
St. Louis, MO

Missouri Baptist Medical Center
Town & Country, MO

Montana Deaconess Medical Center
Great Falls, MT

Bishop Clarkson Memorial Hospital*
Omaha, NE

Washoe Medical Center*
Reno, NV

Mary Hitchcock Memorial Hospital
Hanover, NH

Clara Maass Medical Center
Belleville, NJ

Cooper Hospital-University Medical Center*
Camden, NJ

Dover General Hospital and Medical Center*
Dover, NJ

St. Clares-Riverside Medical Center*
Denville, NJ

Christ Hospital*
Jersey City, NJ

Jersey City Medical Center*
Jersey City, NJ

Nonprofit Small Size Hospitals (cont'd):

Monmouth Medical Center*
Long Branch, NJ

Mountainside Hospital*
Montclair, NJ

Memorial Hospital of Burlington County
Mount Holly, NJ

Jersey Shore Medical Center
Neptune, NJ

Saint Michael's Medical Center*
Newark, NJ

United Hospitals Medical Center
Newark, NJ

Medical Center of Ocean County
Point Pleasant, NJ

Valley Hospital
Ridgewood, NJ

Holy Name Hospital
Teaneck, NJ

Helene Fuld Medical Center
Trenton, NJ

St. Francis Medical Center
Trenton, NJ

Zurbrugg Memorial Hospital
Willingboro, NJ

Presbyterian Hospital*
Albuquerque, NM

St. Peter's Hospital*
Albany, NY

Southside Hospital*
Bay Shore, NY

Mercy Hospital
Buffalo, NY

Nonprofit Small Size Hospitals (cont'd):

Glens Falls Hospital*
Glens Falls, NY

Huntington Hospital*
Huntington, NY

Booth Memorial Medical Center*
Flushing, NY

St. Barnabas Hospital*
Bronx, NY

St. Vincent's Medical Center of Richmond
Staten Island, NY

Niagara Falls Memorial Medical Center
Niagara Falls, NY

Brookhaven Memorial Hospital Medical Center*
Patchogue, NY

Champlain Valley Physicians Hospital
Plattsburgh, NY

Genesee Hospital
Rochester, NY

Ellis Hospital*
Schenectady, NY

St. John's Episcopal Hospital-Smithtown
Smithtown, NY

White Plains Hospital Center*
White Plains, NY

Memorial Mission Hospital*
Asheville, NC

Cabarrus Memorial Hospital*
Concord, NC

Gaston Memorial Hospital
Gastonia, NC

St. Luke's Hospitals-Meritcare*
Fargo, ND

Nonprofit Small Size Hospitals (cont'd):

Akron General Medical Center
Akron, OH

Timken Mercy Medical Center*
Canton, OH

Bethesda Oak Hospital*
Cincinnati, OH

Mount Sinai Medical Center*
Cincinnati, OH

Saint Luke's Hospital
Cincinnati, OH

Grant Medical Center*
Columbus, OH

Meridia Euclid Hospital*
Euclid, OH

Lakewood Hospital
Lakewood, OH

Lake Hospital System
Willoughby, OH

U. S. Health Corporation of Southern Ohio*
Portsmouth, OH

Mercy Medical Center*
Springfield, OH

Hillcrest Medical Center*
Tulsa, OK

Sacred Heart General Hospital
Eugene, OR

Rogue Valley Medical Center
Medford, OR

Emanuel Hospital and Health Center*
Portland, OR

Good Samaritan Hospital and Medical Center*
Portland, OR

Nonprofit Small Size Hospitals (cont'd):

Providence Medical Center*
Portland, OR

Abington Memorial Hospital*
Abington, PA

The Medical Center*
Beaver, PA

Bryn Mawr Hospital
Bryn Mawr, PA

Holy Spirit Hospital*
Camp Hill, PA

Delaware County Memorial Hospital
Drexel Hill, PA

Westmoreland Hospital*
Greensburg, PA

Penn State University Hospital*
Hershey, PA

Conemaugh Valley Memorial Hospital
Johnstown, PA

St. Joseph Hospital and Health Care Center*
Lancaster, PA

McKeesport Hospital*
McKeesport, PA

Forbes Regional Health Center*
Monroeville, PA

Frankford Hospital of City of Philadelphia*
Philadelphia, PA

Hospital of Medical College of Pennsylvania
Philadelphia, PA

Lankenau Hospital
Philadelphia, PA

Montefiore, Hospital
Pittsburgh, PA

Nonprofit Small Size Hospitals (cont'd):

Robert Packer Hospital
Sayre, PA

St. Joseph Hospital
North Providence, RI

Kent County Memorial Hospital
Warwick, RI

Anderson Memorial Hospital
Anderson, SC

Roper Hospital
Charleston, SC

Baptist Medical Center-Columbia
Columbia, SC

McKennan Hospital*
Sioux Falls, SD

Holston Valley Hospital and Medical Center*
Kingsport, TN

Fort Sanders Regional Medical Center*
Knoxville, TN

Hendrick Medical Center
Abilene, TX

Arlington Memorial Hospital
Arlington, TX

Seton Medical Center
Austin, TX

St. David's Hospital
Austin, TX

St. Elizabeth Hospital
Beaumont, TX

Methodist Medical Center
Dallas, TX

Valley Baptist Medical Center*
Harlingen, TX

Nonprofit Small Size Hospitals (cont'd):

St. Mary of the Plains Hospital*
Lubbock, TX

Baptist Medical Center
San Antonio, TX

Scott and White Memorial Hospital*
Temple, TX

Wadley Regional Medical Center*
Texarkana, TX

Utah Valley Regional Medical Center
Provo, UT

LDS Hospital*
Salt Lake City, UT

Medical Center Hospital of Vermont*
Burlington, VT

Alexandria Hospital*
Alexandria, VA

Memorial Hospital of Danville
Danville, VA

DePaul Medical Center*
Norfolk, VA

Richmond Memorial Hospital
Richmond, VA

St. Mary's Hospital*
Richmond, VA

Winchester Medical Center*
Winchester, VA

Deaconess Medical Center-Spokane*
Spokane, WA

Southwest Washington Hospitals*
Vancouver, WA

St. Mary's Hospital
Huntington, WV

Nonprofit Small Size Hospitals (cont'd):

Ohio Valley Medical Center* Wheeling, WV
St. Mary's Hospital Medical Center* Madison, WI
St. Mary's Hospital* Milwaukee, WI
St. Peter Hospital Olympia, WA

Note. * = CENs Who Returned the Survey From These Hospitals

Appendix D

Sample of Survey Instrument

NATIONAL SURVEY ON APPLICABILITY OF THE BALDRIGE AWARD CRITERIA TO QUALITY PATIENT CARE

The purpose of this research study is to learn the applicability of the Baldrige Award Criteria to **QUALITY PATIENT CARE.** We are not asking you to evaluate your own institution. The study replicates as accurately as possible the Award's 32 criteria, yet the purposes, directions, and processes of this research are entirely independent from the National Award's office. A succinct summary of the nature of Malcolm Baldrige Award is included for background information.

Considering the prestige and popularity of the Baldrige Award in the field of business, it is possible that the uses and/or misuses of the Award's criteria could become part of the hospital scene before data about their relevance are available. We hope that our study could provide information that could be useful to nursing management across the nation.

You may be assured of complete anonymity and confidentiality. The questionnarie has an identification number for mailing purposes only. Your name will be removed from the mailing list when your questionnaire is returned so that subsequent mailings will not be sent to you. Your answers will be combined with those of many others and used only for statistical analysis.

SECTION I

To what degree, as the chief executive nurse, do you think that the following criteria are applicable to the evaluation of quality patient care delivered in hospitals? For each criterion, indicate your opinion on its applicability by selecting a number on the scale that ranges from highest applicability (7) to lowest applicability (1). The questions, while not in quotation marks, are identical to those that are published by the National Award's Office. Please circle the number that most closely approximates your answer.

LEADERSHIP

1. Senior executives' leadership, personal involvement, and visibility in developing and maintaining an environment for quality excellence.

(Highest) 7 6 5 4 3 2 1 (Lowest)

2. The institution's quality values, how they are projected in a consistent manner, and how adoption of the values throughout the institution is determined and reinforced.

7 6 5 4 3 2 1

3. How the quality values are integrated into day-to-day leadership, management, and supervision of all institutional units.

7 6 5 4 3 2 1

4. How the institution extends its quality leadership to the external community and includes its responsibilities to the public for health, safety, environmental protection, and ethical practice in its quality policies and improvement activities.

7 6 5 4 3 2 1

INFORMATION AND ANALYSIS

5. The institution's base of data and information used for planning, day-to-day management, and evaluation of quality, and how data and information reliability, timeliness, and access are assured.

7 6 5 4 3 2 1

6. The institution's approach to selecting quality-related competitive comparisons and world-class benchmarks to support quality planning, evaluation, and improvement.

7 6 5 4 3 2 1

7. How data and information are analyzed to support the institution's overall quality objectives.

7 6 5 4 3 2 1

STRATEGIC QUALITY PLANNING

8. The institution's strategic quality planning process for short-term (1-2 years) and longer-term (3 years or more) quality leadership and customer satisfaction.

7 6 5 4 3 2 1

9. The institution's goals and strategies and principal quality plans for the short term (1-2 years) and longer-term (3 years or more).

7 6 5 4 3 2 1

HUMAN RESOURCE UTILIZATION

10. How the institution's overall human resource management effort supports its quality objectives.

7 6 5 4 3 2 1

11. The means available for all employees to contribute effectively to meeting the institution's quality objectives and trends, and current levels of involvement.

7 6 5 4 3 2 1

12. How the institution decides what quality education and training is needed by employees, how it utilizes the knowledge and skills acquired, and the types of quality education and training received by employees in all employee categories.

7 6 5 4 3 2 1

13. How the institution's recognition and performance measurement processes support quality objectives and trends in recognition.

7 6 5 4 3 2 1

14. How the institution maintains a work environment conducive to the well-being and growth of all employees and trends and levels in key indicators of well-being and morale.

7 6 5 4 3 2 1

QUALITY ASSURANCE OF PRODUCTS AND SERVICES

15. How new and/or improved products and services are designed and introduced and how processes are designed to meet key product and service quality requirements.

7 6 5 4 3 2 1

16. How the processes used to produce the institution's products and services are controlled.

7 6 5 4 3 2 1

17. How the processes used to produce products and services are continuously improved.

7 6 5 4 3 2 1

18. How the institution assesses the quality of its systems, processes, practices, products and services.

7 6 5 4 3 2 1

19. Documentation and other modes of knowledge preservation and knowledge transfer to support quality assurance, quality assessment, and quality improvement.

7 6 5 4 3 2 1

20. Process quality, quality assessment, and quality improvement activities for business processes and support services.

7 6 5 4 3 2 1

21. How the quality of materials, components, and services furnished by other sources is assured, assessed, and improved.

7 6 5 4 3 2 1

QUALITY RESULTS

22. Trends in quality improvement and current quality levels for key product and service features and comparison of the institution's current quality levels with those of competitors.

7 6 5 4 3 2 1

23. Trends in quality improvement and current quality levels for business processes, operations, and support services.

7 6 5 4 3 2 1

24. Trends and levels in quality of suppliers and services furnished by other companies and comparison of the institution's supplier quality with that of competitors and with benchmark institutions.

7 6 5 4 3 2 1

CUSTOMER SATISFACTION

25. How the institution determines current and future customer requirements and expectations.

7 6 5 4 3 2 1

26. How the institution provides effective management of its relationships with its customers and uses information gained from customers to improve products and services as well as its customer relationship management practices.

7 6 5 4 3 2 1

27. The institution's standards governing the direct contact between its employees and customers and how these standards are set and modified.

7 6 5 4 3 2 1

28. The institution's commitments to customers on its explicit and implicit promises underlying its products and services.

7 6 5 4 3 2 1

29. How the institution handles complaints, resolves them, and uses complaint information for quality improvement and for prevention of recurrence of problems.

7 6 5 4 3 2 1

30. The institution's methods for determining customer satisfaction information is used in quality improvement, and how methods for determining customer satisfaction are improved.

7 6 5 4 3 2 1

31. Trends in the institution's customer satisfaction and in indicators of adverse customer response.

7 6 5 4 3 2 1

32. A comparison of the institution's customer satisfaction results and recognition with those of competitors that provide similar products and services.

7 6 5 4 3 2 1

SECTION II

Please circle the answer that most closely represents your opinion on the following question:

33. Up until the time of the receipt of this survey, to what extent were you aware of the Malcolm Baldrige National Quality Award (MBNQA)?

Very Aware	Somewhat Aware	Not Aware
3	2	1

SECTION III

Please answer the following questions:

34. Are there additional criteria that you feel are important for measuring quality patient care that have not been described in each of the seven categories?

Leadership:_____

_____

_____

Information and analysis:_____

_____

_____

Strategic quality planning:_____

_____

_____

Human resource utilization:_____

_____

_____

Quality assurance of products and services:_____

_____

_____

Quality results:_____

_____

_____

Customer satisfaction:_____

_____

_____

35. Are there additional criteria that you feel are important for measuring quality patient care?_____

_____

_____

36. Overall, what are the strengths of the MBNQA criteria in their applicability in measuring quality patient care?_____

_____

_____

37. Overall, what are the weaknesses of the MBNQA criteria in their applicability in measuring quality patient care?_____

_____

_____

Please check here _____ if you wish a summary of this study. Thank you very much for your assistance.

Again, thank you for your time and assistance.

Dr. Richard I. Miller
Professor, Higher Education
Ohio University

Joan P. Moser, RN, MLHR
Project Director
Ohio University

Appendix E

First Cover Letter Sent to CENs

Ohio University

School of Applied Behavioral Sciences
and Educational Leadership
201 McCracken Hall
Ohio University
Athens, Ohio 45701-2979
614/593-4440

College of Education

November 5, 1991

Dear Nurse Executive:

You have been selected from a national random sample of nurse executives to complete a questionnaire that will study the applicability of the Malcolm Baldrige National Quality Award's criteria to health care organizations. A flyer on the MBNQA is attached. In order that the results will represent the thinking of nurse executives across the nation, it is important that each questionnaire be completed and returned.

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. Your name will be removed from the mailing list when your questionnaire is returned so that subsequent mailings will not be sent to you. Your answers will be combined with those of many others and used only for statistical analysis.

We would be most happy to answer any questions you might have. Please write or call (614) 888-5169.

Thank you for your assistance.

Very truly yours,

Dr. Richard I. Miller
Professor, Higher Education
Ohio University

Joan P. Moser, RN, MLHR
Project Director
Ohio University

Appendix F

Malcolm Baldrige National Quality Award Brochure

1990 AWARD WINNERS

Cadillac Motor Car Division

- Employs 10,000 people at its Detroit-area headquarters, four Michigan-based manufacturing plants, and 10 sales and service zone offices in the United States.

- Credits implementation of simultaneous engineering and the involvement of employees in the running of the business as key factors in reversing its decline in market share and improving customer satisfaction.

IBM Rochester

- Employs over 8,100 people in Rochester, Minnesota.

- Cites initiatives in benchmarking and involvement of customers and suppliers in all aspects of the product from design to delivery, as keys to assuring its products meet quality goals.

Federal Express Corporation

- Is headquartered in Memphis, Tennessee, employs more than 90,000 at over 1,650 sites worldwide, and processes 1.5 million shipments daily.

- Attributes its success in achieving high customer satisfaction to adoption of a People-Service-Profit management philosophy and close scrutiny of performance using 12 Service Quality Indicators.

Wallace Co., Inc.

- Employs 280 associates at its Houston headquarters and nine branch offices located in Texas, Louisiana, and Alabama.

- Cites a commitment to continuous quality improvement and building new partnerships with customers and suppliers as keys to reaching its overriding goal of total customer satisfaction.

1989 AWARD WINNERS

Milliken & Company

Xerox Corporation
Business Products and Systems

1988 AWARD WINNERS

Motorola Inc.

Commercial Nuclear Fuel Division
Westinghouse Electric Corporation

Globe Metallurgical Inc.

Malcolm Baldrige
National Quality Award

Managed By
United States Department of Commerce
National Institute of Standards and Technology
Gaithersburg, MD 20899

Malcolm Baldrige
National Quality Award

The improvement of quality in products and the improvement of quality in service—these are national priorities as never before.

George Bush

1991

QUALITY

The quality of U.S. goods and services is central) the Nation's trade, competitiveness, and standard of ving. Some U.S. firms are rising to the challenge of ie quality imperative. They are working hard to meet ie ever increasing requirements of customers who ow have broader market choices. More businesses ust join in the quality improvement effort to help iemselves—and the Nation—in the quest for cellence.

NATIONAL QUALITY AWARD

As part of the national quality improvement mpaign, industry and government have joined gether to establish an Award for quality—the falcolm Baldrige National Quality Award.

The Award:
- recognizes quality excellence
- promotes greater quality awareness

The Malcolm Baldrige National Quality Award, eated by public law, is the highest level of national cognition for quality that a U.S. company can ceive.

Presentation of Awards is made each year in the ll.

CONFIDENTIALITY

Information contained in applications or otained during site visits will be regarded as confidenal. It will not be released or used for any purpose her than the examination process without written nsent of the applicant.

CATEGORIES

Awards can be made to qualifying companies in each of the following categories:

- Manufacturing
- Service
- Small Business

A maximum of two Awards per category may be given each year.

Award recipients may publicize and advertise receipt of the Award, provided they agree to share information about their successful quality strategies with other U.S. organizations.

APPLICATIONS

Applicants must submit a comprehensive written application and must agree to an on-site verification visit.

Application materials can be obtained by contacting:

Malcolm Baldrige National Quality Award
National Institute of Standards and Technology
(formerly National Bureau of Standards)
Gaithersburg, MD 20899
Telephone (301) 975-2036
Fax (301) 948-3716

ELIGIBILITY

Privately- or publicly-owned businesses located in the United States are eligible to apply for the Award.

Subsidiaries of companies may apply if they primarily serve either the public or businesses other than the parent company and if they meet certain size requirements. Applicants are required to obtain a determination of eligibility for the year in which an

CRITERIA

Applications must address seven examination categories:

Leadership: The senior executives' success in creating and sustaining a quality culture.

Information and Analysis: The effectiveness of the company's collection and analysis of information for quality improvement and planning.

Strategic Quality Planning: The effectiveness of integration of quality requirements into the company's business plans.

Human Resource Utilization: The success of the company's efforts to realize the full potential of the work force for quality.

Quality Assurance: The effectiveness of the company's systems for assuring quality control of all operations.

Quality Assurance Results: The company's results in quality achievement and quality improvement, demonstrated through quantitative measures.

Customer Satisfaction: The effectiveness of the company's systems to determine customer requirements and demonstrated success in meeting them.

FEES

There is a graduated fee structure for the Award application. A basic application fee is required of all applicants. Higher fees are set if additional information is needed to describe the quality process for distinctly different product lines, service lines, or business units. Costs of site visits are borne by the applicant.

The application fee structure is announced each December. The basic application fees for 1991 are: $3,000 for Manufacturing and Service categories and $1,000 for the Small Business category.

Appendix G

Second Cover Letter Sent to CENs

Ohio University

School of Applied Behavioral Sciences
and Educational Leadership
201 McCracken Hall
Ohio University
Athens, Ohio 45701-2979
614/593-4440

College of Education

November 15, 1991

Dear Nurse Executive:

This correspondence follows our earlier invitation for you to participate in our national study you determine the applicability of the criteria of the Malcolm Baldrige National Quality Award. As of today we have not yet received your completed questionnaire.

We are writing to you again because of the significance each questionnaire has to the usefulness of this study. Your name was drawn through a scientific sampling process in which every hospital in the population had an equal chance of being selected. In order for the results of this study to be truly representative of the opinions of nursing executives, it is essential that each person in the sample return their questionnaire.

In the event that your questionnaire has been misplaced, a replacement is enclosed.

Your cooperation is greatly appreciated.

Cordially,

Dr. Richard I. Miller
Professor, Higher Education
Ohio University

Joan P. Moser, RN, MLHR
Project Director
Ohio University

Appendix H

Third Cover Letter Sent to CENs

Ohio University

School of Applied Behavioral Sciences
and Educational Leadership
201 McCracken Hall
Ohio University
Athens, Ohio 45701-2979
614/593-4440

College of Education

December 2, 1991

Dear Nurse Executive:

Sometime ago you were invited to complete a national survey of the applicability of the Malcolm Baldrige National Quality Award criteria to hospitals. We have not as yet received your completed survey. Even though you must be very busy at this time, we are requesting your assistance.

Your hospital was selected as part of a random sample and therefore, our research will be more meaningful if we can include your response in our study. The survey questionnaire will require very little time and seeks information which you can provide without further research or investigation.

We would be very appreciative if you could complete and mail the survey by December 15, 1991. You will be making a timely contribution to a research topic which appears to have significant national interest.

We would be most happy to answer any questions. Please write or call (614) 888-5169 or (614) 261-5438.

Thank you for your time and assistance.

Dr. Richard I. Miller
Professor, Higher Education
Ohio University

Joan P. Moser, RN, MLHR
Project Director
Ohio University

Appendix I

CENs' Unedited Comments

Leadership Category

"How individual staff members maintain personal and professional autonomy and leadership in providing patient services."

"Program excellent, however health care is a highly regulated business which leaves little room for innovation."

"In health care, leadership needs to include medical leadership as well."

"Absolutely needed is top (senior executive) involvement -- visibly and continuously."

"Participation in community and professional activities outside of institution, both of leader and the support leader gives to staff participation."

"Methods for identifying leadership. -- on quality important results."

"Reporting relationships -- involvement with Board of Trustees."

"Medical staff."

"Include a TQM program."

"Local, regional, national, international."

"To be part of the incumbent's performance appraisal."

"No, except involvement of CEO and corporate officers should be made explicit."

"What opportunities does the CEO provide for his/her

Leadership Category (cont'd)

management team and how are those opportunities transmitted/integrated with employees."

"The extent of involvement of MDs in improving process."

"Front-line management's involvement and responsibility in resolving issues at a department level."

"Commitment and involvement at all levels of leadership."

"What structures that have been developed to facilitate TQM."

"Articulation of a vision."

"Three management entities -- Hospital administrator, physicians, Nursing -- which must work cooperatively and integratively."

"Does mission statement match goals and objectives regarding patient care and customer focus?"

"Innovation."

"Visibility, credibility, vision, communication."

"Knowledge by senior managers of continuous quality management skills and techniques."

"M.D. Input. Outcome measures of quality."

"Participation in provision of community resources to improve health care."

"I believe these criteria are important -- I have not a clue as to the appropriate way to measure them. I am highly

Leadership Category (cont'd)

skeptical of the ability of Malcolm Baldrige Award process in this area. Involvement and commitment by Board of Trustees and education of medical staff."

"Board involvement."

"Involvement in the community. Partnership with MDs/ Hospital Administrator/Trustees."

"Is the Senior Executive's vision clear to the employees."

"How are adverse financial situations handled, (i.e. are layoffs -- people traumas avoided and cuts made in nonhuman areas?"

"The leadership must be consistent and not give mixed messages. They must behave as role models."

"The relationship between hospital leadership and medical staff as it relates to quality."

"Integrity."

"Regulatory outcomes affect quality."

Information & Analysis

"Results of Hospital Survey data from JCAHO."

"What you can spend and how you can spend it is usually limited to tight little boxes."

"Information in health care often doesn't have the same relationship as industry, i.e. no relationship between cost and reimbursement."

"Clinical and financial data available to providers for

Information & Analysis (cont'd)

daily decision making in the delivery of care."

"Ability to provide quality care within proper length of stay."

"Important, but less, so than the amount of time and energy needed in the other two areas."

"Develop standards and identify electronic exceptions and report."

"Ability of the key outcomes to specific process/system."

"The validity of data. Same information from different sources provides different results or numbers. Data should reflect real, actual situation."

"Sharing of data with all employees."

"Separate internal/external problems utilization of process vs outcome analysis."

"Assessment of how far down into the organization the information travels re: quality patient care."

"Ability to measure key service factors; analyze impact of new services (product)."

"Data decision making."

"Usefulness of data."

"Use of interactive systems to provide direct communication and access by health care workers."

"Less emphasis should be here."

"Knowing how difficult it is to get benchmarks and the

Information & Analysis (cont'd)

questionable reliability of such things as information control rate, I am dubious about this, too."

"Utilization of information gathered through anenvironment assessment."

"Consistent feedback to all involved on findings."

"Simple methods for collecting quality information, i.e. computer charting process flag unmet standards and generate exception report, track overtime."

"Systems are not well defined and developed in health to assess process."

"Integrity of financial data is essential. The statistical tools chosen must be appropriate to the type of data. Appropriate knowledge level for analysis of SPC data is paramount."

"Is information readily provided in an understandable format for all employees."

"Must be user friendly, honest, and not be another way to set someone up."

"Use of computer is certainly up and coming."

"Information system via computerization for data analysis and user friendly."

"Are all dependent given equal access and are design applicable to each department."

Strategic Quality Planning

"Extent of employee involvement. Does the plan relate

Strategic Quality Planning (cont'd)

to issues in patient care, human resources. Evidence that planning occurs throughout the organization."

"Good solid planning is difficult because most of the time you are justifying your existence to some regulatingagency."

"Many items in the environment over which we have no control, i.e. state and federal regulations, makes long range planning difficult. Therefore, flexibility must be built in."

"All levels of organization must determine who their customers are and where they exist. Then a vision can begin to be developed across the organization."

"Involvement of Nursing leaders in all long range planning that affects patients -- person responsible for nursing must have a voice in decisions that affect patient care outcomes."

"Include physicians."

"Budget for adequate resources to develop TQM and maintain the program."

"The integration of quality issues with the strategic plan as it relates to consumers -- physicians, neighbors."

"Extent of integration of QA with quality improvement."

"Incorporate all levels of staff. Have visionary leadership, not afraid to make mistakes so new approaches can be tried and discarded if need be."

Strategic Quality Planning (cont'd)

"Expected quality outcomes integrated into the business plan."

"Not well done in health care organizations. Competition requires quick changes."

"Does planning model center on patient care qualitystandards (vs financial performance)."

"Defined strategic plan -- developed with participation of medical staff."

"Mission orientation and articulation -- especially as health care organization."

"Review process in place."

"Definition of who is involved in strategic planning."

"Involvement of staff in planning."

"Feedback to all levels in the organization."

"Stakeholder involvement."

"Involvement of community/patients served."

"Has the strategic plan actually resulted in a strategic change?"

"Very important -- well covered."

"Community needs."

"Design should be concise and not grandiose."

Human Resource Utilization

"Mix of professional to nonprofessional, turnover of professional, how many vacancies."

"Academic preparation, certifications, affiliations

Human Resource Utilization (cont'd)

with professional schools."

"Selection and integration of individuals committed to organizational goals."

"Are there satisfaction surveys? Has the institution responded to major employee issues."

"Vacancy or turnover rates for employees. Work redesign and crosstraining should be supported."

"Creativity in solving limited resources or cost issues, i.e. different delivery models."

"Credentials of employees -- must assume that individuals are qualified to meet patient care needs."

"Innovative mechanisms to address shortages "variety of resources"."

"Total quality management process involves all levels of employee/volunteers, etc."

"Employee participation, demonstration, and understanding."

"Recognition of the uniqueness of each disciplines contribution."

"I believe recruitment and retention activities and statistics related to turnover and vacancy rates of professionals and nonprofessional staff are an indicator of quality."

"Provide adequate resource to study plan and make appropriate modifications."

Human Resource Utilization (cont'd)

"70% of leadership time should be spent in activities with employee and customers."

"How involved executive management allows the staff to become."

"There is adequate human resources support budgeted into the quality program."

"Continuous opportunities for growth at all levels ofstaff -- often long term employees do not have continuity education or inservices for their level of skill and knowledge. Most is geared to orientation and new hires/beginning practitioners."

"Do employees verify/validate commitment to value-added patient care activities."

"Appropriateness and distribution of personnel and support service provided to direct patient care functions."

"Employee of choice = provider of choice."

"Employee opinion survey trends demonstrate improved employee satisfaction."

"Turnover rate and vacancy rate."

"Very important area but nothing to add to listed criteria."

"There needs to be standards accepted in the industry which matches traditional indicators of financial stability (# of discharges/FTEs, occupied beds) and patient acuity vs mix in determining care/staffing needs."

Human Resource Utilization (cont'd)

"My concern about all the criteria relate to how they in fact get measured. It is my understanding that the site visitors look for evidence of compliance. How is this achieved with such criteria as leadership and human resource utilization. Is it all smoke and mirrors?"

"Need to identify staff satisfaction."

"Personnel/HR department is perceived by employees as support, interested in their issues and able to assist inresolving their problems."

"Must provide resources necessary to support goals/initiative. Quality comes with a price (up front). This is fine with me because I know that it costs less in the long run. Treasurer and CEO need to understand this."

"Maintain competency, etc."

"Focus on M.D. credentialing."

"Take into account the impact of unionization."

Products and Services

"Services should be the benchmark rather than products."

"For health care, must be a circular process -- feedback loops must be well-defined."

"Develop criteria that all agree as preferred results with allowances for individual patient responses."

"Inclusion of criteria and measurement for medical staff, as well as multiple service departments."

Products and Services (cont'd)

"Construct attention to quality as defined by the customer."

"Definition of quality beyond the service or product itself to include the impact of the service or product on quality of life and use of health care resources -- prolonging life, etc."

"I'm not sure any of this really assures quality."

"How are physicians delivered and provided services considered within the framework of continuous improvement?"

Quality Results

"Availability of industry information regarding quality outcomes and reliability of reported data."

"Patient care highly variable depending on community and medical staff expectations."

"Outcomes of patient care, i.e. infection rates."

"Need to include clinical/patient care outcomes."

"Patient outcomes."

"From patient perspective as well as providers."

"How the continuous quality improvement processes have improved care."

"Need criteria with acceptable exceptions. Patient and employee satisfaction with outcome results."

"Medical outcome criteria analysis."

"Feed into overall quality measurement by multiple departments and functions."

Quality Results (cont'd)

"Not as a benchmark for complacency but as performance indicators."

"Evidence that QA findings are used to change the system-- i.e. policies, practices, procedures, and teaching emphasis."

"Incorporation of clinical outcomes based on national norms and institutional data."

"Outcome measures."

"It is debatable whether patient care outcomes should be used as criteria for such an award. I believe comparative data sharing improved outcomes and improved processes should be used."

"Available almost immediately and shared with all staff involved."

"Commitment to the process is important to the system."

"Regulatory outcomes."

Customer Satisfaction

"This is important. However the goal is not to set-up a complaints office but exam systems that contribute to complaints. An extremely important indicator."

"Identify the multiple customers a health care facility has. More complex than manufacturing which may be univocal."

"In health care services the MD is also a customer and must be included in strategic planning and satisfaction

Customer Satisfaction (cont'd)

surveys."

"As administrator, I view the physician as my customer and patients as accounts so I tend to view patient care as a product to attract my customer."

"Who is the customer for hospitals now and in the future."

"Customers are not always speaking of issues as understood by health care professionals."

"So variable in patient care."

"How is value of service performed/received calculated."

"Definition of customer satisfaction."

"As perceived as patient satisfaction."

"Most important measured during and after hospitalization."

"Real staffing issues tend to be minimized because of question of 'what are you going to do prevent this from happening again' vs resolving the underlying problem."

"Rewards/pay tied to individual achievements of predefined quality outcomes."

"Careful how these are used. They are opinions about service received. Not data as such."

"Maintaining competency positions allow cross training or be highly selective."

"Cost issues."

Overall Strengths of the MBNQA Criteria

"As a service industry, the model is less precise and measurable than a manufacturing industry, but it covers the majority of the elements we review to evaluate quality."

"Strong but perhaps other special indicators are needed."

"Very applicable. Should be the objectives of all successful businesses."

"Most criteria are highly applicable and are producing quality improvement already."

"Stress on customer satisfaction integrated into future plans for care delivery, continuous quality improvement approach."

"Solid criteria."

"Better measurements than presently used."

"It is useful to adopt mandatory standards and ideas in health care especially with respect to processes."

"Addresses human elements as well as products and supplies."

"Clear, concise, normally accepted."

"Total approach to the delivery of care."

"Surprisingly -- criteria are applicable in total to health care -- I failed to come up with an aspect of health care that was not addressed."

"Excellent."

"For process."

Overall Strengths of the MBNQA Criteria (cont'd)

"They serve as a goal toward which institutions can focus their activities."

"This could significantly advance the way quality is measured in hospitals."

"All concepts are covered with strategic emphasis."

"Work well in any service organization."

"Emphasis on customer satisfaction and quality assurance results."

"This is not yet clear to me. In some respects, these criteria may measure the process of improving quality but research does not assure ?????"

"I feel the emphasis on outcome and improvement is the strength."

"Strength of thorough analysis in terms of process, structure, systems, outcomes."

"Focus on outcome."

"Quality oriented across all levels."

"Reflect the importance of employees and their contributions as well as the customer. The customer is the purpose of the business."

"Broad base of criteria, i.e. 7 categories. Allows individuality of method to achieve quality improvement via the criteria."

"Seven examination categories are very appropriate to any service or manufacturing process. I have been the

Overall Strengths of the MBNQA Criteria (cont'd)

overall MBNQA criteria. these that have been excepted for health care are very appropriate."

"Attempt to be objective."

"Global."

"Overall judge of quality consistent with other industries."

"Salient, focused criteria."

"Just fine as I see it."

"Objectivity and integratedness."

"Customer orientation."

"Nice general overview of what quality is."

"Looks at management's top level. Commitment to performance starts there."

"Considers all areas."

"Seems to be encompassing, very well known and accepted by public as the Oscar For Quality."

"Strength is in customer satisfaction and internal trends of quality improvement."

"Very applicable."

"Comprehensive."

"Continuous focus on improving patient care and increase patient and MD satisfaction."

"Very appropriate to quality of patient care."

"Ensures that all departments which support care

Overall Strengths of the MBNQA Criteria (cont'd)

providers focus on quality."

"Satisfaction more and more is equating to quality. If you have a satisfied customer --MD, patient, family, and employee -- they equate service delivered as high quality."

"The criteria follows the Total Quality Management process and is all inclusive."

"The emphasis on leadership, measuring outcomes, human resource development, planning, etc. all components of TQM."

"Limited. The issue is whether or not the patient was (a) diagnosis properly, (b) treated properly, (c) benefitted from treatment."

"Provides consistent model for communicating quality improvement data."

"Focuses on process and human resource utilization."

"Systematic and comprehensive."

"To fortify the concept that patient care can be quantified as to its quality, perception over improvement. That business principles that have long appear to manufacturing and industry can be applied to health care."

"These criteria broadly cover all significant measure of quality patient care."

"I find difficulty in being able to relate them to the hospital setting."

"Their criteria with minor changes in a few words, describe and sound exactly like what we strive for in health

Overall Strengths of the MBNQA Criteria (cont'd)

care."

"Very applicable as long as interpretation of quality is beyond efficiency and effectiveness of service/product and is expanded to include appropriateness of service ie. is the diagnosis correct, is the treatment correct, and then was it done correctly for X outcome."

"It systematically looks at many elements which influences/impact the quality of patient care."

"The interior cover, the various aspects of quality; at least as much as we are able to identify."

"Provided a sufficient set of categories to consider."

"Emphasis on top management's walking the talk and involvement required by all levels in the organization."

"They focus on customer satisfaction and the role of leadership in creating an environment where quality is delivered."

"They are broad and lend to some flexibility and adaptability."

"Defined process, covering numerous categories."

"Measure the process of continuous quality improvement well."

"There is a striking similarity of objectives for quality improvement for industry and health care."

"Excellent scope of information with which to compare operational strengths, weaknesses, and opportunities for

Overall Strengths of the MBNQA Criteria (cont'd)

improvement."

"The emphasis on the leadership, internalization, and customer satisfaction."

"Although some criteria do not directly measure quality care, they do measure the environment and culture's focus and commitment."

"Strength of MBNQA criteria lies in forcing the process."

"That distinctive areas of quality concern have been identified, and criteria developed."

"Standards by which all services in health care can utilize."

"Attention to process, as well as outcome. Emphasis on contribution of each individual to quality."

Overall Weaknesses of the MBNQA Criteria

"Service vs individual competency; health care is very subjective."

"Lack of awareness with health care executive."

"Large number of variables which can't be controlled."

"Appears to be one-sided and deals only with hospital and hospital staff. Medical staff is also an important component of hospital success and quality patient care."

"For health care more attention is needed to how the patient does clinically (does he recover in appropriate time or suffer complications)."

Overall Weaknesses of the MBNQA Criteria (cont'd)

"Probably need some outcome of care criteria. Although this is difficult and subject to a variety of issues."

"Need to carefully develop criteria for different constituencies."

"Only the fact that objective measurement of health care quality is very difficult (apart from looking at customer satisfaction). Outcomes are difficult to access and they are the most valuable index."

"Does not address any issues of health care costs, fast changing technology."

"Don't easily address outcome, focus too much on process."

"The criteria are fine for assessing quality but do not go far enough in creating stretch goals."

"Would need to use health care terms i.e. 'value-added', 'empowerment', 'caring or care' -- a must."

"There should be criteria relating to the financial viability of hospitals."

"Based on more of a product (hardware-type) situation re: business."

"Benchmarking does not matter in terms of health care like it does with cars. It needs to be good regardless of what Ford does."

"Quality outcome measure as established by patient, physician, government, professional society."

Overall Weaknesses of the MBNQA Criteria (cont'd)

"I do not see them as an end-all but they are really not to be seen as specific clinical quality indicators." "Need to get more quantification rather than qualitative -- somewhat objective."

"Need to determine impact of other regulations on a company's ability to provide the quality care they would like to have if they were not restricted by government."

"Customer is patient ultimately and with a degree of illness can have subjective and emotional responses."

"I haven't worked with these to really be able to offer constructive criticism."

"Seem very subjective. They are general categories, not measurable criteria."

"More outcome focused."

"Is there evidence of continuous commitment to quality? Is process flexible enough for a changing environment?"

"Sometimes difficult to measure quality -- because product is less tangible and more subjective."

"There are so many different small businesses with a hospital setting that contribute to perception of quality by consumer."

"Evaluation of quality clinical outcomes."

"Communicability to the general public."

"Does not speak to the outcome of health care more than merely patient satisfaction."

Overall Weaknesses of the MBNQA Criteria (cont'd)

"Components of quality care needs to be broken down and defined. Maybe a bit conceptual in the statement presentation."

"Should be focused more on outcomes and less on process. Valid external criteria are not existent."

"Clinical outcomes not addressed."

"They don't appreciate the complexity of measuring quality in the area of patient care."

"Emphasis on data -- data is needed for CQI process to work but is part of the process not an outcome into itself."

"Our industry is still for the most part very fractionated with thousands of hospitals and no ability to control the quality of the data."

"Too costly to document."

"Too many intangibles for health care."

"No measurement of patient outcomes."

"Quality is a very elusive concept to measure; we know it when we see it -- sometimes. The criteria don't necessarily get at a total result of quality."

"Lack of considering the MD component."

"The tool for measuring is confusing to me."

"Verbage not easy to apply to a service and the difficulty integrating of assurance."

"The MBNQA is geared toward business and not health care. Greatest measurement of quality in patient care is

Overall Weaknesses of the MBNQA Criteria (cont'd)

the patient is discharged alive and well and all efforts of the team plan is successful."

"Comparable measure maybe difficult."

"Not sure if all these criteria will cover the range of clinical outcomes we look for."

"Future to address clinical quality as opposed to the business and hotel aspect of patient care providers."

"The volume of people/professionals that provide service -- some employees, others are self-employed individuals, i.e. volunteers vs full time MDs."

"Absence of clinical outcomes/clinical decision-making."

"Extremely process oriented."

"Length of time spent in documenting for MBNQA purposes."

"Very industry oriented in language. Outcomes are not always positive in health care but that does not mean quality care was not delivered."

"Only weakness is within each system and whether compliance and improvement is on-going or is one time as occurred at one particular industry."

"Ability to synthesize and apply data to the practice setting."

"Health care still has difficulty with the word customer."

Overall Weaknesses of the MBNQA Criteria (cont'd)

"Providing quality services with limited resources is the real challenge."

"The many parts of health care delivery. It is not a simple process and outcomes may not be favorable regardless of the process."

"They are stated generally."

"Technical measurements might be overlooked."

"Not having used them I didn't know if the criteria reflect the complication of the environment and the multiple customer bases i.e. insurance, doctors, patients, and community."

Additional Criteria Needed

"Demonstrated improvement in patient outcomes -- quality/quantity of life, cost reduction, improved utilization of resources."

"Is there documented evidence in minutes, reports, etc. of discussion of quality, credentials of personnel, continuing education of staff."

"No, very inclusive already."

"Probably something related to quality of life."

"Medical staff credentialing and physicians focus on improving patient care -- success of hospital also dependent on medical staff leadership and communication with hospital staff."

"All criteria are applicable."

Additional Criteria Needed (cont'd)

"Outcomes of care."

"Clinical outcomes."

"Patient outcomes."

"Implementation and results of multidisciplinary QA results of departments -- clinical and nonclinical/resource consumption analysis."

"Patient outcomes."

"Measurement of outcome, mortality, morbidity."

"Employee understanding of and commitment to quality patient care."

"National data not always consistent so need to decide outcome measurement."

"Need to distinguish between professional standards of quality and quality defined by the customer."

"Ability to work with competition for the improvement of quality to the consumer."

"Multidisciplinary team."

"Better definition of customer -- there are five: Patient, staff, MDs, community, shareholders, and how these sometimes conflicting customer needs are balanced."

"Family involvement, patients, staff such as psychological, spiritual, etc. services to help with coping, etc."

"No. I am delighted to see that you are looking at the applicability of the MBNQA criteria to health care

Additional Criteria Needed (cont'd)

organizations."

"Quantifiable criteria; i.e. % of improvement demonstrated in a year."

"Peer review, getting the data into hands of those who are able to make change."

"Community perception of quality of care."

"Evaluation of quality clinical outcomes."

"Mission review -- health status, improvement for the community."

"Outcome measures such as decubitus prevalence, nosocomial infection rates, readmission rates, morbidity, mortality rates."

"Patient orientation-outcomes; patient perceptions. Community recognition through surveys."

"Case mix adjusted mortality/morbidity data."

"Measurement of resource utilization in concert with clinical outcomes."

"MD satisfaction -- employee satisfaction."

"Involved and committed employees and health care providers at all levels."

"Outcome criteria."

"Medical outcomes -- mortality/morbidity; nursing outcomes -- patient education and ability to provide self-care, level of patient participation in care decisions (focus on patient care)."

Additional Criteria Needed (cont'd)

"Patient outcomes; patient returns to the hospital."

"Were the care needs/outcomes of the patient meet in a positive manner and without complications."

"Outcomes."

"Cost of meeting monitoring criteria. Must be considered --I've heard it is very expensive to document all aspects to meet criteria -- include cost is counter to true quality."

"Resource consumption costs."

"How is quality patient care defined? In terms of patient satisfaction or as measured by predetermined standards or both?"

"Clinical outcomes of care."

"Length of stay. Hospitalization does not recur in less than 2 weeks of previous admission."

"Appropriate utilization of resources, i.e. test, quality of life, outcomes, not just did we do the procedure/surgery correctly but should we have done the procedure at all."

"I think the criteria for quality varies so much depending on the view of the MD, staff, or patient. Patients can not judge if they had quality unless something goes wrong. May not have quality even if nothing goes wrong."

"Outcomes of clinical data."

Additional Criteria Needed (cont'd)

"Would employees be admitted themselves or admit theirfamilies to their hospital? What feedback do employees receive when asked where they work?"

"Perhaps more on MD, hospital, board relationships and focus on quality in these relationships."

"Comments from direct care staff in regards of how they feel their professional needs are met."

"Training and education of MD. Credentials of allied health personnel as well."

"Betterment measurement of patient outcomes."

"Inclusion of family/significant others as customers. The degree to which the longer term (beyond the acute, in-hospital episode) is provided for and the use of longer range, quality of life issues as measures of outcome."

"Outcome of service and cost effectiveness."

"Innovation and creativity."

"Outcome measures."

"Presumably organizational values are reflected in the seven categories -- but more definition and emphasis on values that drive behavior would be revealing and inspirational and helpful."

"Patient care outcomes."

"The cost of providing quality patient care; agreed upon definition of quality."

"Clinical outcomes/clinical decision-making."

Additional Criteria Needed (cont'd)

"Consider asking the doctors."

"We provide what the patient feels they need."

"Criteria stated appear comprehensive."

"Evidence of population based approach."

"Outcome criteria -- more emphasis."

"JCAHO accreditation and other regulating accreditations."

"The results of peer review activities."

"Measurement of employee attitudes toward quality improvement and its consistency with the institutions' philosophy."

"Employee satisfaction is key."

"Research"

"Outcomes of care provided by all care givers and not just MDs."

"Clinical outcomes."

"Criteria that has a specific clinical parameters would be important. To measure patient outcomes."

"Technical/medical standards."

"Section of customer evaluation -- active versus statistical analysis."

"Patient outcomes."

Appendix J

Rank of Criteria Mean Scores Showing Differences in Awareness Variable

Criteria	Mean	Rank in Table 2
Leadership.3	6.715	1
Customer Satisfaction.6	6.368	10
Customer Satisfaction.1	6.265	13
Products & Services.4	6.229	14
Human Resources.3	6.166	16
Products & Services.3	6.134	17
Planning.1	6.103	18
Information & Analysis.3	5.945	20
Products & Services.1	5.905	23
Products & Services.2	5.652	29

Appendix J

Mean Scores Based on the Degree of Awareness Variable

	Degree of Awareness		
Criteria	Very Aware	Some Aware	Not Aware
Leadership.3	6.736	6.712	6.743
Customer Satisfaction.6	6.456	6.247	6.358
Customer Satisfaction.1	6.440	6.011	6.315
Products & Services.4	6.392	6.068	6.102
Human Resources.3	6.189	6.058	6.076
Products & Services.3	6.373	5.988	5.871
Planning.1	6.233	5.977	6.000
Information & Analysis.3	6.073	5.796	5.793
Products & Services.1	6.065	5.712	5.794
Products & Services.2	5.926	5.411	5.578