INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

UMI

A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor MI 48106-1346 USA
313/761-4700 800/521-0600

THE EFFECTS OF SOCIAL WORK INTERVENTION ON QUALITY ASSURANCE AND QUALITY IMPROVEMENT OF HOUSESTAFF MEDICAL DOCUMENTATION

by

Anne Danforth Gooding

A dissertation submitted to the Graduate Faculty in Social Welfare in partial fulfillment of the requirements for the degree of Doctor of Social Welfare, The City University of New York

1999

This manuscript has been read and accepted for the Graduate Faculty in Social Welfare in satisfaction of the dissertation requirement for the degree of Doctor of Social Welfare.

December 8, 1998
Date

Michael J Smith
Chair of Examining Committee

December 8, 1998
Date

Executive Officer

Michael Smith

Harold Weissman

Irwin Epstein

Alvin (Hal) H. Strelnick
Supervisory Committee

THE CITY UNIVERSITY OF NEW YORK

ABSTRACT

THE EFFECTS OF SOCIAL WORK INTERVENTION ON QUALITY ASSURANCE AND QUALITY IMPROVEMENT OF HOUSESTAFF MEDICAL DOCUMENTATION

by

ANNE DANFORTH GOODING

Advisor: Professor Michael Smith

This social work led study evaluated a two-part, four hour interactive and participatory seminar on Quality Assurance (QA) for primary care housestaff. The training program was evaluated in terms of its ability to increase their awareness of QA guidelines, increase positive attitudes toward the use of QA terminology and the use of QA guidelines. Two samples were used. The first sample consisted of 24 attending physicians who responded to an open-ended six item questionnaire about what they knew about QA and their attitudes toward its implementation. Findings from the qualitative study indicated that the attending physicians were aware of QA guidelines. Most defined them in terms of monitoring procedures in order to maintain standards of health care. Most thought that the purpose of QA was to maintain standards, although large pluralities also thought that QA could be used to improve resident education or the quality of patient care. The second sample contained 75 members of the housestaff who participated in

the training in four cohorts. Participants were assessed pre- and post-participation on their awareness of and attitude towards QA guidelines. Hypothesis 1, which posited that the program would increase housestaff's awareness of hospital guidelines, was partially supported by the data. Hypothesis 2, which posited that the program would improve housestaff's attitudes toward the use of QA terminology, was supported by the data. Findings also indicated that non-U.S. students had more positive attitudes than U.S. students at pretest and posttest, and that U.S. males had the least positive attitudes toward QA terminology when compared to other students. Hypothesis 3, which posited that the program would improve housestaff's attitudes toward the use of QA guidelines, was partially supported for the use of QA for maintenance of standards and general attitude toward QA guidelines. It was not supported for use of QA for quality of care nor for encouraging diversity of practice. Foreign educated physicians tended to have more positive attitudes toward QA guidelines than U.S. educated physicians.

ACKNOWLEDGMENTS

I am privileged that I have many people to acknowledge. First I wish to acknowledge my advisor, Michael J. Smith and the members of my supervisory committee, Irwin Epstein and A. Hal Strelnick. Mike's calm approach and support was provided during those final moments of greatest need. Irwin's suggestions and recommendations were instrumental in providing greater depth to this study.

It is difficult to adequately express my gratitude to A. Hal Strelnick, Director of Graduate Medical Education, Residency Program in Social Medicine; Deputy Chair, Department of Family Medicine, Montefiore Medical Center. Hal has had different roles during the many years of design, implementation, and evaluation of this study. He has, at various times, been supervisor, mentor, teacher, critical commentator, and friend.

I am deeply grateful for the interest and support of Executive Officer Harold Weissman, who seemingly never doubted that this project would bear fruit. I would like to thank members of the Hunter College School of Social Work faculty, namely, Phyllis Caroff, Florence Lieberman, Charles "Chuck" Guzzetta, and Simon Slavin. A special thanks to Maria Helena Reis, who

was especially helpful in assisting me through the intricacies of the "system".

I would like to express my sincere gratitude to the following faculty at the Albert Einstein College of Medicine for their critical input during the formative stages of the methods section: Mildred Morehead, Lila Croen, and Michael Mulvihill.

The departments of Quality Management/Utilization management, Risk Management and the Tishman Library of the Montefiore Medical Center provided valuable assistance. A special appreciation is given to the Utilization Review nurses for their invaluable contributions.

The Department of Family Medicine of Montefiore Medical Center provided the following: opportunity, environment, and the human resources which helped to launch this study. I am especially indebted to the attending faculty and housestaff of the Residency Program in Social Medicine (RPSM) who participated as my research samples. Thank you to Nina Miles Everett and Christopher Shanahan for the privilege of co-leading QA/CQI workshops and broadening my understanding of the complex socialization process of housestaff. Robert Massad, Department of Family Medicine chair, expressed interest throughout this study. I wish to acknowledge Barry Bateman former Social Internal Medicine Track Director (RPSM) who early in the process provided the access to key individuals. Carol Whittaker and Ennis Jackson are very special persons who deserve an enormous thank you for their

contribution to this study. Carol labored many hours typing the original manuscripts, including the survey instruments. Ennis provided the computer programming for the original data base, and the technical know-how.

I was also fortunate in having as mentors, at various times, the following persons who are now deceased: Mary Funnye-Goldson, Mary Louise Gottesfeld, Patricia "Pat" Shonubi, and Saundra "Sandy" Sheppard.

I would like to express appreciation and gratitude to my support system at the John Jay College SEEK Program: Rubie Malone, Schevaletta "Shevy" Alford, and Bessie Wright.

There are others, past and present, who helped make this a reality: Harry Gottesfeld, Constance Williams, and Della Brown Hardman.

I wish to acknowledge friends and family members who were supportive "on an as needed basis." Thank you Molly and Jamie Shaw for making your home available for much needed respites and for years of friendship. Thank you Eunice Zita Pruitt who maintained weekly support over the years via telephone. A special appreciation is given Maxine Stewart Thompson, Olga Powell Gilmore, and Daria Israel La'Shannon, who each provided their unique support during those defining moments of need. Warmest thanks to my former spouse, Conrad Gooding, who expressed his support in various ways.

I wish to express my appreciation to my research consultant, Ralph Larkin, who provided an incentive for my greater interest in statistics.

I am grateful to Marianne Buchenhorner, whose emotional support provided a special source of sustenance which helped me to keep things in perspective. I have a deep sense of gratitude to Roger V. Cappucci, who provided the medical expertise during those periods of serious illnesses.

Thank you Penelope Johnson Moore, for your love and friendship over these many years.

Finally, thanks to my loving children, David Conroy Gooding and Diane Carol Gooding, Ph.D. I am pleased to dedicate this thesis to them.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

The contributions of social work to the quality of medical care service delivery have generally included competency in psycho-social counseling, discharge education, discharge planning, continuity of care, case management to meet the patient's needs, and advocacy roles (Salvatore, 1988). Because these roles fall directly in the purview of social work, the social worker is seen as a vital component of the interprofessional health care team. In the traditional context of social work in health care, social workers have historically felt an obligation to pursue courses of action in the health care field that maximize the quality and quantity of services rendered to clients or potential clients.

Recent changes in the health care profession have prompted social workers involved in direct patient care to use their role as members of the interprofessional health care team to facilitate those processes that improve services to patients. The conventional wisdom concerning the ability of doctors to set standards and to monitor their own practice concerning the delivery of care has recently been challenged (Berkman, 1996). This has created roles for outside regulatory bodies, and other professionals in the

health care field to participate in the process of defining and monitoring the activity of doctors. In light of these changes, social workers are ideally suited as well as strategically positioned, to be the facilitator of the process that insures the effective delivery of health care services to patients. Among the ways that professional social workers can influence the quality of patient care is for social workers to become involved in the training of resident physicians using the Quality Assurance (QA) mandate to influence their accountability about the documentation of the provision of health care.

Background of The Problem

The goal in medical care is the delivery of quality care. QA is one way to realize that goal.

> Quality assurance is an on-going program designed to objectively and systematically monitor and evaluate the quality and appropriateness of patient care, pursue opportunities to improve patient care, and resolve identified problems" (Joint Commissions on the Accreditation of Health Care Organizations [JCAHO],1990, p. 113).

There can be no quality assurance or quality assessment of medical care without documentation in the patient's medical record. Documentation in the medical record facilitates continuity of care and peer evaluation.

Incomplete or illegible documentation of the care provided can, and often does, contribute to serious adverse outcomes for patients (Weingart, 1996). The lack of adequate documentation of test results which are ordered throughout the hospitalization frustrates the continuity of care resulting in poor follow-up, and the possibility for re-hospitalization.

Few formal training programs exist that cover QA, Continuous Quality Improvement (CQI), Total Quality Management (TQM) and organizational problem-solving. Medical schools and residency training programs have rarely exposed their graduates to QA, CQI, or TQM. Medical education and clinical administration socialize physicians negatively about quality assurance, creating attitudinal barriers to its broadest application as a problem-solving mechanism (Kardos, 1991).

Consequently, organizational problem solving—encompassing QA, CQI, and TQM—is taught in less than one-third of U.S. medical schools, (Weingart,1996). The failure in the training of physicians to emphasize the importance of adequate and legible documentation in the medical record, is a major problem because it compromises the goal of QA and CQI. Generating physician interest and involvement in QA is usually difficult and sometimes problematic, especially during residency training (Kardos, 1991). There are, however, strong recommendations that physicians be trained in the theory and techniques of QA, CQI, and TQM (Council on Graduate Medical Education, 1995).

Development of Quality Assurance

In 1910 Abraham Flexner precipitated a revolution in medical education in his report to the Carnegie Foundation for the Advancement of Teaching: Medical Education in the U.S. and Canada, (Flexner, 1910). Forty-six years later, he attempted the first comprehensive quality assessment of medical education when he investigated U.S. medical schools. Flexner's reforms had tremendous impact on U.S. medical education and consequently on the quality of medical care, (Batalden & O'Connor, 1980).

Ernest A. Codman (1914) developed the End Results Idea (ERI), which stipulated that hospital care should be monitored. He instituted the first system of outcome assessment in which results of treatment were reviewed and rated. Codman believed that the end result was the only true product of health care. The major purpose of the ERI system and of the "efficiency committees" that were to implement it, was to bring about interpersonal and technical improvements in health care (Donabedian, 1989)

Flexner's and Codman's work influenced the formation of the American College of Surgeons which created the Joint Commission on Accreditation of Hospital (JCAH) in 1951 (Batalden & O'Connor, 1980). JCAH was created with the responsibility for reviewing hospitals in the US. It was initially comprised of members from the American Medical

Association, American Hospitals Association, American College of Physicians, and the American College of Surgeons. The accreditation program was created to review hospital facilities. Their evaluations focused on mortality, tissue, and surgical reviews (Rehr, 1979). The creation of JCAH was based on the assumption that structural standards would facilitate the delivery of quality health care.

In 1965, Amendments to the Social Security Act required that facilities that were reimbursed for care to the beneficiaries of these programs must be subject to peer review. The mandate for review and audits occurred because of the failure of the professions and the institutions to monitor their own actions or to implement their findings, (Rehr 1979). In 1969, the American Group Practice Association (AGPA) established informal reviews of medical records in order to assess the quality of care, (Palmer 1983).

Palmer (1983) wrote of the period prior tc the development of QA programs in the 1970s:

> A variety of less structured means to maintain standards existed—more fully developed in hospitals than ambulatory health care facilities—incident reporting systems, in-service education conferences, chart review session, mortality reviews, medical records and tissue committees, policies and procedures setting standards for care, routine employment and supervisory for hospital employees, and credentialing and privilege delineation procedures for medical staff. (p. 9)

Medical care evaluations (MCE) came into wide use. The MCE was a written standard used to judge care. This was in contrast to the unstructured chart and committee reviews that existed prior to the MCE.

The 1970s was a time of sporadic attempts at quality review. The Health Maintenance Organization Act of 1973 mandated that organizations that accepted federal funds were required to have a QA program. Utilization review was instituted for in-hospital assessments of admissions, length-of-stay, and, to some extent, the process of care. The JCAH was reorganized to include representatives of consumers on its board of directors (Palmer, 1983). It was renamed the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).

In spite of the fact that review organizations, health system agencies, and the JCAH have government support in their attempts to monitor care, Rehr (1984) expressed concern that quality accountability was a secondary consideration to fiscal controls. The focus of the Diagnostic Related Grouping (DRG) System was on cost containment.

Peer Review Organization (PRO)

In 1982, Congress passed the Peer Review Improvement Act, PL 97-248. Section 141 of this law required the secretary of Health and Human Services to contract with PROs, (utilization and quality control peer review organizations), for review of Medicare services (Palmer, 1983). PROs were

mandated by Medicare to have concurrent utilization reviews on all patients admitted for appropriateness of admission, the care given, and the length of stay. They were also responsible for validating DRG coding, certifying the medical necessity of outliers, and verifying hospitals' decisions to discharge a patient if medically warranted. Patients were allowed to contest discharges if they thought that they were not ready.

State medicaid programs received financial incentives to contract with PROs for review of services. PROs could contract for review of privately funded health benefit programs, (Prior, 1986). In New York State, the Island Peer Review Organization (IPRO) reviewed the records of all participating hospitals in the medicare and medicaid programs.

The PROs had the support of the Health Care Financing Agency (HCFA) of the Social Security Administration (SSA) (Prior, 1986); especially for efforts on documentation, feedback, and analysis of medical practice variation. As hospital care was constricted, ambulatory care facilities were needed. In response to the utilization of ambulatory facilities, the American Medical Peer Review Association (AMPRA) recommended the development of a 'pre-procedure review' to protect against overutilization in the Out-Patient Department (OPD). This review was designed to assure that patients needing inpatient care were admitted to a hospital.

Recent Developments

The 1990s has witnessed an increased focus on quality management. The JCAHO, health care advocates, consumer groups, third party payers, the HCFA, peer review groups, and the various states have increasingly demanded that hospitals demonstrate a relationship between their quality of care and patient outcomes. The move towards outcomes-based review evolved around issues relating to the effect of medicare cost-containment policies on the quality of hospital and physician care (O'Leary, 1990). Even with the PRO oversight, there continued to be substantial overuse and under use of medical services. In an Institute of Medicine (IOM) study (1987-1989), the inappropriate use of medical services was attributed to poor technical skills, inadequate patient relations, defective professional judgment, and ineffective influencing of professional behavior (O'Leary, 1990).

The JCAHO is the accrediting agency for American hospitals. Without its accreditation, a hospital cannot have a residency program. Reimbursement rates from all third-party sources for hospitals are based upon their rating by the JCAHO. The quality reviews of the JCAHO have emphasized the following aspects:

1. Identification of important or potential problems or related concerns, in the care of patients.

2. Objective assessment of the cause and scope of problems or concerns including determination of the protocols and guidelines for investigating and resolving problems.
3. Implementation, by appropriate individuals or through designated mechanisms, of decisions or actions that are supposed to eliminate identified problems.
4. Monitoring activities designed to assure that the desired result has been achieved and sustained.
5. Documentation that reasonably substantiates the effectiveness of the overall program to enhance patient care and to assure sound clinical performance, (Palmer, 1983).

The ultimate goal of any quality evaluation is to improve the quality of care delivered, (Horowitz, 1989). Although QA should not be considered as a negative, defensive activity, physicians have tended to perceive it as punitive, intimidating, and useless. What is generally not appreciated by the vast majority of physicians is that, QA has the potential to improve the well-being of patients and to enhance the quality, professionalism, and public image of health care professionals (Thompson 1988). QA activities are perceived by physicians all too often as being necessary to satisfy the Joint Commission.

Various researchers have attempted to focus on the positive aspects of QA (Kane, 1981; Nuehring & Pascone, 1986; O'Leary 1988; Rehr, 1979).

QA focuses on professionally determined standards of care, and includes ongoing systems of monitoring, evaluation, and corrective action. QA provides a framework for evaluation by using characteristic techniques and addressing comprehensive questions about a program's functioning in relation to a set of criteria of what high quality care is or should be. Further, QA requires (a) an objective definition of the parameters of high quality, (b) setting standards to establish thresholds below which quality will be deemed unacceptable, and (c) mechanisms to monitor care and correct observed deficiencies.

Statement of Purpose

My concerns as a professionally trained social worker, committed to improving the quality of patient care, fostered an inquiry into the impediments and limitations in the training of physicians around medical records documentation. Recognizing the lack of understanding on the part of physicians in the area of QA, CQI, and TQM, this project was designed to implement a training seminar with the goals of:

1. Challenging the perceptions and attitudes of physicians-in-training by providing them with a basic level of technical skills, and
2. Increasing their awareness about QA and CQI.

This was done to determine the achievability of expanding the role of social work in primary health care education using the QA mandate. There are five emergent objectives:

1. The utilization of social work knowledge and skills to improve the quality of patient care;
2. The improvement of house staff's medical documentation to make it more accurate, timely, appropriate and legible;
3. The enhancement of house staff's awareness of the goals and expectations of QA;
4. The facilitation of primary care house staff's views of QA as a problem-solving activity; and
5. To encourage and facilitate house staff's involvement in the QA process.

It was the purpose of this researcher to evaluate the training program in terms of its ability to increase housestaff's awareness of QA guidelines, increase positive attitudes toward the use of QA terminology, and increase positive attitudes toward the use of QA guidelines.

Research Questions

1. What effects will a social work training seminar in Primary Health Care education, using the QA mandate, have on housestaff's awareness of hospital QA guidelines?
2. What effects will a social work training seminar in Primary Health Care education, using the QA mandate, have on housestaff's attitudes toward the use of QA terminology?
3. What effects will a social work training seminar in Primary Health Care education, using the QA mandate, have on housestaff's attitudes toward the use of QA guidelines?

Hypotheses

1. A social work training seminar in Primary Health Care education, using the QA mandate, will increase housestaff's awareness of hospital QA guidelines.
2. A social work training seminar in Primary Health Care education, using the QA mandate, will improve housestaff's attitudes toward the use of QA terminology.

3. A social work training seminar in Primary Health Care education, using the QA mandate, will improve housestaff's attitudes toward the use of QA guidelines.

Definition of Terms

Attitudes toward the use of QA terminology refers to seminar participants' attitudes toward monitoring of physician documentation and influence of QA on patient care. It will be measured through responses on items in a self-administered survey.

Attitudes toward the use of QA guidelines refers to seminar participants' perceptions of the positive and negative effects of the QA guidelines. It will be measured through responses on items in a self-administered survey.

Housestaff refers to interns and residents. Most of the care provided in hospitals and clinics is provided by housestaff unless there is a private physician.

Awareness of hospital guidelines refers to whether or not seminar participants are knowledgeable about the hospital guidelines for QA. It will be measured through self-report on a survey.

Quality assurance (QA) refers to a structured and comprehensive system to monitor and evaluate the entire clinical care program and to resolve deficiencies in that care when discovered.

QA mandate refers to mandates by the Peer Review Improvement Act (PL 97-248) passed by Congress in 1982. The relevant mandates of the Act for the purposes of this study are, the compilation of accurate, legible, and timely patient records.

Social work training seminar in primary health care education refers to a seminar provided to housestaff on QA guidelines, terminology, and medical chart documentation that lasted for two two-hour sessions one week apart by this researcher in her capacity as the educational coordinator in a major urban hospital.

Rationale for the Study

New Roles for Social Workers

In the traditional context of social work in health care, the social work role has been to learn from the physicians whose training has reinforced the superiority of their knowledge base in leading the health care team under the assumption that the "MD knows what is best" in providing quality health care to patients (Berkman, 1977; Mizrahi & Abramson, 1985). However, social workers have been a vital part of the interdisciplinary team, have their

own areas of expertise, and can take the initiative in improving health care through the application of social work principles (Berkman, 1996; Butryn & Horder 1983; Olsen & Olsen, 1967). One method of improving the quality of medical care is for social workers to become involved in the training of resident physicians to influence their behavior in ways that make them more responsive and more accountable in the provision of medical care (Bergstrom, 1979). The contributions of social work to the quality of medical care service delivery have included competency in needs assessment, i.e.,

1. identification of issues (information gathering),
2. studying the issues,
3. educating others about the issues (writing and speaking), and
4. identifying allies (getting others involved) (Encyclopedia of Social Work, 1996; Salvatore, 1988).

The goal of this particular effort is the broadening and expansion of the role of social workers in primary health care by using a very specific intervention with primary care housestaff. This intervention examines the system of the training of residents, targeting an aspect to improve the delivery of patient care, and to enhance patient care through chart documentation.

The underlying assumption is that if physicians are clear in their documentation in the medical record, a greater likelihood exists that patients will receive more effective and efficient health care. The rationale for this

dissertation is to provide a model for expanding the role of professional social work in primary health care.

Medical Records and Documentation

The American Medical Association (AMA) (1986) defined quality medical care as "care that is sufficiently documented in the patient's medical record to enable continuity of care and peer evaluation" (p. 1032). Documentation in the medical record facilitates continuity of care and peer evaluation. The medical care of a patient is a process that occurs over a period of time and usually involves numerous individual professionals from different disciplines, including physicians, nurses, and social workers Adequate documentation is necessary to permit others to ascertain who provided the care, what was their assessment of the patient's situation, what interventions took place, and a plan for follow-up or further treatment. The patient's medical record contains more detail about the process of care than any other sources of data.

Documentation is said to be adequate when it "reasonably substantiates the effectiveness of the overall intervention to enhance patient care and to assure sound clinical performance," (Palmer, 1983, p. 27). "The issue of documentation accuracy is particularly important, since medical records are often used to evaluate a physician's performance and determine the quality of clinical care," (Moran, 1988, p. 859).

Failure to document is not only a problem for housestaff, but is also problematic for more senior physicians. Inadequate or illegible documentation occurs in a climate of complex medical practice characterized by modern "hi-tech" medical advances, specialization, and subspecialization. A patient may be seen by several professionals during the course of an illness. The care is often fragmented, with health care professionals only assuming responsibility for their specific involvement with the patient. This becomes problematic because physicians have a tendency to adopt a type of "M.D. short hand"; they write notes to themselves and put abbreviated versions in the medical chart. This tends to interfere with the efficiency in which the problem is addressed and the appropriateness of the follow-up care. The problem is exacerbated further by constraints of time and volume of services. Cost containment and the resulting decreases in reimbursement rates (specialists in particular), have had the impact of encouraging physicians to increase the volume of their "patient load." An increase in the number of patients serviced makes it even less likely, that an already busy physician will take the time necessary for a thorough recording in the patient's chart.

There are other reasons for physicians' failure to adequately document the patient's medical record. Besides the time pressures, there are concerns related to the physicians' status or place in the medical hierarchy. Following graduation from medical school, completion of residency training and passing

the specialty board exams, there is a feeling "That s/he doesn't need observation or criticism of clinical competence" (Kardos, 1991, p. 100). Additionally, documentation is viewed by some providers of health care as an infringement on physicians' right to practice as they see fit. Medical training socializes most physicians to view requests for thorough chart documentation as challenging not only their competency, but also their authority and ability, and is viewed as adversarial (Sidel, 1976).

Documentation is the cornerstone of the monitoring activities of peer review. Physicians generally view the peer review process with distrust, anger, denial, and as an unnecessary intrusion (Morrow, Gooding, & Clark, 1995). The medical community has been reluctant to pursue effective peer review. Their concerns are related to issues of personal redress, litigation, and antitrust activities. Given the proliferation of malpractice suits and the exorbitant malpractice insurance fees, this concern is not without some merit.

The lack of appropriate, accurate, timely, and legible medical recording raises the question of substandard care, encourages inadequate follow-up and continuity of care, and increases the potential for problems that may be referred to the hospital's risk management professionals. In the worst of all scenarios, it "gives credence to thinking that physicians are not cooperative in efforts to improve quality or to document the necessity of care" (Kardos, 1991, p. 101).

CHAPTER II

LITERATURE REVIEW

This literature review is divided into five sections. The first section is an explanation of adult education theory and its application to physician inservice training. Section two contains studies related to changing physicians' behaviors. The third section includes evaluations of inservice programs for physicians. The fourth section contains assessments of attempts to implement QA/QI programs. The fifth section is a summary of the literature review with implications for social work interventions.

Adult Education and Physicians

Medical education and clinical administration socialize physicians negatively about QA, creating attitudinal barriers to its broadest application as a problem-solving mechanism (Thompson & Thompson, 1988). Physicians perceive questions as to why a medical problem was managed in a particular manner as an infringement on their right to practice as they see fit. Residents resent having to prove their competence through the complicated process of providing documentation of their performance. There is, within the culture of residency training, the belief that they should be

trusted to do good work (Mizrahi, 1985). The shortcoming of medical education is that the focus is on the outcome of the bio-medical process. There is less attention given to the process of care which is as significant as the outcome of care. This aspect of medical socialization encourages negative attitudes about the QA process.

The adult education model, referred to as the andragogical ("andra" for "man" and "gogy" for knowledge) model by Knowles (1970) presupposes a collegial process of secondary or professional socialization. The adult education model is based on several assumptions:

1. The need to know. Adults need to know why they need to learn something before undertaking to learn it. The first task of the facilitator in adult education is to help students become aware of the "need to know." More potent tools for raising the level of awareness of the need to know are real or simulated experience in which the learners discover for themselves the gaps between where they are and where they want to be. In this study, physicians have to be convinced of documentation as important to the quality of health care.
2. The learner's self-concept. Adults conceive of themselves as being responsible for their own decisions. Once arrived at that self-conceptualization, they develop a deep psychological need to be seen by others and treated by others as being capable of self-direction. In

this study, physicians have been an educational elite. Therefore, they are self-assured in their ability to learn.

3. The role of the learners' experience. Adults come into an educational activity with a great volume of experience. They have accumulated a great deal of knowledge. Therefore, they are individuated and it is necessary to individualize teaching and learning strategies. For many kinds of learning, the richest resources for learning reside in the adult learners themselves. Hence, the greater emphasis in adult education on experiential techniques that tap into the experience of the learners, such as group discussion, simulation exercises, problem-solving activities, case method, and laboratory methods rather than transmittal techniques. Hence, the greater emphasis on peer-helping activities.

For the physicians in this study, medical socialization has resulted in physicians regarding topics not directly related to the application of medical techniques as unnecessary to know. Therefore, prior socialization is likely to make them resistant to learning about topics as mundane as documentation, even though it is important in the delivery of high quality medicine. They are disdainful of persons outside the profession or those who have not experienced the world as a member of the housestaff (Mizrahi, 1986). The use of case method and peer techniques is very important in breaking down physicians' resistance to non-high tech issues.

4. Readiness to learn. Adults become ready to learn those things they need in order to cope effectively with real-life situations. An especially rich source of "readiness to learn" are the developmental tasks associated with moving from one developmental stage to the next. The implication of this assumption is the importance of timing learning experiences to coincide with those developmental tasks.

   Housestaffers are in the final stages of their medical education. The major developmental task confronting them is becoming highly skilled physicians. They live in fear of making a mistake that results in the death of a patient (Mizrahi, 1986). The rationale for the instructional program in this study is that it would help reduce the possibility of such an occurrence.

5. Orientation to learning. Adults are life-centered (or task-centered or problem-centered) in their orientation to learning. Adults are motivated to devote energy to learn something to the extent that they perceive that it will help them perform tasks or deal with problems that they confront in their life situations. Furthermore, they learn new knowledge, understandings, skills, values, and attitudes most effectively when they are presented in the context of application to real-life situations. The program in this study provides physicians with practical knowledge that can help them to provide higher quality medical services.

6. Motivation. Although adults are responsive to some external motivators (better jobs, promotions, higher salaries, etc.), the most potent motivators are internal pressures, such as the desire for increased job satisfaction, self-esteem, or quality of life. As Mizrahi (1986) has shown, housestaffers are motivated to learn as much as they can about the practice of medicine. They are also motivated by fear of making a mistake. That is why one of the norms of the housestaff is to be compulsive.

The use of the adult education model is necessary for the instruction of physicians for several reasons. First, it draws on the fact that housestaff members have a history of being high achievers and already know how best to learn material. Second, it draws upon the culture of the housestaff in which members trust and learn from each other. Third, it assumes intrinsic motivation to learn. Although housestaffers are distrustful of persons outside their circle, they are strongly motivated not to make mistakes because of the life or death consequences of their actions.

Social Work Implications of the Study

QA/CQI is a system being implemented nationwide. It creates a paper trail forcing agencies and their staff to comply. As a social worker, I used a seminar format for training housestaff to become more involved in and less hostile to the process of QA/CQI, using medical records documentation as

the vehicle of change. This program broadened the role of the social worker in a host agency. I capitalized on the mandate of the Peer Review Improvement Act (1982) around inadequate and illegible documentation.

Incomplete or illegible documentation of the care provided can, and often does, contribute to serious adverse outcome for patients, i.e. the lack of adequate documentation of test results that are ordered throughout the hospitalization frustrates the continuity of care resulting in poor follow-up, and the possibility for re-hospitalization. The potential for adverse incidents is particularly high for patients who do not have access to their own "attending" or private physician and who must be cared for by interns and residents. The first post-graduate year (PGY-1) is the internship period, with subsequent years of training designated as the "residency" years.

Changing Physician Behaviors

One of the major goals of the intervention examined in this study is to change physician behaviors in managing chart information. Therefore, the literature on changing physician behaviors will be examined.

Dickie and Bass (1980) conducted a study of 28 physicians randomly assigned to two groups: One was a self-audit group in which they audited their records using a variety of criteria, including problem list use, consistent problem labels, legibility, specification of drugs, and so forth. The other

group was a study exposed group that were told that their records would be reviewed over a three week period. The two groups were compared on before and after audits on the criteria and classified into those whose scores had improved by 5% or more and those whose scores had not. The self-audit group showed greater numbers of physicians who improved by 5% or more than did the study exposed group ($p < .05$). The data provides evidence that self-auditing creates improved reporting on records, whereas knowledge that records are being reviewed is less efficient. The program in this study was designed to help physicians engage in greater and more effective self-monitoring.

Cohen, Littenberg, Wetzel, and Neuhauser (1982) reported on an experiment that compared physicians from four hospitals (two experimental and two control) on the use of checklists and seminars on physician's compliance with guidelines provided by the Canadian Task Force on Periodic Health Examination on vaccination for influenza and pneumonia and the American Cancer Society on mammograms. The seminars were poorly attended. None of the physicians in the control hospitals attended the seminars, and few seminars were attended by physicians in the experimental hospital. Participants were assessed on their recommendations for vaccination and mammograms at baseline and monthly over a four-month period, knowledge of guidelines, and attitudes toward preventive procedures and screening maneuvers. Vaccinations and mammographies increased

dramatically for the experimental groups, while the control group did not change significantly. On the factual test, there were no significant differences between experimental and control groups on posttest factual knowledge. However, the experimental group had higher scores on the posttest assessment of attitudes toward preventive procedures than the control group. The authors concluded that the checklists were much more powerful in changing physician behavior than the seminars. Apparently, for physicians, awareness leads to behavioral change. The program in this study was designed to increase physician awareness of the importance of proper documentation.

Geertsma, Parker, and Whitbourne (1982) conducted retrospective studies on 66 physicians on their perceptions of how they learned medical practice. On the basis of their responses to a survey questionnaire, the authors developed a three-stage process: Priming, in which the physician became aware of the need for learning; focusing, in which the physician became aware of new or alternative techniques; and follow-up, where the physician actively engaged in the learning of alternative techniques through review of professional journals, discussion with colleagues, attendance at conferences, and participation in continuing medical education. Continuing medical education was the fourth most common source of change for physicians, after colleagues, journals and conferences. In this study, the program was part of an inservice orientation for entering residents.

Kincaid (1984) assessed the peer data method (PDM) of changing physician behaviors in reducing patients lengths of stays (LOS) in the hospital for diabetes mellitus diagnoses. Twelve physicians who had higher than average LOS were monitored over a year and a half on average LOS for patients with diabetes. Their average LOS was compared to a non-equivalent comparison group of 40 physicians. The PDM consisted of examining the practice patterns of the physicians with high average LOS and informing them of their high rank and asking them to examine their practices. The physicians were monitored on patient LOS and physicians informed of their ranking. Over the year and a half, average LOS for monitored physicians dropped 19.7%, compared to 11.3% for the comparison group. No inferential statistics were presented to examine whether this difference was significant. The authors noted that within 60 days of the original notification, average LOS rates for the monitored physicians began to decline. The authors suggested that the change was supported by most physicians. Although the technique was controversial, provoking criticism by some physicians, most supported the project. The authors concluded that by placing comparative information at the disposal of physicians about their practices can help them to change their behaviors. The implication for the present study is that physicians respond to incentives designed to change their behaviors.

Anderson, Jay, Perry, Anderson, and Schweer (1988) reported on a study designed to increase physician use of the hospital computerized information system by identifying influential physicians, scheduling a meeting with them, and providing them information about the information system, its use, and advantages in using it. Data were collected on the use of the information system from 109 who were on the services of the identified physicians and 231 physicians who were not on their services. Data were analyzed using a single factor repeated measures analysis of variance on three variables, personal orders entered into the information system, departmental orders, and regular health information system (HIS) orders. The findings indicated an increase in personal orders, but not in departmental orders or regular HIS orders. The authors concluded that by using influential physicians to diffuse practice changes, other physicians would change their behaviors relative to the use of new technologies. The program in this study used materials derived from prestigious sources to influence residents' behaviors.

Brady, Hissa, McConnell, and Wones (1988) conducted a study of 46 resident physicians on compliance with QA standards. The 46 physicians were given didactic education on CDC recommendations for influenza vaccination and the American Cancer Society's recommendations for mammogram screening. Residents were randomly assigned to a group that retrospectively reviewed their charts for influenza vaccinations of elderly

patients, one that reviewed their charts for mammography recommendations for women over 50 who had not had one in the prior 12 months, and a control group that did not audit their records. Each of the experimental groups received copies of their audits and the control group received the audits of the two treatment groups. Data indicated a significant increase in ratios between indicated and ordered vaccinations and mammograms between baseline and posttests for all three groups. There were no significant between-group differences on the posttest assessment for vaccinations; however, the mammogram audit group was significantly higher than the flu vaccination and control group on the ratio of mammograms order to mammograms indicated. The authors suggested that the significant between-group differences on mammography compared to flu vaccinations was because flu vaccinations approached a ceiling level (about 60%), whereas mammograms at baseline were only 8%, improving to about 17% for the control and flu vaccine groups and to 26% for the mammography auditing group. Baseline-posttest differences indicated that by increasing awareness through didactic education and/or peer review can increase compliance behaviors among physicians. Although the program in this study used case materials and discussion groups, it contained a didactic element in which physicians were advised about aspects of record documentation.

Keller, Wennberg, and Soule (1997) examined the effects of the provision of information to physicians about their rates of admission relative

to average admission rates in various areas of Maine as part of an attempt to reduce overuse of certain medical techniques. The method was to present physicians with information about procedure rates in their area compared to other similar areas and a state-wide average. Upon presentation of discrepant data, physicians were first highly defensive, challenging the data's reliability and validity. Specialty study groups were established to examine practices in their area and communicate to practicing physicians about their utilization rates and how they compared to others. Following the presentation of data to physicians, hysterectomy, lumbar disk excision, and pediatric medical admission rates declined dramatically in the areas characterized by high rates. The authors concluded that physicians want to improve medical care; they need information so that they can compare their practices to existing normative behaviors among their peers. Once physicians are engaged in the information exchange process, they are willing to participate and play an active part in quality improvement activities. The program in this study was directed at providing physicians a context to share information and discuss issues of QA and record documentation with their peers.

The data from studies on changing physician behavior suggest that physicians' behavior can be changed, and in some cases, quite dramatically. Findings also indicate that physicians constitute a highly insular group and tend to value learning most often from their colleagues, distrusting those

who come from other fields. Second to face-to-face learning from colleagues was learning from colleagues indirectly through the reading of journal articles. Following those sources were attending conferences and continuing medical education, respectively.

The findings suggest that physicians are active learners and prefer to learn through interaction with colleagues and the use of hands-on techniques. Data suggest that they are generally quick learners once they perceive that what they are about to learn will improve their skills or patient care. The program assessed in this study was designed to involve physicians as much as possible in the discussion and evaluation of cases, which appeals to the way in which they like to learn. Peer involvement was an important component of the program.

Inservice Programs

One popular method of changing physician behaviors is through inservice programs, also known as continuing medical education (CME). Since this study examines the influences of an inservice program, the literature was searched for studies of inservice programs directed at physicians.

Grol and Mokkink (1985) investigated the extent to which attitudes of doctors were formed and changed during the one-year general practice

training program. Questionnaires were administered to 84 trainees both at the start and at the end of the training year. A control sample of experienced GPs was also assessed on the attitude scales (n = 156). Four days a week the trainees conducted practical work under the supervision of an experienced general practitioner. On the fifth day, doctors convened in seven groups of 12 each for education and training. Direct attention included weekly discussions of personal experiences and problems in working with patients through a week's voluntary training program during which great importance was given to the personality and attitude of the future GP. Indirect attention was provided through daily discussions of patients with the supervising GP. Questionnaires assessed the following attitudes: demarcation of responsibilities for medical tasks and psychosocial problems, sense of competence, confidence in medical technology, beliefs about taking risks, fear of mistakes, beliefs about the doctor-patient relationship, and attitudes toward medical practice. The findings suggested that the doctors were clearer in their demarcation of responsibilities for technical tasks, and higher in their sense of competence, confidence in technology, beliefs about taking risks, and attitudes toward general practice. By the end of the training period the attitudes of the trainees were similar to those of experienced practitioners. The findings of the study suggest that appropriately constructed inservice programs can influence the attitudes of physicians.

Davis (1985) reported on a study of three cohorts of 14 first year residents on their participation in a course in family medicine. The study involved observing the residents and comparing observations with what the residents had written in the patient record. Discrepancies between observed behavior and medical records were computed as well as assessments of the diagnoses. The author concluded that the recorded behavior of the resident physicians was generally accurate. He also concluded that residents record what the peer group of residents have decided are the most important components of care. Residents did not communicate follow-up procedures to patients. Most errors in documentation were errors of omission rather than commission. The program examined in this study was concerned with proper documentation of procedures. Omission of procedure documentation can result in improper treatment of the patient, duplication of services, and waste of money.

Kern, Harris, Boekeloo, Barker, and Hogeland (1990) evaluated the effectiveness of a process whereby a faculty-resident committee annually audited the outpatient department (OPD) record-keeping and preventive care practices and provided feedback in a sample of 139 internal medicine residents in an adult primary care practice of a university-affiliated hospital. All first year residents received one month of training in interviewing skills and the psychosocial domain of medicine. Each year, residents were given individualized, detailed, typewritten feedback based on audits of their OPD

records. Performance of the residents was evaluated using pre- and post-feedback audits with intervention and observations repeated over six consecutive academic years. Overall performance scores improved steadily after the inception of the chart audit and feedback system. Residents who were audited and received feedback improved in their performance. The performances of successive cohorts of residents during the six years of evaluation showed steady chronological improvement. The findings of the study, although no control group was used, indicated that chart audit and feedback performance-based educational methods were effective in altering physician behavior. The implication for the program in this study is that physician behavior is mutable, and that provision of effective feedback can result in change in the desired direction.

Sririam et al. (1990) examined the nature and frequency of errors in clinical judgment displayed by 39 primary health care medical officers before and after a two-week course in mental health care. The training consisted of lectures, case demonstration, and case work-ups. The assessments included a series of vignettes about which participants were asked multiple choice questions. Judgment errors were classified as major or minor. Major errors were reduced significantly for assessments of schizophrenia, neurosis, and mental retardation. Minor errors were significantly reduced for those three areas and assessments of physical problems. Although the authors concluded that the intervention reduced errors, no group was employed as a

control, weakening the generalizability of the study. However, the findings produced evidence that case methods may be an effective method of working with physicians.

Moss, Margison, and Godbert (1991) conducted a two-year follow-up study investigating changes in interview behavior of 11 therapists who had previously been trained in the conversational model of psychotherapy by a combined videotaped microteaching and supervision package. Results showed the acquired skills had been well maintained. Provision of information and explanation, a behavior explicitly discouraged within the conversational model increased. In addition, responses to verbal cues, a positive model behavior, decreased over the follow-up period.

Jones (1991) evaluated two two-hour workshops in childhood injury epidemiology and control that were provided to 101 nurses and 76 physicians employed by the New York City Department of Health. Workshop methods included lectures, question and answer periods, slides, and handouts. Workshop I mean test scores on knowledge of childhood injury epidemiology and control rose from 60% on the pretest to 75% on the posttest. Workshop II mean test scores rose from 67% to 88%. Although the descriptive data are impressive, there were no statistics computed that indicated whether such changes were significant or not. The workshops were evaluated positively by the participants.

Hatton (1992) reported on a study in which inservice education was provided to physicians and nurses in a neurosurgical intensive care unit (NSICU) on the appropriate drug regimens for patients. Prior to the inservice education, patients were routinely given three drugs upon admission into the NSICU. The inservice program involved the implementation of a drug-use evaluation (DUE) program with three drugs, a histamine, cimetidine, and an antacid. By administering the three drugs in serial fashion rather than simultaneously, if the patient showed counter-indications, it was easier to tell which drug was causing the counter-indication. In the study, 184 patients were monitored for bleeding. Inservice education was provided to the neurosurgical housestaff who were also given pocket cards that provided the criteria for dosages for renal failure, neonatal and pediatric patients, as well as general criteria. The evaluation included patients over a period of one year. The monitoring program resulted in a change in the nursing policy within the NSICU. Although there were improvements in practice, at the end of one year, compliance with monitoring procedures other than hemoglobin concentration and hematicrit was only 50%.

Palusci and McHugh (1995) evaluated an inservice program for medical students, pediatric resident physicians fellows and attendings who participated in an interdisciplinary team-based training program consisting of didactic lectures, case discussions, videotapes, and direct participation in patient evaluation of child sexual abuse. Content focused on the medical

knowledge and skills needed for an assessment of the child's interview, anogenital examination and the indications for case reporting to child protection authorities. The results of this training were evaluated using a survey that assessed knowledge of female genital anatomy, sexually-acquired diseases, and case reporting in a nonrandomized control trial. Fifteen medical students and pediatric physicians participated and were compared to a reference group of 127 participants who did not receive this training and 15 others who randomly repeated the survey instrument during the study period. Results showed that resident physicians demonstrated increased mean total scores on the knowledge indicators. However, the results of the study were compromised by improper use of statistical procedures. The authors compared three groups on the pretest using analysis of variance (ANOVA) among three radically unequal groups: a reference group of 127 physicians, the treatment group (n = 15), and a control group (n = 15) that took both pretest and posttest. It is questionable whether ANOVA is designed for such inequalities of group size. The pretest scores on the control group and the treatment group were assessed using paired t-tests. Results were that there were no differences between pretest and posttest for the control group, but significant positive change was reported for the treatment group. The problem was that there was no direct comparison between control and treatment subjects. The appropriate statistical test would have been to compare the posttests of the control and treatment groups using analysis of

covariance (ANCOVA) with the pretests scores as covariates and group membership as the factor.

O'Boyle, Paniagua, Wassef, and Holzer (1995) conducted a two-day program to increase awareness, recognition, and treatment of depression. A total of 423 health professionals, including physicians, psychologists, counselors, social workers, and nurses, attended. In a pre-program opinion survey, nurses and social workers reported less perceived ability to recognize mood disorders compared with physicians and psychologists. In a group of 274 respondents who took a 20-item test of their knowledge about depression before and after attending the program, scores for all professions increased significantly following participation in the program and pretest differences in scores between professions decreased. The results suggested that training was successful in increasing knowledge about depression among health professionals.

Marcus et al. (1997) conducted a pilot study to test the feasibility and efficacy of a physician-delivered physical activity counseling intervention in accordance with the recommendations of the U.S. Preventive Services Task Force. A sequential comparison group design was used to examine change in self-reported physical activity between patients receiving counseling and self-help materials and control patients who did not receive such services at base-line and six weeks after the initial office visit. Patients in both groups were contacted by telephone two weeks after their office visit and asked

about the physical activity counseling at their most recent physician visit. Experimental patients also received a follow-up appointment to discuss physical activity with their physician four weeks after their initial visit. Counseling was feasible for physicians to do and produced short-term increases in physical activity levels. Both groups increased their physical activity, but the increase in physical activity was greater for patients who reported receiving a greater number of counseling messages.

The data from studies of inservice training suggest that they can be used effectively as a method of changing physician behaviors, although the study by Moss et al. (1991) indicated that a program directed at influencing physicians' counseling behaviors did not create positive change in two important areas. In general, however, physicians were able to improve their performances in areas designated in the inservice training. Ironically a study by Marcus et al. (1997) indicated that changing physicians behaviors did not necessarily influence patients' behaviors.

Quality Assessment/Quality Improvement

Weingart (1996) wrote that quality care is compromised by staff errors, lost information and interruption of treatment, especially by beepers. He also indicated that medical schools provide little in the way of training in quality improvement. Interns were able to identify less than four of 20

common terms in the QA literature. Physicians tend to view organizational problems as facts of life rather than targets for intervention. The author reviewed several hospitals that had implemented TQM or QA techniques to reduce costs and improve efficiency. He reported that if high-quality health care is to be promoted, then physicians need to learn how to solve organizational problems that lead to poor patient care. He recommended that house officers be trained in aspects of Quality Improvement (QI). "Quality Improvement" is the buzzword of the 1990s. Researchers have recently been exploring efforts to improve quality of health care for patients and reducing the numbers of physician errors through the establishment of quality assessment teams. Studies in this section of the review examine those efforts.

Faber (1991) reported on a staff development program in total parenteral nutrition (TPN), the feeding of persons who cannot take food orally. A 12-week education and training program was developed at a community hospital to enable staff pharmacists with B.S. degrees to become involved in the pharmacy-based TPN service that had been in effect at the institution since 1978. Before 1987, the TPN pharmacist had always held a Pharm.D. degree. In the first four weeks of the program, the trainee was allotted two hours per day for required reading. During the final eight weeks, the trainee accompanied a TPN pharmacist on daily rounds. A proficiency examination was given after week 10. Upon successful completion of the

program, the pharmacist served as a nutritional support therapy consultant to physicians who wished to have their patients evaluated, treated, and monitored by the TPN service. A QA program was developed to enable the clinical coordinator in charge of the service to identify areas where further inservice education might be indicated and to satisfy requirements of the Joint Commission. Six staff pharmacists completed the training program and were allowed to write TPN orders and conduct TPN rounds. The program expanded the clinical roles of the staff pharmacists and was well received by the medical staff. The QA monitoring indicated that the service is excellent. A staff development program was successful in training staff pharmacists to participate in TPN therapy.

Brennan, Lee, O'Neil, and Petersen (1992) noted that physicians have had a negative attitude with regards to the relative merits of TQM. This situation was thought to be due to a lack of physician exposure to QI. Training programs are the most likely vehicles for that exposure. If residents learn to assess the care they give in a systematic fashion, perhaps they will develop attitudes that will become a part of their professional practice. Training would address adverse events management, negligent adverse events, and systems errors. The analysis was carried out in two stages: The first stage consisted of a screening process in which records were examined for evidence of one of several conditions potentially associated with adverse events. The second stage consisted of physicians' judgment, guided by the

Adverse Event Analysis Form, (AEAF), regarding the presence of adverse events, errors, and negligence. This technique of QI was implemented in an attempt to reduce physician-induced adverse events and improve patient care.

Spellman and Beyt (1992) reported on a study designed to evaluate physician involvement in Total Quality Management (TQM), general and specific needs in the area of physician involvement, and detailed information on what has worked previously. Data were collected on a 30 question survey which was answered by 21 of 31 physicians to whom it was distributed, with a 68% response rate. The general needs of the physicians were more education and training, committed leaders, more convincing evidence and QI success stories, and more evidence of the benefits of TQM; specific needs for physician involvement were provision of relevant and tailored educational and training sessions that show impact of TQM on business and professional practice and quality of life, presentations for physicians, and development of a QI handbook. Factors that have worked in increasing physician involvement are medical staff involvement, role models, evidence of clinical effectiveness, and training.

Ellrodt (1993) described the implementation of a TQM program in a internal medicine residency at a large hospital in a sample of 90 interns and residents. Goals of the program included developing a system whereby house staff, attending physicians and other members of the health care team

would work together on clinical and educational quality improvement issues, integrating of TQM research into a problem identification and problem solving system, continually improving the quality of care delivered by house staff while decreasing the cost of care, and improving the educational program utilizing a collaborative, scientific approach to quality improvement. Responses of first, second and third year residents were compared on a survey of the strengths and weaknesses of the program. There was no significant difference in the responses to the house staff survey between residents at different levels of training or between members of the QI Committee and other house staff. However, there was a significant difference in the evaluation of leadership response. Third year residents felt that the program leadership was not as responsive as did first and second year residents ($p < .05$). Evaluations indicated that 63% of the housestaff thought that the training program had improved, compared to 3% who thought that it had worsened. In general, housestaff favored the implementation of the program and thought that it should continue. One of the complaints of housestaff has been that implementation of such techniques as TQM places decision making power in the hands of administration rather than doctors. The results of this assessment showed that by having the housestaff involved in the planning and implementation of TQM, they felt that the program empowered them and allowed them to have significant influence in the operation of the program.

Goldberg, Diamond, and Rongaus (1995) described the application of TQM concepts in the training of internal medicine residents. Their objective was to redesign the residency program using TQM methods. TQM involved several tasks: (a) Completion of a mission statement with input from faculty, residents and program directors, (b) The identification of key customers of the program: residents, staff physicians, patients, nurses, the residency review commission and American Board of Internal Medicine, (c) key processes of the program included recruitment of residents and faculty; medical education, research, training and development of faculty, delivery of patient care, and meeting regulatory requirements. Questionnaires were completed by all house staff to provide data on their perceptions of the strengths and weaknesses of the program and on areas of satisfaction and dissatisfaction. Results included the institution of monthly oral evaluations on the last day of formal teaching rounds, the interviewing of interns and residents separately, the discussion of house staff of their evaluations of the attending physician, the identification of performance problems and discussion with individuals who gave the negative feedback, and the provision of feedback at the midpoint of each rotation. Outcome data were impressionistic. However, results led the staff to expand TQM to commit to continuous quality improvement techniques as a way to improve health care in the hospital.

Lacy, Saya, and Shane (1996) described a training program for pharmacists to aid them to appropriately document patient-specific problems and recommendations in patients' medical records and monitor pharmacist-written documentation. A six-month pilot program was approved to train pharmacists in writing chart notes. Notes would be assessed according to the following criteria: necessity (i.e., a chart note was the appropriate means of communication), clarity, legibility, completeness, correct format, and lack of judgmental language. Initial training was by physicians from the pharmacy and therapeutics committee, with more extensive training by a committee composed of clinical and administrative pharmacists. After training ended, each pharmacist's first few notes were reviewed by a member of the pharmacy committee. The quality of pharmacist-written notes was reviewed quarterly. The first quarterly evaluation and another review 1 ½ years later showed that all pharmacist notes met *all* of the *established criteria*.

Sivaram et al. (1996) reported that in teaching hospitals, house staff reported a low rate of adverse drug reactions (ADR). Inadequate orientation about hospital activities, frequent changes in rotations and time commitments to educational pursuits all undermined house staff's ability to perform ADR monitoring. Therefore, at morning report, which was mandatory for housestaff to attend, staff discussed quality-related issues and ADRs. When ADRs were suspected, the QA/QI nurse reviewed patients'

charts and sent them to the physicians for peer review, who then notified the pharmacy. Teaching conferences followed morning report and focused on the identification of ADRs. Reporting of ADRs was tracked over a six-year period, with the first two years prior to the QA/QI intervention, the two years during the intervention and the two years following the intervention. Reports of ADRs increased from 0.09% in the first year to 4.7% in the last year, indicating that house officers were much more vigilant in identifying and reporting ADRs. The authors concluded that by integrating the morning report into the regular work flow activities and into the educational program, the quality of patient care improved.

The data from the studies on the use of quality improvement/QA techniques indicate that although physicians may initially be resistant to the implementation of such techniques, when they are involved in the planning and evaluation of such techniques, their resistance declines. The research also consistently indicates that the implementation improves physician performance and patient care. The success of QA/QI programs has also increased physician acceptance of them, since they ultimately improve patient care and reduce physician errors. QA/QI programs are most effective when implemented, monitored, and evaluated by the physicians themselves.

Summary

Physicians are adult learners. They are also self-assured, active learners who have committed themselves to a profession that requires them to continue to learn, upgrade their skills, and keep close to the cutting edge of knowledge in their fields. Because of their self-assurance and their assumptions that they will continue to learn as professionals, they are often narrowly focused and disparaging of fields ancillary to their practice, even though such knowledge might improve their practice. Adult education theory acknowledges that adult learners have already developed strong self-images that may result in resistance to learning new subjects. It also recognizes that adult learners need to be actively involved in the learning process, from the development of instructional goals to evaluation of the process. Because this project involves the instruction of physicians in the learning and application of QA guidelines, the adult education model was used as a basis for the development of this inservice module. The adult education model was deemed as critical to the success of the program, since the topic tended to be viewed negatively by many physicians and because it was taught by a non-physician. Therefore, the physicians had to be actively involved in the instructional process from the outset.

The literature review indicates that physicians' behaviors can be changed. However, when an outside person, such as a social worker, is responsible for an intervention directed at changing physicians behaviors or teaching them in an area not directly related to the practice of medicine, that they will be suspicious and not particularly responsive to didactic techniques. The data indicate that when physicians are participating in inservice programs directed by persons other than their physician peers, that peer involvement and participation are necessary to evince changes in their attitudes and behaviors. They learn best when they learn from each other. The research also indicates that physicians tend to view QA/QI as an administrative intrusion on their decision making domains. However, upon implementation of QA/QI procedures that have visible results in improving patient care and reduction of mistakes, physicians can become quite supportive of such mechanisms, especially when such implementation is supported by medical administrative staff.

The literature suggests that when a program instituted by a social worker directed at improvement of record keeping will face initial opposition. The program must prove itself to physician critics. The literature indicates that such programs, in order to be successful, must employ a system in which physicians learn from each other as well as from an outside person. Physician record-keeping is a QA/QI issue that needs social worker

intervention in the name of improved care for patients. The program in this study is an implementation of that intervention.

CHAPTER III

THE QUALITY IMPROVEMENT ORIENTATION SEMINAR

The seminar that is the focus of this study was presented to the incoming class of interns each year after three months participation in the residency program in the hospital. Its rationale, development, and implementation are described in this chapter.

Rationale for the Seminar

In allowing this Social Worker to design a QA/CQI component in the residency training curriculum, the Department of Family Medicine (DFM) gave sanction to a social worker to function as the facilitator of the process of QA/CQI. As education coordinator of the residency program, the position defined the author as an integral staff member. It is in this role that attempts were made to change housestaff's way of thinking about medical recording. It is unique for a professional social worker to have an impact on the delivery of quality health care.

According to the Medical Records director of the institution, "There is not necessarily a policy regarding recording in the medical record. It is a free

form record." Although the residents have an option of any of several recording formats, such as Problem-Oriented-Medical-Records/Subjective-Objective-Assessment-Plan (P-O-M-R/S-O-A-P), they have little or no knowledge about requirements for chart documentation. Some problems include: summary sheet documentation of current and past medical problems, drug allergies, medications, past surgical procedures and health maintenance forms.

One of the key facilitating goals which was supported throughout the training seminar was to heighten residents' awareness about their own documentation and its impact on the provision and delivery of quality health care. Everyone usually has a complaint about the amount of time it takes to document a brief patient visit. One physician said, "You have only five to ten minutes to spend with a patient, but it takes nearly thirty minutes to chart it."

The importance of changing their attitudes is that with the decrease in physician continuity, decreased or limited charting skills are of tremendous concern. The decrease in physician continuity and charting skills creates limitations on access to health care, escalating costs, and decreased quality of care.

The overall purpose of initiating the QA/CQI training seminar was to help the resident physicians become aware of and provide them with a basic understanding of the QA/CQI process and how it could improve the

documentation of patient care. Cost containment efforts in the institution have fostered much more physician involvement with utilization management nurses. This makes it especially difficult for housestaff when documentation is below standard.

The design and development of this project was the result of observations and experiences gained during 30 years of health care involvement. My interest in documentation evolved along with my acquisition of a professional degree in social work. As a social worker, I was always struck by the poor illegible quality of the medical record. With the thrust of "quality of care" issues so abundant, I began a literature review. My intentions were to establish the significance and scope of the problem, as well as attempting to understand how I could personally influence practice in record maintenance. My purposes in designing this project were threefold: (a) to improve documentation by physicians in the medical record; (b) to provide a model for expanding the role of professional social work in primary health care; and (c) the development of a QA/CQI training manual for use by social work consultants, throughout health care organizations.

Development of the Seminar

As I began involving the Residency Program in Social Medicine (RPSM) residents in the QA/CQI process, I was reminded by others that "medicine is a collaborative field practiced in a competitive manner." I very quickly learned that physicians are trained as independent professionals and are taught to think critically; they are focused professionals. Further, there had to be clear learning objectives and this necessitated that each meeting with the residents had to be such that it answered both the spoken and unspoken questions of, "What's in it for me?" and, "Why do I have to know that?" It was necessary for them to see that what I had to say could enhance the quality of their medical practice. To this end, I offered, in cooperation with a chief resident, a two week, four hour seminar on the National Practitioners Data Bank (NPDB), a central depository of information pertaining to the professional competence and conduct of physicians and dentists in the 50 states. Residents in the RPSM were given a mini-handbook that described the Health Care Quality Improvement Act of 1986, which was unknown by the residents and would eventually influence virtually every aspect of their careers.

As a professional social worker, I viewed the residents as my clients for whom a service needed to be provided. As a strategy, I listened carefully

and paid attention to their needs. I read medical journal articles on QA/CQI, risk management, medical education, graduate medical education. I engaged the most out-spoken critics among the residents and some attending physicians on a one-to-one basis. I employed use of inter-personal and intra-personal expertise, (Cohn, 1971). In order to develop a program that would ultimately improve an area of medical practice, achieve substantive change and motivate others, I had to learn three areas simultaneously:

1. develop expertise and a body of knowledge about QA/CQI;
2. gain useful knowledge about the training and socialization of physicians; and
3. as a professional social worker, develop skills around teaching physicians in training. Although, I was able to discuss particular areas related to health care quality with physicians, I was cognizant of not trying to "assimilate" to the extent of "losing my professional identity" as a highly trained social worker, nor of having them see me as other than a social worker. There were other organizational issues as well that required my awareness and some type of strategic intervention, namely:
    a. my project involved working in the context of administrative policy to improve patient care, as a non-physician in a medical environment;
    b. I was attempting to influence the organizational environment;

c. It was expected that I would alert the department to the potential pitfalls that may be involved in everyday practice, such as issues that had the potential to involve risk management. In retrospect, I positioned myself to function as the "eyes and ears" of QA/CQI for the department. This was a useful vehicle for gaining support for my project.

d. I developed survival strategies as a "semi-professional" (Etzioni, 1969) in a professionally dominant environment.

The needs assessment and literature review helped me to develop the project. The needs assessment was the mechanism that allowed me to secure maximum input from anyone with relevant information about their understanding of QA/CQI terminology, QA/CQI guidelines, and the extent of their involvement with QA/CQI. However, prior to developing the resident's instrument, it was necessary to ascertain what the level of understanding of QA/CQI was for the medical and psychosocial delivery-preceptors.

In February, 1990, I mailed a survey with a cover letter reminding the attending faculty of their promises to me during a departmental retreat: participation in a QA survey. The response rate was 80% (24 out of 30). Responses made it possible to subsequently develop a survey for the entire RPSM , in May 1990. Based on the responses of the needs assessment, I was able to develop a pilot seminar in October, 1990. That seminar was developed: (a) to foster understanding about QA/CQI, (b) to increase the

resident's fund of knowledge about QA/CQI, and (c) to stimulate an awareness of the importance of chart documentation.

This pilot seminar provided the knowledge base for introducing primary care residents to the tenets of QA/CQI. In formulating this unified curriculum on QA/CQI, I was able to add another training component to the social medicine curriculum of RPSM, while broadening the role of social work in primary healthcare.

Over a nine month period, I began a process whereby I would engage individual residents for the purpose of gaining their support in the dissemination of QA/CQI information. One such encounter was with a hostile resident who characterized QA as "a bunch of bureaucratic B.S." He finished by stating, "Why do I need to know this crap? I'm too busy doing real stuff like saving my patients' lives." I replied that if he would give me 15 to 20 minutes, his question would be answered. The discussion continued for 35 minutes. The resident appeared to have a real need to know how QA could help him with his patients. He was invited to return with further questions at any time. The resident became an important ally in engaging the housestaff in QA.

As Education Coordinator of the Residency Program in Social medicine, I had access to and responsibility for the scheduling of topics, dates, and times of two critical courses in their curriculum: Ambulatory Care Rounds (ACR) and Tuesday Evening Curriculum (TEC). Both were seminars

where faculty and residents presented on topics relevant to primary care physicians. As part of this curriculum, I co-led, along with the Chief Resident of Internal Medicine, a four week seminar entitled, "QA as a Tool for Physician Empowerment." Having the Chief Resident involved guaranteed attendance. During each of the sessions, social medicine housestaffers, who are taught to be "change agents," were introduced to the idea that QA/CQI would enhance their change agent role during their training to provide better patient care. Attending faculty, many of whom participated in the initial pilot study, were also in attendance.

There were no handbooks, manuals, or information available on QA/CQI specifically for residents. I was concerned that RPSM residents should have something concrete to take from the seminar for perusal at a later date. Having completed an extensive literature review, I had material that I believed would be helpful to the residents. With this in mind, I assembled a QA/CQI Orientation Manual for RPSM residents which was revised annually to ensure that it contained current QA/CQI material. In similar fashion, I developed a set of overhead transparencies to aid my teaching efforts. Both the manual and the overhead transparencies were popular with the residents. The case material was acquired from the hospital's Quality Improvement/Utilization Management Department. My readings and discussions with others convinced me that physicians in training learn best with the aid of actual case material. The training

material—overhead transparencies, case material, and QA/CQI orientation manual—were necessary tools to be utilized in expanding the role of the social work consultant in primary health care. A copy of the manual is in Appendix A.

Conduct of the Seminar

The seminar was conducted in two two-hour sessions one week apart. The first session began with an introduction and overview of the topics to be presented and administration of the pretest. The core of the seminar was conducted in small discussion groups in which residents were presented with case studies where doctors were cited for problems in patient care management related to poor documentation in patient records. Each group had a different case. They would discuss it and conclude how it should have been handled. The remainder of the session was taken up with each group reporting back to the class as a whole and the class discussing issues of documentation and management of quality care. As each group presented its conclusions, I would present the case on an overhead projector so that all could follow along and know the facts of the case. The outcome of the seminar was the creation of a list of guidelines developed by the class on documentation of patient care.

The second session began with a discussion on problem solving using the model that doctors use when dealing with a patient's presenting problems. The QA mandate required a similar approach. Residents were provided with practical suggestions about how to properly document patient records. The QA/CQI Manual was then distributed to the participating residents, along with a brief presentation of the history and intent of the manual. After the residents looked over the manual, they were invited to discuss the general principles and guidelines of QA in relation to the goals of medicine. It included discussion of the differences between QA and continuous quality improvement, client satisfaction, communication between doctor and patient, proper documentation, monitoring of physicians, and accreditation of hospitals. The second session was concluded with the administration of the posttest. A detailed description of the seminars is in Appendix B.

CHAPTER IV

METHODS

Setting

The medical organization in which the research was conducted is the Department of Family Medicine (DFM) of Montefiore Medical Center. It is affiliated with the Albert Einstein College of Medicine (AECOM) and is located in the Bronx, New York. DFM has grown considerably adding the Montefiore Ambulatory Care Network (MACN), a network of three federally-funded (section 330) community health centers in the Bronx and Yonkers, an 800 patient Substance Abuse Treatment Program (SATP); a 23 bed inpatient ward; a division of research and of medical student education with a required third year clerkship for all AECOM students; community-based continuing HIV education; and three fellowship programs in primary care for mentally retarded and developmentally disabled (MRDD) adults, in primary care leadership for HIV and substance abuse treatment and prevention, and in family medicine faculty development.

The establishment of MACN and the inpatient service has permitted a full collaboration between service and education. The DFM and its RPSM

were designed to integrate the Bio-Psycho-Social model in the training of primary care physicians. There is an emphasis on the psychosocial component. Social workers and psychologists (clinical, social, educational) are training residents to do psycho-social assessments and perform many of the other social work roles, such as case finding, patient and community advocacy, financial assistance referrals, intervention with the homeless population, and involvement in gay and lesbian healthcare. The DFM/RPSM provides a full continuum of education and training in primary care for medical students, at the residency and fellowship levels, and in continuing education for practicing clinicians.

Sample

The residents in this Residency Program in Social Medicine (RPSM), are board eligible upon completion of their residency training. A total of 75 physicians participated in the training in four cohorts between 1991 and 1994. Complete data were collected from 72 participants, resulting in a 96.0% response rate. Table 1 presents the background data on the sample of 72 physicians.

Table 1

Frequencies and Distributions of Participants on Background Variables (N = 72)

Variable	*n*	%
Sex		
Male	21	29.2
Female	51	70.8
Marital Status		
Unmarried	41	56.9
Married	31	43.1
Ethnicity		
Caucasian	34	47.2
West Indian	10	13.9
Hispanic	9	12.5
East Indian	6	8.3
African-American	5	6.9
Other	8	11.1
Country of Origin		
U.S.	39	54.2
Non-U.S.	33	45.8
Track		
Family Practice	34	47.2
Internal Medicine	16	22.2
Pediatrics	22	30.6
Country of Medical Schooling		
U.S.	50	69.4
Non-U.S.	22	30.6

The data in Table 1 indicate that the participants were mostly female. There were slightly more married participants than unmarried. Nearly half were Caucasian, the rest were split among West Indians, Hispanics, East Indians, African-Americans, and others. Slightly more than half were born in the U.S., and approximately 70% were educated in U.S. medical schools. The mean age of the participants was 32 years (*SD* = 6.61).

Instrumentation

Instruments have been developed which will seek to obtain information on housestaff attitudes about QA, their knowledge and prior involvement in QA programs, before and after the four hours of specialty QA/CQI training.

A researcher-constructed instrument was developed to assess the awareness and attitudes of participants in the inservice program.

The survey instrument was divided into three sections. The first section included six items on attitudes toward QA. These items were declarative statements to which respondents indicated the extent of their agreement or disagreement using a five-point Likert-type response anchor as follows: 1 = strongly disagree, 2 = disagree, 3 = uncertain, 4 = agree, and 5 = strongly agree. A typical statement is, "Evaluation and analysis of data for Quality Assurance help to document acceptable levels of care." Scoring will be done through the summed scale technique.

The second section contained 14 items of attitudes toward the QA guidelines. The format of the items was the same as for the first section. A typical item is, "Quality Assurance guidelines are generally accepted as appropriate standards for patient care." The summed scale technique will be used to assess attitudes toward quality care.

The third section contains nine items assessing QA awareness and involvement. The items are mixed with some items providing the researcher with information that might be useful in subsequent administration of the inservice program, such as, "What topics would you like to see addressed in a seminar on Quality Assurance," followed by a list of five potential topics. Three items assessed awareness and involvement, e.g., "Do you know the Quality Assurance guidelines for XXXX Medical Center?" Another question asked for the appropriate time to have training for QA protocols, one item assessed current housestaff status, and one item was the ID number (last four digits of one's social security number). A copy of the instrument is in Appendix C.

Pilot Studies

The survey instrument used to pretest and posttest participants on awareness and attitudes was developed through the use of two pilot instruments. The first pilot instrument was an open-ended survey that was administered to 30 members of the attending physicians faculty in the

RPSM. Twenty-four survey questionnaire were returned for a return rate of 80.0%. The preliminary pilot survey instrument consisted of six questions related to QA, including how the respondent defined it, the amount of training, amount of time spent on QA issues, patient risk, reasons for implementing QA, and impediments to implementation. A copy of the preliminary pilot is in Appendix D.

Based on the results of the survey, the researcher found that the attending physicians had negative attitudes toward QA, but understood that it had to be done. In addition, she found topics that attending physicians felt that they were unclear or lacked understanding, and problems of implementation. Attending physicians felt uncomfortable about QA and thought that administration was intruding into areas of their autonomous decision making. Neither attendings nor residents thought that documentation could lead to improved patient care.

The second pilot was a statistical assessment of the 20 attitude items. The purpose of the statistical pilot was to assure the researcher that the pool of items would yield reliable and valid scales during the actual assessment. The pilot instrument was administered to 42 second and third year housestaff physicians who had not taken inservice training on QA.

The items were divided into two *a priori* categories: Attitudes Toward Quality Assurance Terminology (AQAT, 6 items) and Attitudes Toward

Quality Assurance Guidelines (AQAG, 14 items). These items were analyzed separately.

The two scales were assessed for internal consistency reliability using Cronbach's coefficient alpha. Table 2 contains the means, standard deviations, and alpha coefficients for the AQAT and the AQAG.

Table 2

Means, Standard Deviations, Number of Items, and Alpha (α) Coefficient for AQAT and AQAG (*N* = 42)

Scale	*Item n*	*M*	*SD*	*α*	*Skew*	*Kurt*	*K-S*
AQAT	6	21.29	3.21	.58	-0.73	-0.21	1.03
AQAG	14	41.17	6.41	.80	0.50	1.46	0.59

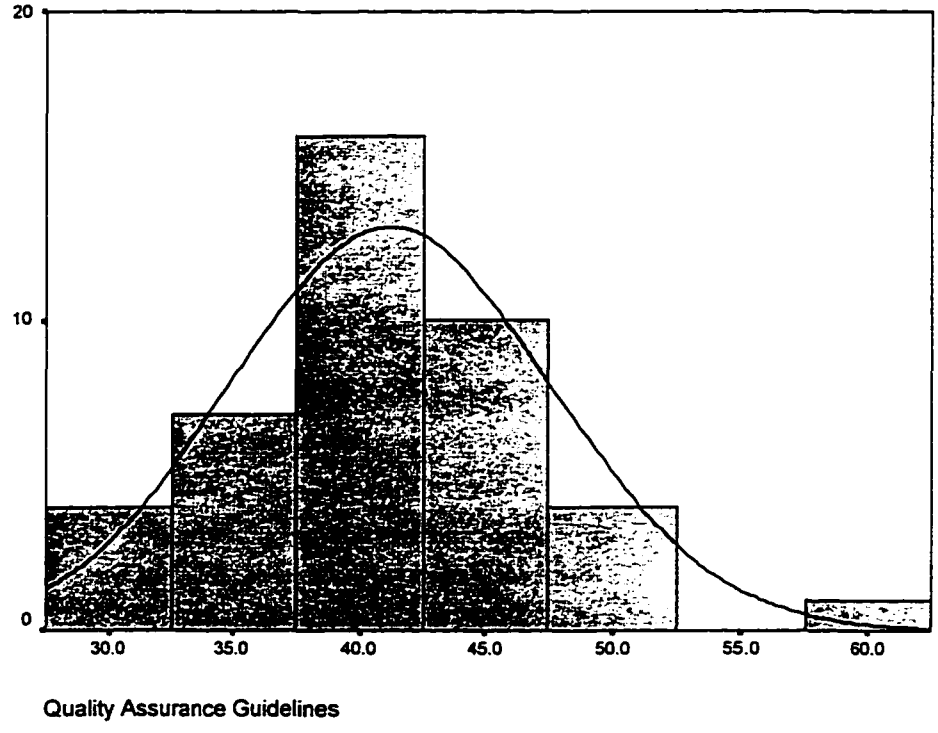


Figure 1: Distribution of scores on the AQAG

The results reported in Table 2 indicate that both scales have adequate reliability, although, because of the larger pool of items for the AQAG, its alpha coefficient is substantially higher than the AQAT.

Now that the data have indicated that the two pools of items have adequate reliability, they will be tested for validity. First, in order to test for sufficient variance and approximation to a normal curve, data on the shape of the distributions are reported. Data in Table 2 indicate that the AQAT has a slight negative skew (-0.73) and a slightly flattened distribution (kurtosis =-0.21). A Kolmogorov-Smirnov (K-S) *z*-score was computed on the hypothesis that the distribution is not normal. The resulting *z* was 1.03, which was not significant, indicating that the distribution did not significantly deviate from a normal distribution. Figure 1 presents a graphical presentation of the distribution with a normal curve superimposed over it.

The AQAG had a skewness coefficient of 0.50 and a kurtosis of 1.46. These data suggest that the AQAG has a slight positive skew, with a narrow and high distribution of scores. The K-S *z*-score was 0.59, indicating that the distribution did not significantly deviate from normality. Figure 2 presents the graphical presentation of AQAG scores with a superimposed normal curve.

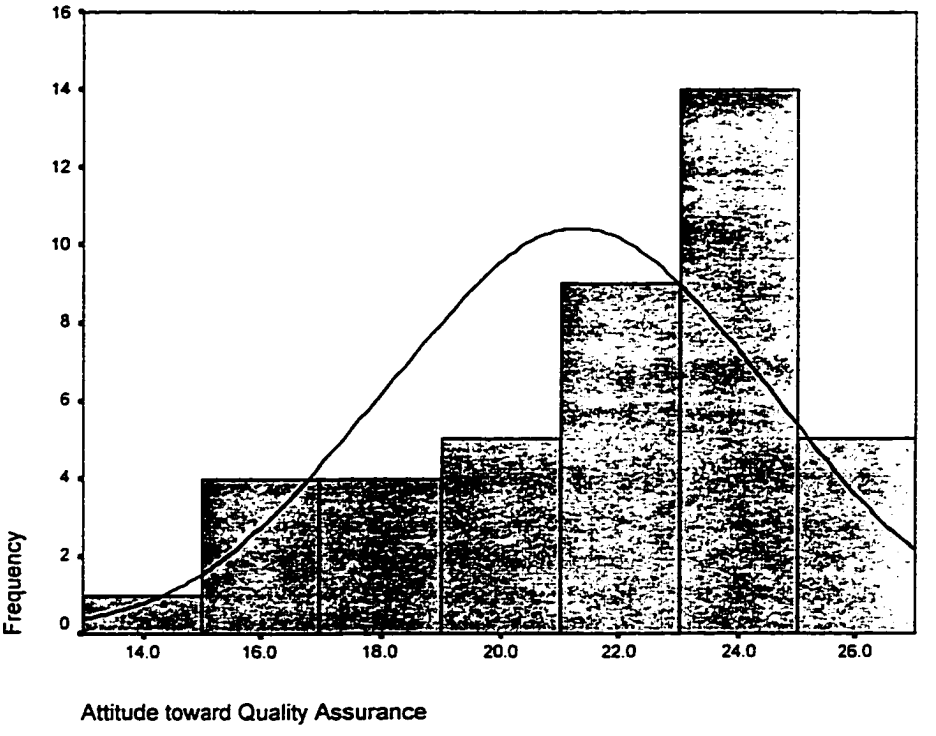


Figure 2: Distribution of scores on AQAT

Concurrent validity of the two attitude scales was assessed by intercorrelating them and relating them to awareness scores. The two scales were intercorrelated at $r = .24$, n.s., indicating that they measured two different constructs. The intercorrelation was weak.

The ability of the researcher to conduct concurrent validity assessments on awareness data was limited because only one respondent was aware of the QA guidelines in the medical center. Only 5 respondents had ever attended a QA committee meeting and only 7 who had participated in chart reviews. There was sufficient variance on whether the QA curriculum should be presented in medical school. Observed power coefficients are presented in Table 3. According to Cohen (1988), adequate

power is represented by a coefficient of .80. Power coefficients in the validity analyses from a low of .07 to a high of .62, indicating generally weak power and a high probability of Type II errors. Therefore, the tests for concurrent validity must be considered suggestive rather than definitive because of the weak power coefficients. T-tests of means were computed comparing those who said "yes" on each question to those who said "no."

Table 3

Means, Standard Deviations, and *t*-values for AQAT and AQAG

	Yes			No				Obs.
Variable	*n*	*M*	*SD*	*n*	*M*	*SD*	*t*	Power
			AQAT					
QA in Med. School	25	22.20	3.00	14	20.14	3.35	1.97*	.62
Chart Review	7	21.42	2.07	26	21.27	3.41	0.11	.07
QA Meeting	5	21.80	2.86	37	21.21	3.28	0.38	.10
			AQAG					
QA in Med. School	25	41.88	7.00	14	39.85	6.03	0.91	.22
Chart Review	7	38.86	6.62	26	41.08	6.84	0.77	.19
QA Meeting	5	45.40	4.67	37	40.59	6.45	1.60	.47

*$p < .05$.

The data in Table 3 indicate that the 25 respondents who thought that QA should be taught in medical school had more positive attitudes toward QA than those who did not think that QA should be taught in medical school ($p < .05$). All the other *t*-values were non-significant, but in the expected directions. That is, those who had experience with QA tended to be more positive toward it, although the relationships are not statistically significant.

On the basis of the pilot studies, it was concluded by this researcher that the item pools for attitudes toward QA and attitudes toward QA guidelines would provide reliable and valid results. The researcher was assured of adequate reliability, sufficient variance on the variables, no evidence of floor or ceiling effects, and no anomalous relationships with awareness or experience with QA.

Procedures

Permissions and Preparation

The program has been approved by the Chair of the Department of Family Medicine (DFM). The director of the Graduate Medical Education has been especially supportive and officially sanctioned the project from its inception. The training of Family Practice residents has to be approved by the Family Practice Residency Review Board. Training of Social Internists and Social Pediatricians require the approval of the Accreditation Council of

Graduate Medical Association. Each of the certifying boards approved of the QA/CQI component in their curriculum review. The various Residency Track Directors (Family Practice, Internal Medicine, Pediatrics) have become increasingly concerned about the extremely limited understanding of QA/CQI principles and the negative attitudes of residents toward QA practices. Accordingly, I have obtained the support of the professional faculty. The project does not call for the involvement of staff in a way that will infringe on contractual agreements. The director (GME) did make available modest resources and the back-up staff, i.e., audio-visual personnel, clerical assistance, necessary to implement the project.

The organizational pitfalls that could have seriously impeded implementation centered on conflicts with scheduling. Practically all of the preceptors are physicians. Their teaching is scheduled around their patient care activities. The QA/CQI seminar of the residency orientation curriculum precipitated scheduling conflicts. The rest of the orientation curriculum was originally developed as a series of single-session events, (for each theme or subject area). For the rest of the faculty this was not a cause for concern. However, the QA/CQI seminar was specifically designed as two two-hour sessions. This format had the potential for creating ill will. It was necessary to negotiate and bargain individually with the physician preceptors for the desired slots, i.e., the same day, a week apart at approximately the same time.

This project can only be implemented and evaluated during the October Orientation month. Housestaff are scattered all over the hospital involved in providing patient care. This is the only time during the three years of residency training that they are together as a group without other medical responsibilities.

The rationale for the project was based on a series of needs assessment surveys. The project was conceived as a result of the researcher's interest in (a) having resident physicians develop a more positive attitude towards QA/Continuous Quality Improvement, (b) encouraging the development of a practical appreciation for the chart documentation of other health care professionals, such as social workers, and (c) a practical mechanism for expanding and broadening the role of social work in primary health care.

The initial needs assessment instrument was developed using the Delphi approach (Patton, 1990). This approach required my going to the experts, e.g. physician/preceptors, and have them tell me about the level of their own QA/CQI understanding, knowledge and involvement. To facilitate this process, a six point open-ended survey was developed for use by the physician/preceptors. The response to the instrument, Faculty Development Quality Assurance Survey, (Appendix D), was an 80% return. Based on the responses of the faculty (physician/preceptor), a QA/CQI informational workshop was designed, developed and implemented for faculty.

Prior to the pretest assessment physicians were asked to sign an informed consent letter. All participants were advised about their rights to confidentiality, refusal without retribution, and access to the results of the study. The consent letter contained a brief description of the program, the nature of the physicians' participation, and a guarantee of confidentiality. Participants were thanked for their participation. A copy of the consent letter is in Appendix E.

Research materials were presented to and approved by the Institutional Review Board (IRB) of the hospital in which the study was conducted. A copy of the IRB approval letter is in Appendix F.

Data Collection

The pre-test/post-test evaluation instrument was administered at the beginning of the first session of the QA/CQI seminar and again at the end of the second QA/CQI seminar. The pre-test/post-test had the same items. The pre-test/post-test was administered four times among four yearly cohorts (1991, 1992, 1993, 1994).

Data Analysis

All data will be analyzed using SPSS for Windows, Version 8. Preliminary analyses will include the presentation of descriptive statistics on the study participants. In addition, the summed scale indicators of AQAT and AQAG will be assessed for internal consistency reliability using coefficient alpha (α). Hypothesis 1, which states that the social work training seminar will increase housestaff's awareness of hospital guidelines will be tested using crosstabulations of pretest and posttest assessments on the awareness questions. Since the awareness variables are dichotomous and categorical, the appropriate statistical method is crosstabular analysis. The hypotheses will be tested at the .05 alpha level. The McNemar Test will be used to indicate whether a significant shift occurred between pretest and posttest. According to IFA Services (1998), the McNemar Test is similar to a sign test that indicates divides distributions into correct and error responses in matched pairs. In a four-fold table, it tests the null hypothesis that AB pairs (upper right cell) are as likely as BA (lower left cell) pairs.

Hypothesis 2, which states that the social work training seminar will improve housestaff's attitudes toward the use of QA terminology, will be assessed using repeated measures analysis of variance (ANOVA) comparing pretest with posttest assessments on the AQAT and using cohort, sex, and

country of origin as between-subject factors. Hypothesis 3, which states that the social work training seminar will improve housestaff's attitudes toward the use of QA guidelines, will be assessed similarly to Hypothesis 2 comparing pretest with posttest assessments on the AQAG.

CHAPTER V

QUALITATIVE FINDINGS

Because the purpose of this study was to evaluate a program developed by the researcher that instructed residents in issues of quality care, this study qualifies as action research. Prior to the implementation of the instructional module, a qualitative pilot study was conducted among attending physicians. The data from the qualitative analysis were used in developing the instructional module and in the refinement of an evaluative instrument by which the progress of the members of the housestaff in understanding and accepting QA and CQI could be tracked.

Therefore, the findings are presented in two major sections: qualitative and quantitative findings, with the qualitative section concerned with responses to an open-ended questionnaire by attending physicians prior to the development of the instructional module, and the quantitative section dealing with the effects of the program on the perceptions and attitudes of the four cohorts of house officers who participated in the instructional module.

The 24 attending faculty members were asked, "The term 'Quality Assurance' is widely used. How do you define it?" All faculty members wrote out their definitions. On the basis of their written definitions, a list of critical concepts was compiled. The frequency distributions of the concepts are presented in Table 4. Totals sum to more than 100% because respondents listed more than one characteristic of Q/A.

The most commonly mentioned aspect of QA was the maintenance of standards of care (58.3%), followed by monitoring and review (50.0%), and ensuring of quality care (41.6%). Less commonly mentioned aspects of QA were: improvement of services (29.2%), evaluation of service delivery (25.0%), that the process is systematic (20.8%), use of feedback (16.6%), and problem solving (12.5%).

Table 4

Frequencies and Distributions of Physician's Responses on Definitions of Quality Assurance (N = 24)

Concept	*n*	%
Maintenance of Standards	14	58.3
Monitoring or Review	12	50.0
Ensuring of Quality Care	10	41.6
Improvement of Services	7	29.2
Evaluation	6	25.0
Systematic	5	20.8
Feedback	4	16.6
Problem Solving	3	12.5

The emphasis on the maintenance of standards was foremost in the minds of the respondents. A typical response was by Physician I who emphasized standards, "It is a tool employed to make sure that standards in medical practice are met." Physician F emphasized the improvement of patient care: "Systematic activities taken to improve the quality of patient care and the functioning of the health care system." Physician X reported a concise definition that covered QA: "The process by which clinical care is monitored, evaluated, and improved in hospitals, health centers, nursing homes or other clinical settings."

Respondents were asked, "What kind of training, if any, have you had about quality assurance issues?" Responses were categorized into "None,"

"Informal," and "Formal." Respondents who were classed as having informal training were those who indicated that they had learned QA procedures "on-the-job," by personal reading, participation in committees, and so forth. Those categorized as having formal training were those who indicated that they were either trained as part of their preservice medical education or attended an inservice course. The results are presented in Table 5.

Table 5

Frequencies and Distributions of Physician's Responses on Training in Quality Assurance (N = 24)

Level of Training	*n*	%
None	8	33.3
Informal	10	41.7
Formal	6	25.0

One-third of the attending physicians reported having no training in QA. One-fourth indicated that they had formal training. A plurality of 41.7% indicated that their training had been informal.

Respondents were asked, "What percent of your time is spent on quality assurance issues for patients and when you train residents?" The results are presented in Table 6.

The responses of the attending faculty members varied widely on the percentage of time spent on QA, from none to always with both patients and residents. For patients, five (20.8%) indicated that they spent 70% or more

time with patients on QA. Nearly half (45.8%) indicated that they spent less than 25% of their time in QA with patients. Four (16.7%) respondents did not answer the question. Three indicated other responses, such as, "Hard to determine," or "This question needs to be more specific," that could not be tabulated.

For time spent with residents on QA, two (8.3%) respondents each indicated that they were always (100%) involved in QA, or were involved 50-60% of their time. Ten (41.6%) respondents indicated that they spent between 0-10% of their time on QA with residents. Five (20.8%) attending physicians did not respond to the item.

Table 6

Frequencies and Distributions of Physician's Responses on Percentage of Time Spent on Quality Assurance (*N* = 24)

Percentage of Time	*n*	%
With Patients		
100 or Always	4	16.7
70	1	4.2
25	1	4.2
10-20	3	12.5
10	3	12.5
5	4	16.7
0	1	4.2
No response	4	16.7
Other	3	12.5
With Residents		
100	2	8.3
50-60	2	8.3
20-30	4	16.7
10	5	20.8
5	3	12.5
0	2	8.3
No response	5	20.8
Other	1	4.2

Respondents were asked whether they could think of instances where the failure of QA reviews put a patient at risk. The responses were classified into "yes," "no," and no response. The results are in Table 7.

Table 7

Frequencies and Distributions of Physician's Responses on Failure of Quality Assurance Reviews (N = 24)

Failure	*n*	%
Yes	15	62.5
No	4	16.7
No response	5	20.8

A majority (62.5%) of the attending physicians indicated that they could think of instances where patient care was compromised by the failure to implement QA procedures; 16.7% could not. Five (20.8%) physicians did not respond to the question.

As a follow-up, respondents were asked to provide examples of the failure to implement QA, and the consequences. Several examples are provided below:

> A patient followed at [the medical center] for more than three years with a Dx of Sickle Cell Disease treated accordingly (badly), who did NOT have the disease! The initial error was compounded by failure to review data.
>
> 1. Not following protocol for AZT administration leading to significant anemia in a patient. 2. Not monitoring the use and follow/up of PAP smears, and development of cervical cancer in a patient.
>
> On review of charts there are several practitioners who have not complied with health maintenance protocols, i.e. no mammogram done or follow-up of

> mammogram done; PAP smears not followed-up; or inappropriate screening for hepatitis or tuberculosis.
>
> While at [the] Health Center, a physician regularly prescribed medication for the side-effects of medication [he prescribed], including some for unapproved conditions. While there was a review process, there was no effective method to intervene in the physician's prescribing habits. Eventually the physician was dismissed because of these problems.

Attending physicians were asked, "What are the primary reasons for implementing Quality Assurance activities/programs?" Their responses are presented in Table 8. Reasons sum to greater than 100% because many physicians indicated several reasons.

More than half of the physicians indicated that the implementation of QA was to maintain standards of service provision; 37.5% each indicated that a reason was to improve staff education or suggested that it was implemented to improve medical practice. Preventing errors was mentioned by 20.8% of the respondents. Other reasons, such as monitoring quality of services, building peer consensus, problem solving, and measuring outcomes were mentioned by less than 20% of the respondents. Attending physicians reported the following reasons for implementing Q/A programs:

Table 8

Frequencies and Distributions of Physician's Responses on Reasons for Implementing Quality Assurance (N = 24)

Reason	*n*	%
Maintain Standards	13	54.2
Improve Staff Education	9	37.5
Improve Practice	9	37.5
Prevent Errors	5	20.8
Monitor Quality of Services	4	16.7
Build Peer Consensus	3	12.5
Problem Solving	2	8.3
Measure Outcomes (Accountability)	2	8.3

> The QA issues I've encountered were more vague—residents seeming to do OR not do multiple. . .things in a less than optimal manner.
>
> To deliver better care, to improve outcomes, to minimize the considerable harm we can potentially inflict. To standardize what acceptable medical practice actually is.
>
> As a training program it is our function to educate, and as responsible physicians it is our duty to insure the best quality we can achieve.
>
> They provide feedback on how we actually practice. I believe practitioners do not always have an accurate picture of how they practice and what their deficiencies are.
>
> Optimal care cannot be maintained without vigilance to all parts of the complex system that can breakdown or fail occasionally. Q/A can

> function as a problem solving process as well as preventive maintenance for the system.

Attending physicians were asked about the impediments to the implementation of QA. Their responses are displayed in Table 9.

Ignorance or lack of knowledge or information about QA was the most commonly mentioned impediment, noted by 54.2% of the respondents. Time constraints were mentioned by half of the respondents. Five (20.8%) respondents mentioned various forms of conflict, such as conflict between learning needs and priorities and administrative requirements. Other reasons mentioned were lack of motivation, lack of the availability of charts for review, lack of involvement of attending, fatigue, and bureaucratic barriers such as paperwork.

Several comments by attending physicians are worth noting:

> That the guidelines do not exist or residents do not know they exist.

> They [physicians] often aren't informed of what the guidelines are until there is a problem.

> Residents need time and program structure that permit review of their decision-making.

Table 9

Frequencies and Distributions of Physician's Responses on Impediments to Implementing Quality Assurance (N = 24)

Impediment	*n*	%
Ignorance	13	54.2
Time	12	50.0
Conflict	5	20.8
Misunderstandings (Lack of clarity)	4	16.7
Motivation	4	16.7
Unavailable records	3	12.5
Attendings not involved	3	12.5
Fatigue	2	8.3
Bureaucratic barriers	2	8.3

Attending physicians were asked to suggest solutions to the problems in implementation. Their responses are tabulated in Table 10.

The most common solution suggested was the improvement of dissemination techniques, mentioned by 54.2% of the respondents. Respondents specifically mentioned using brief, clear forms, seminars, manuals, checklists, concrete examples, incorporating information in rounds, including it in teaching about health maintenance, and precepting sessions. The second most commonly suggested solution was to provide the faculty education in QA (29.2%). Third was to reduce time pressure (20.8%). Other suggestions were to streamline forms and protocols, change program

priorities and guidelines, improve chart reviews, and decrease paperwork. Among the "other" suggestions, which were mentioned by one respondent each was controlling the number of patients reviewed, stress the importance of QA, and suggesting that the faculty act as role models. Several respondents mentioned that QA issues should be included in the curriculum in a more systematic way.

Table 10

Frequencies and Distributions of Physician's Responses on Solutions to Impediments to Implementing Quality Assurance (N = 24)

Solution	*n*	%
Improve dissemination techniques	11	54.2
Educate faculty	7	29.2
Lower time pressure	5	20.8
Streamline forms and protocols	4	16.7
Reorder priorities/guidelines	3	12.5
Improve chart reviews	3	12.5
Less paperwork	2	8.3
Other	4	16.7

CHAPTER VI

QUANTITATIVE FINDINGS

In this chapter, the three hypotheses of this study are tested. The three major hypotheses of this study are:

1. A social work training seminar in Primary Health Care education, using the Q/A mandate will increase housestaff's awareness of hospital guidelines.
2. A social work training seminar in Primary Health Care education, using the Q/A mandate will improve housestaff's attitudes toward the use of Q/A terminology.
3. A social work training seminar in Primary Health Care education, using the Q/A mandate will improve housestaff's attitudes toward the use of Q/A guidelines.

Prior to the testing of the hypotheses, preliminary analyses will be conducted on the summed indicators for attitudes toward QA terminology and attitudes toward QA guidelines. They are presented in the first section.

Preliminary Analyses

Using the data from the 74 participants the indicators of attitudes toward QA terminology and guidelines were compiled and assessed for reliability and validity. The pool of 14 items assessing attitudes toward QA guidelines were factor analyzed using principle components extraction and a varimax rotation. The factor analysis resulted in the extraction of five factors with eigenvalues greater than 1 that accounted for 69.19% of the variance. Table 11 presents the results of the factor analysis. Rotated factor scores of over .40 are presented. Content analysis of the factors resulted in the following dimensions (I) Maintenance of Standards; (II) Diversity of Practice; (III) Quality of Care; (IV) Clarity of Presentation; and (V) Expectations.

Table 11

Rotated Factor Loadings for Pretest Quality Assurance Guidelines and Summary of Factor Analysis (N = 74)

	Factor[a]				
Item	I	II	III	IV	V
11		.80[b]			
12	.86				
13					.81
14					.42
15	.56				
16				.86	
17	.62				
18	.63	.44			
19				.71	
20		.74			
21			.81		
22			.72		
23		-.42			.64
24		.46	.62		
		Summary			
Eigenvalue	3.41	1.73	1.41	1.34	1.11
% Variance	26.25	13.27	10.87	10.30	8.50
Cum. % Var.	26.25	39.52	50.39	60.68	69.19

Note: [a] Factors were named as follows on a *post-hoc* basis: (1) Maintenance of Standards; (2) Diversity of Practice; (3) Quality of Care; (4) Clarity of Presentation; and (5) Expectations. Expectations was later removed from the analysis because of poor reliability. [b] Only coefficients greater than ±.40 are shown.

Factor I (Maintenance of Standards) accounted for 26.25% of the total variance. It contained four items (Nos. 12, 15, 17, and 18) that were concerned with the use of QA to maintain standards of medical care. Factor II (Diversity of Practice) contained two items (Nos. 11 and 20) that concerned the use of QA guidelines to increase diversity of practice. It accounted for 13.27% of the total variance. Factor III (Quality of Care) contained three items (Nos. 21, 22, and 24) about the use of QA guidelines for improving the quality of patient care. It accounted for 10.87% of the total variance. Factor IV (Clarity of Presentation) contained two items (Nos. 16 and 19) that were related to perceptions of communication of QA guidelines to housestaff. It accounted for 10.30% of the total variance. Factor V, initially called "Expectations" was extracted; however, because it had inadequate reliability (α = .29), it was eliminated from further analysis. In addition to the four specific attitude scale, a General Attitude toward QA Guidelines scale was constructed by taking all 14 items as a pool and engaging in scale improvement by removing items serially on the basis of increasing the alpha coefficient. The criterion for removal of items was that it had the lowest item-to-scale correlation. The final scale contained 10 items.

All of the summed scales were subjected to reliability tests using Cronbach's coefficient alpha. The results are presented in Table 12.

Table 12

Means, Standard Deviations, Number of Items, and Alpha (α) Coefficient for Pretest Summed Scales (N = 74)

Scale	*Item n*	*M*	*SD*	*α*
Terminology	4	14.74	2.41	.68
Maintenance of Standards	4	12.18	2.87	.74
Diversity of Practice	2	5.28	1.70	.57
Quality of Care	3	9.91	2.23	.61
Clarity of Presentation	2	3.81	1.49	.56
General Attitude toward QA	10	29.20	5.48	.76

From the pool of six items on QA terminology, two were removed because of low item-to-scale correlations. The resulting scale, called the Attitude toward QA Terminology Scale (AQAT) obtained an internal consistency reliability coefficient $\alpha = .68$ using Cronbach's coefficient alpha. The descriptive data are contained in Table 12.

The data in Table 12 indicate that the six summed scale items had reliability coefficients higher than the minimum criterion of .50 for adequate reliability. Diversity of Practice and Clarity of Presentation were marginal at $\alpha = .57$ and .56, respectively, but all others had fairly high alpha coefficients.

Following the factor analysis and the assessments of reliability, each scale was examined to see whether it approximated a normal curve using skewness and kurtosis coefficients and the Kolmogorov-Smirnov single

distribution *z*, which tested the hypothesis that the distribution significantly varied from a normal distribution. The results are presented in Table 13.

Table 13

Summary of Distribution Indicators for Pretest Summed Scales (*N* = 74)

Scale	Skewness	Kurtosis	*K-S z*
Terminology	0.16	0.41	1.38*
Maintenance of Standards	-0.24	0.51	0.96
Diversity of Practice	0.16	-0.13	1.27
Quality of Care	-0.02	0.04	1.19
Clarity of Presentation	0.59	-0.17	1.93**
General Attitude toward QA	0.10	-0.15	0.88

*$p < .05$. **$p < .01$.

Two scales had significant *z*-scores: Terminology ($z = 1.38$, $p < .05$), and Clarity of Presentation ($z = 1.93$, $p < .01$). The Terminology scale had a kurtosis coefficient of 0.41, indicating a peaked distribution, suggesting that there may be insufficient variance. The Clarity of Presentation Scale was positively skewed (skewness = 0.59), indicating that scores tended to bunch at the lower end of the distribution. These results suggest that findings based on the QA Terminology and Clarity of Presentation scales must be interpreted cautiously.

Graphical representations of the distributions of the six summed scales are presented in Figures 3-9.

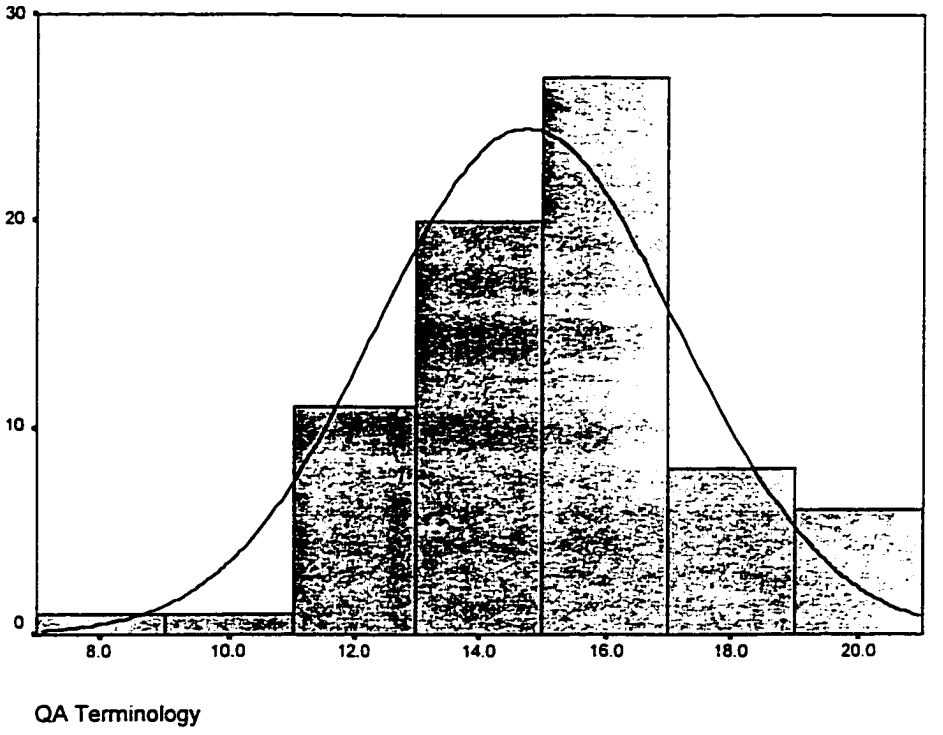


Figure 3: Distribution of scores on QA Terminology

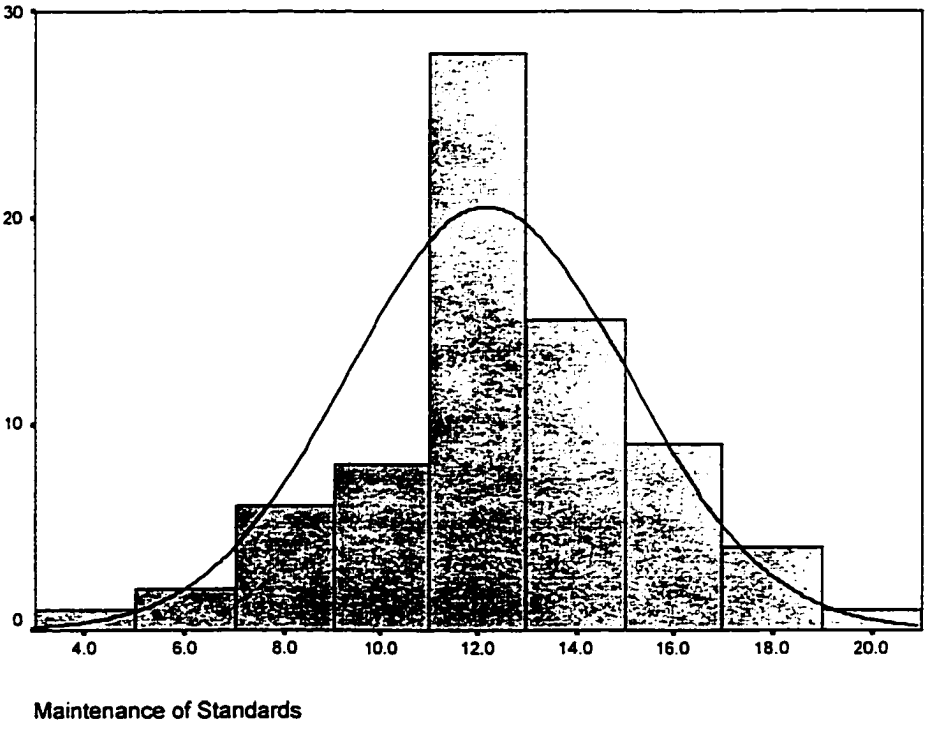


Figure 4: Distribution of scores on Maintenance of Standards

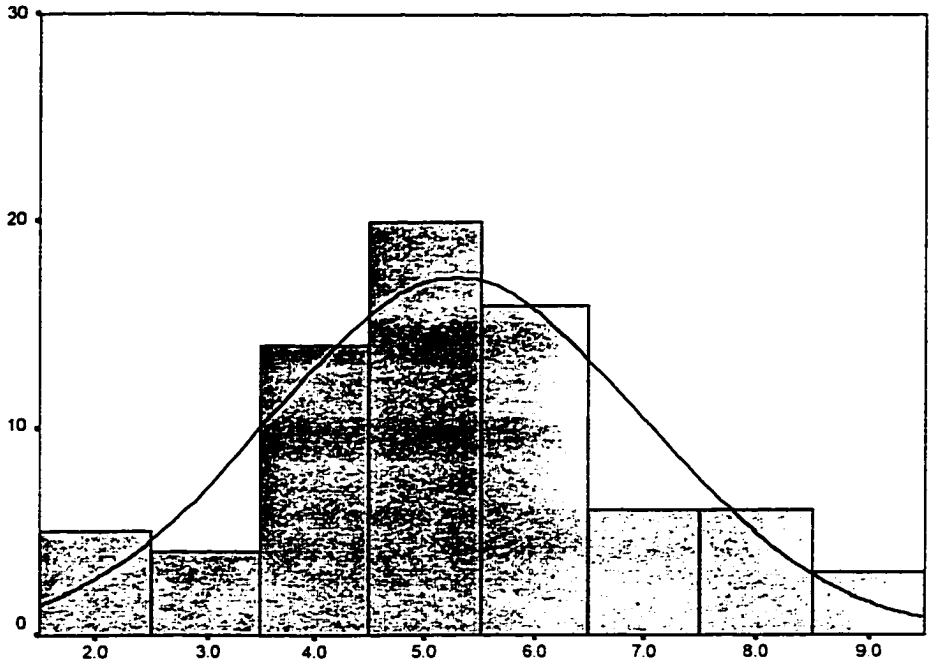


Figure 5: Distribution of scores on Diversity of Practice

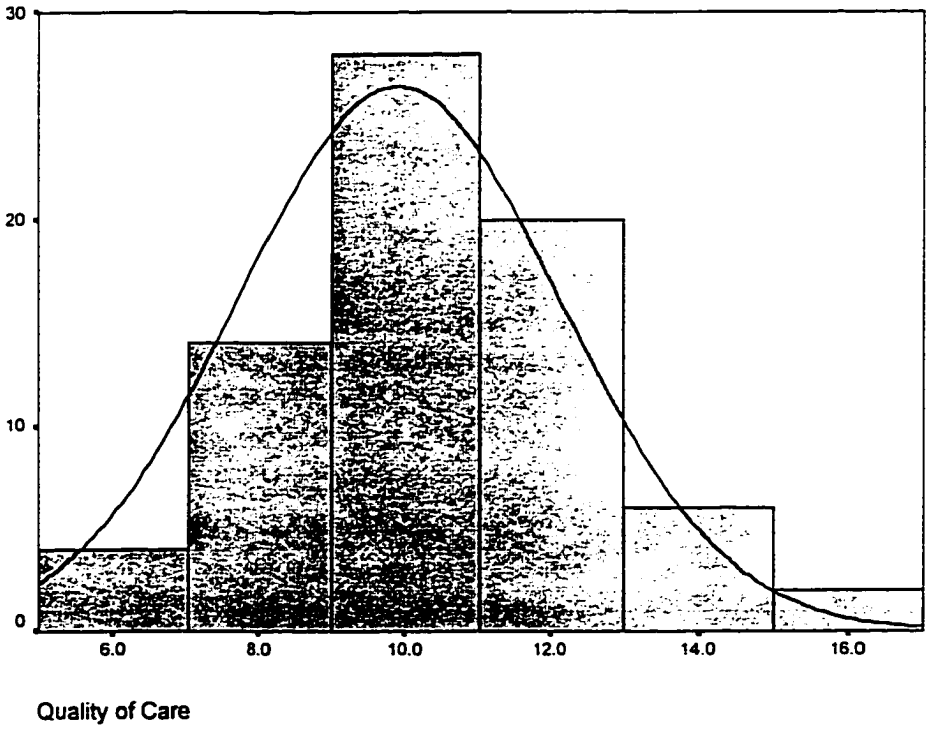


Figure 6: Distribution of scores on Quality of Care

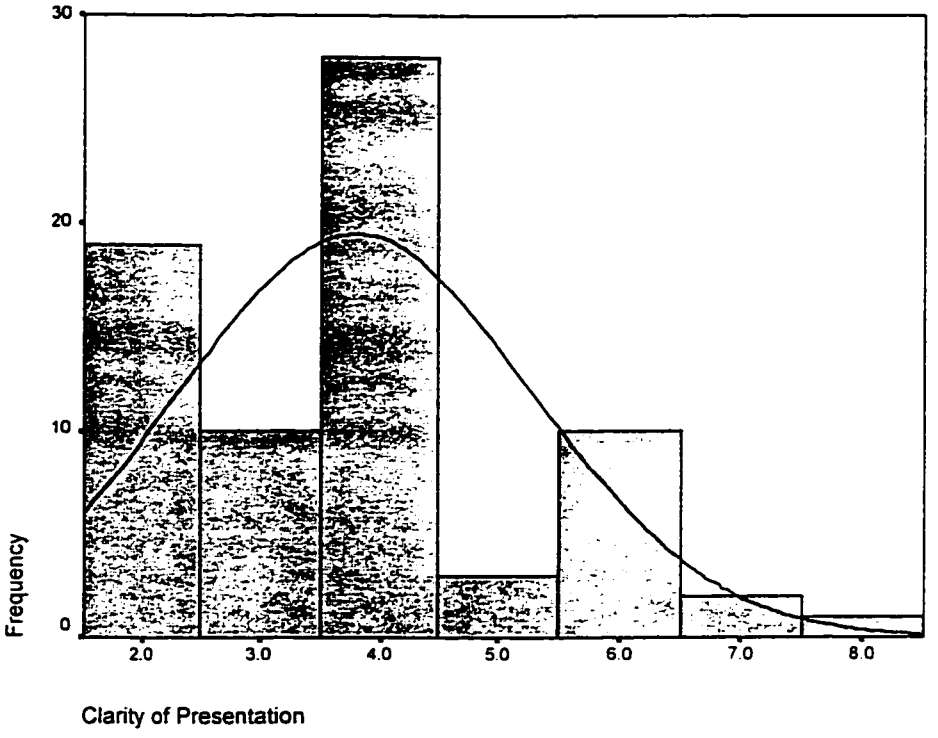


Figure 7: Distribution of scores on Clarity of Presentation

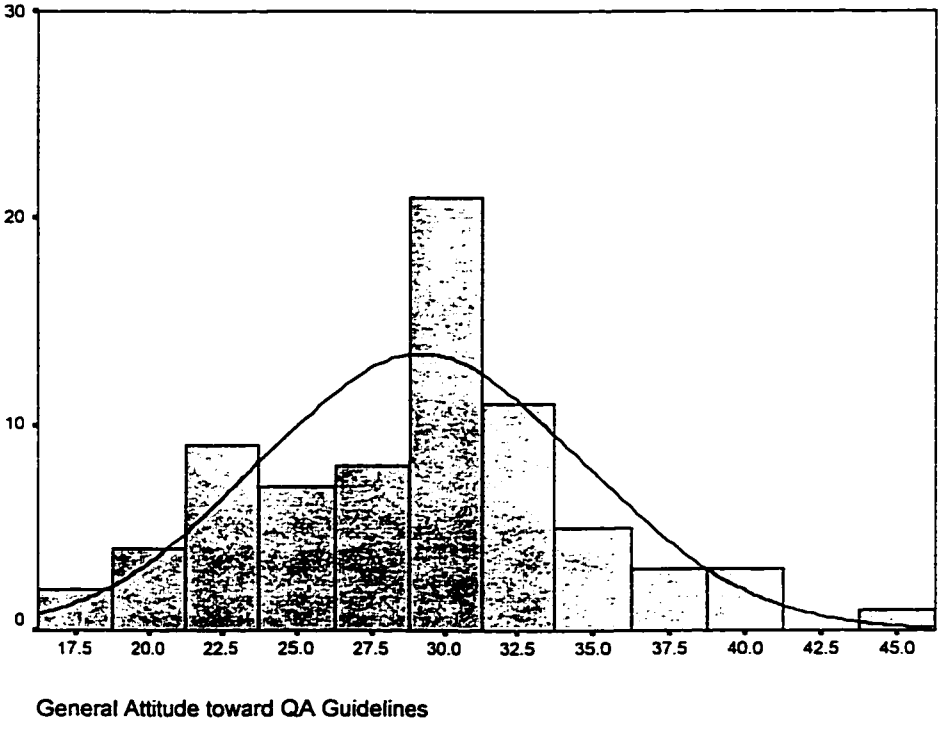


Figure 8: Distribution of scores on General Attitude toward QA Guidelines

The final test for the validity of the indicators was an analysis of concurrent validity using intercorrelations among the summed scales. The results are presented in Table 14.

Table 14

Correlations Among Pretest Summed Scales (N = 74)

	Scale				
Scale	2	3	4	5	6
1. Terminology	.47**	.18	.26*	.14	.40**
2. Maint. of Standards		.44**	.35**	.28*	.85**
3. Diversity of Practice			.23*	.14	.68**
4. Quality of Care				.22	.68**
5. Clarity of Presentation					.42**
6.Gen. Attitude toward QA					

*p < .05. **p < .01.

Because Attitudes toward QA Terminology was conceived of as a separate construct than the variables assessing attitudes toward QA guidelines, it would be expected that the intercorrelations among the variables measuring guidelines would be higher than those between terminology and guidelines. This was not the case, indicating that terminology was moderately related to Maintenance of Standards (r = .47, p < .01) and to General Attitude toward QA Guidelines (r = .40, p < .01). Maintenance of Standards was significantly related to all the other indicators.

Diversity of Practice was significantly related to Maintenance of Standards, Quality of Care, and General Attitudes. Quality of Care was significantly related to all variables other than Clarity of Presentation. Clarity of Presentation was related only to Diversity of Practice and General Attitudes. The General Attitudes correlations with the other guidelines indicators are artificially inflated, since the General scale contains items in the other guidelines scale. The correlation with Terminology is not inflated.

The data from the correlational analysis suggests the following: (a) attitudes toward terminology should be considered as not disparate from the QA guideline scales, and it measures a similar construct; (b) the Maintenance of Standards, Diversity of Practice, and Quality of Care scales are measure similar, but distinct aspects of attitudes toward QA guidelines; and (c) the Clarity of Presentation variable does not seem to be a valid measure of attitudes toward QA guidelines. It is more an assessment of the level of communication between the purveyors of QA guidelines and housestaff.

The results of the preliminary analysis can be summed up as follows: The six summed scales derived from the analysis of pretest responses were found to have adequate reliability, with the Terminology, Maintenance of Standards, Quality of Care, and General Attitude toward QA Guidelines scales as having strong reliability. Validity checks resulting from assessments of approximations to normal distributions suggested that the

Terminology and Clarity of Presentation variables may have had problems in the distribution of scores, with the Terminology variable having high kurtosis, and the Clarity of Presentation variable having a positive skew. Intercorrelations indicated that most correlations among the scales were in the moderate-to-high range with the exception of the Clarity of Presentation variable. Because of the skewed distribution and the failure of the Clarity of Presentation variable to correlate moderately or with any other variables, it was deemed to have insufficient validity to be included in subsequent analyses. The Terminology variable was included for two reasons: First, the problem of kurtosis is a relatively minor one, since the distribution is not skewed. Second, it is the one summed variable that assessed attitudes toward terminology.

Awareness of QA Guidelines

In order to test Hypothesis 1, which stated, "A social work training seminar in Primary Health Care education, using the Q/A mandate will increase housestaff's awareness of hospital guidelines" a crosstabular analysis was conducted on pretest and posttest responses to several questions related to QA awareness. The analysis concerns responses to the question, "Do you know the QA guidelines for XXX Medical Center?" The results are presented in Table 15.

Table 15

Crosstabulation of Pretest and Posttest Responses on Item 29, "Do you know the QA guidelines for XXX Medical Center?"

		Posttest		
Pretest		Yes	No	Total
Yes		3	1	4
	%	4.1	1.3	5.5
No		37	32	69
	%	50.6	43.8	94.5
Total		40	33	73
	%	54.8	45.2	100.0

Note: Two cells (50.0%) have an expected frequency of < 5. McNemar Test, $p < .01$.

A total of 37 (50.6%) of the 73 respondents answered "No" on the pretest and "Yes" on the posttest. The McNemar Test indicated that the shift from "No" to "Yes" was statistically significant at the .01 level. The data in the table indicated that 5.5% of the participants knew the QA guidelines on the pretest, and 54.8% knew them on the posttest assessment. The data indicated that significantly more doctors knew the medical center guidelines following the workshop than did before the workshop.

The second question related to QA guideline awareness was, "How many times have you participated in a chart review since beginning your residency training?" The results are presented in Table 16.

Table 16

Crosstabulation of Pretest and Posttest Responses on Item 30, "How many times have you participated in a chart review since beginning your residency training?"

	Posttest		
Pretest	Never	1-2 Times	Total
Never	54	3	57
%	76.0	4.2	80.3
1-2 Times	5	9	14
%	7.0	12.7	19.7
Total	59	12	71
%	83.1	16.9	100.0

Note: One cell (25.0%) has an expected frequency of < 5. McNemar Test, n.s.

The data in Table 16 indicate no significant pretest-posttest differences. The data indicate that only 5 respondents indicated "Never" on the pretest and "1-2 times " on the posttest. Since 3 respondents indicated "1-2 times" on the pretest and "Never" on the posttest, the results must be considered as indicative of little change. What is important is the number of respondents in the lower left-hand cell ($cell_{ba}$), which indicates low on the pretest and high on the posttest.

The third and final question relating to QA awareness is, "Have you ever attended a QA committee meeting?" The results are presented in Table 17.

Table 17

Crosstabulation of Pretest and Posttest Responses on Item 31, "Have you ever attended a QA committee meeting?"

		Posttest		
Pretest		Yes	No	Total
Yes		1	1	2
	%	1.4	1.4	2.7
No		4	67	71
	%	5.4	91.8	97.3
Total		5	68	73
	%	6.8	93.2	100.0

Note: Three cells (75.0%) have an expected frequency of < 5. McNemar Test, n.s.

Sixty-seven of the 73 respondents (91.8%) answered "No" on both the pretest and the posttest. Only 4 (5.4%) answered "No" on the pretest and "Yes" on the posttest.

Because of the gross lack of awareness of QA guidelines on the pretest, it was difficult to test the hypothesis statistically, since the Chi-square statistic is not valid where there are cells with expected frequencies of less than 5, which was the case in all three awareness items. However, on the question about knowledge of the QA guidelines for the XXXX Medical center, more than half of the respondents indicted no knowledge on the pretest and knowledge on the posttest. However, on the other two items, there was little in the way of a shift from unawareness to awareness or

participation on the other two items. Therefore, the hypothesis is partially supported.

QA Terminology

Hypothesis 2, which states, "A social work training seminar in Primary Health Care education, using the Q/A mandate will improve housestaff's attitudes toward the use of Q/A terminology," was tested using two sets of analyses. The first set was a series of crosstabulations on item responses on QA terminology. The second analysis consisted of a repeated measures analysis of variance on the QA Terminology Scale.

Item Analyses

Item analyses were conducted by creating median splits of low and high responses for pretest and posttest assessments. Crosstablular analyses were conducted comparing pretest and posttest distributions.

Table 18 presents the pretest and posttest distributions on the responses to Item 7, "Evaluation and analysis of data for Quality Assurance help to document acceptable levels of care." Nineteen (27.9%) doctors scored low on the pretest and high on the posttest, indicating a significant positive shift in their perceptions of QA helping to document acceptable care levels ($p < .05$).

Table 18

Crosstabulation of Pretest and Posttest Responses on Item 7, "Evaluation and analysis of data for Quality Assurance help to document acceptable levels of care"

		Posttest		
Pretest		Low	High	Total
Low		6	19	25
	%	8.8	27.9	36.8
High		7	36	43
	%	10.3	52.9	63.2
Total		13	55	68
	%	19.1	80.9	100.0

McNemar Test, $p < .05$.

Table 19 presents the distribution of pretest and posttest responses on Item 10, "Evaluation criteria for Quality Assurance are reasonable guidelines for assessing the quality and appropriateness of care." Twenty-one (38.9%) of the doctors scored low on the pretest and high on the posttest, indicating a significant positive shift in attitudes toward QA as providing guidelines for appropriate quality of care ($p < .05$).

Table 19

Crosstabulation of Pretest and Posttest Responses on Item 10, "Evaluation criteria for Quality Assurance are reasonable guidelines for assessing the quality and appropriateness of care."

	Posttest		
Pretest	Low	High	Total
Low	15	21	36
%	27.8	38.9	66.7
High	7	11	18
%	13.0	20.4	33.3
Total	22	32	54
%	40.7	59.3	100.0

McNemar Test, $p < .05$.

None of the other QA terminology items had significant pretest-posttest shifts and are, therefore, not presented here.

Summed Scale Analyses

The QA Terminology Scale was assessed for pretest-posttest differences using a repeated measures analysis of variance, with time being the repeated within-subjects measure. In addition, analyses were conducted comparing males and females, the four cohorts, and U.S. students versus foreign educated students. A total of 72 participants had full data for the statistical analysis.

Table 20 contains the pretest means and standard deviations for pretest and posttest assessments on the QA Terminology Scale. Table 21 presents the summary of the within-subjects and between subjects analyses. On the within-subjects analysis, time was a significant factor ($F_{[1, 56]} = 8.77$, $p < .01$), indicating that there was a significant pretest-posttest difference on attitudes toward QA terminology. For the total sample, the pretest mean was 14.74 ($SD = 2.43$) and for the posttest, the mean was 15.79 ($SD = 2.67$), indicating that the increase was in the positive direction. The time difference accounted for 14% of the variance in the equation ($\eta^2 = .14$).

Table 20

Means and Standard Deviations for QA Terminology (N = 72)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
1991					
Males	6	15.33	2.42	15.50	3.02
U.S.	5	15.80	2.39	14.60	2.30
Non-U.S.	1	13.00	0.00	20.00	0.00
Females	11	14.73	2.37	15.27	2.57
U.S.	6	15.00	3.23	14.00	2.61
Non-U.S.	5	14.40	0.89	16.80	1.64
Total	17	14.94	2.33	15.35	2.64
U.S.	11	15.36	2.77	14.27	2.76
Non-U.S.	6	14.17	0.98	17.33	1.97
1992					
Males	5	15.36	2.77	16.60	2.30
U.S.	4	12.50	1.91	15.75	1.50
Non-U.S.	1	20.00	0.00	20.00	0.00
Females	11	14.27	1.85	17.45	1.92
U.S.	4	14.75	0.50	17.25	1.26
Non-U.S.	7	14.00	2.31	17.57	2.30
Total	16	14.19	2.46	17.19	2.01
U.S.	8	13.63	1.77	16.50	1.51
Non-U.S.	8	14.75	3.01	17.88	2.30

Table 20 (continued)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
1993					
Males	5	13.80	3.77	15.20	5.76
U.S.	3	12.33	4.51	13.33	7.02
Non-U.S.	2	16.00	0.00	18.00	2.83
Females	14	14.57	2.06	15.86	2.41
U.S.	5	13.60	3.21	14.40	2.07
Non-U.S.	9	15.11	0.93	16.67	2.29
Total	19	14.37	2.52	15.68	3.42
U.S.	8	13.13	3.48	14.00	4.11
Non-U.S.	11	15.27	0.90	16.91	2.30
1994					
Males	5	15.60	2.51	15.00	1.87
U.S.	1	12.00	0.00	12.00	0.00
Non-U.S.	4	16.50	1.73	15.75	0.95
Females	15	15.27	2.49	15.20	2.18
U.S.	11	14.73	2.05	14.82	1.89
Non-U.S.	4	16.75	3.30	16.25	2.87
Total	20	15.35	2.43	15.15	2.06
U.S.	12	14.50	2.11	14.58	1.98
Non-U.S.	8	16.62	2.45	16.00	2.00

Table 20 (continued)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
Total					
Males	21	14.71	3.00	15.57	3.33
U.S.	13	13.69	3.09	14.46	3.45
Non-U.S.	8	16.38	2.20	17.38	2.26
Females	51	14.75	2.19	15.88	2.38
U.S.	26	14.58	2.39	14.92	2.19
Non-U.S.	25	14.92	2.00	16.88	2.19
Total	72	14.74	2.43	15.79	2.67
U.S.	39	14.28	2.61	14.77	2.64
Non-U.S.	33	15.27	2.11	17.00	2.17

Table 21

Summary of Repeated Measures Analysis of Variance for QA Terminology (N = 72)

Source	SS	df	MS	F	η^2
	Within Subjects				
Time	36.10	1	36.10	8.77**	.14
Time x Cohort	19.17	3	6.39	1.55	.08
Time x Sex	0.30	1	0.30	0.07	.00
Time x Country	8.14	1	8.14	1.97	.03
Time x Cohort x Sex	8.44	3	2.81	0.68	.04
Time x Cohort x Country	37.97	3	12.66	3.07*	.14
Time x Sex x Country	0.00	1	0.00	0.00	.00
Time x Cohort x Sex x Country	13.02	3	4.34	1.05	.05
Error (Time)	230.57	56	4.12		
	Between Subjects				
Cohort	34.88	3	11.63	1.62	.08
Sex	0.18	1	0.18	0.03	.00
Country[a]	134.15	1	134.15	18.68**	.25
Cohort x Sex	22.26	3	7.42	1.03	.05
Cohort x Country	11.99	3	4.00	0.56	.03
Sex x Country[b]	40.45	1	40.45	5.63*	.09
Cohort x Sex x Country	22.38	3	7.46	1.04	.05
Error	402.08	56	7.18		

*$p < .05$. **$p < .01$.

Note. [a]Non-U.S. > U.S. [b]Non-U.S. males > others.

The within subjects analysis indicated a significant time x cohort x country interaction ($F_{[3, 56]} = 3.07, p < .05$). Analysis of the descriptive data in Table 20 indicates that among the 1992 and 1993 cohorts, both U.S. and non-U.S. students increased from pretest to posttest. However, in the 1991 cohort the non-U.S. students increased while the U.S. students decreased, and there was very little change for both U.S. and non-U.S. students on attitudes toward QA terminology in the 1994 cohort.

The between subjects results were computed on a transformed score that is approximately the mean for pretest and posttest attitude scores. There was a significant difference in attitudes toward QA terminology between U.S. and non-U.S. students, with non-U.S. students having more positive attitudes ($F_{[1, 56]} = 18.68, p < .01$), which accounted for 25% of the variance in the equation. In addition, a sex x country interaction was found ($F_{[1, 56]} = 5.63, p < .05$), which accounted for 9% of the variance. Examination of the descriptive data in Table 21 indicated that U.S. males tended to have less positive attitudes toward QA terminology than other participants.

In summary, Hypothesis 2, which stated, "A social work training seminar in Primary Health Care education, using the Q/A mandate will improve housestaff's attitudes toward the use of Q/A terminology," was supported by the summed scale analyses, and by two of the item

crosstabulations. The summed scale analyses also indicated that non-U.S. students had more positive attitudes than U.S. students at pretest and posttest, and that U.S. males had the least positive attitudes toward QA terminology when compared to other students.

Attitudes toward QA Guidelines

Hypothesis 3 stated, "A social work training seminar in Primary Health Care education, using the Q/A mandate will improve housestaff's attitudes toward the use of Q/A guidelines." It was tested similarly to Hypothesis 2, first with crosstabulations of pretest and posttest responses to items dichotomized using median splits, followed by repeated measures analyses of variance on summed scales. The first section will be devoted to the item analyses.

Item Analyses

The pretest and posttest scores on the14 items assessing attitudes toward QA guidelines were examined using crosstabular analyses. The McNemar Test was used to determine significant pretest-posttest shifts. An alpha level of .05 was used to determine pretest-posttest differences. Only those items with significant pretest-posttest differences will be discussed in

this section. Table 22 contains the crosstabulation for pretest and posttest scores on Item 13, "QA Guidelines prevent mistakes by having a second level of review to establish and uphold standards." Twenty (29.0%) doctors scored low on the pretest and high on the posttest, indicating a significant positive shift in attitude toward the use of QA guidelines to prevent mistakes.

Table 22

Crosstabulation of Pretest and Posttest Responses on Item 13, "QA Guidelines prevent mistakes by having a second level of review to establish and uphold standards."

	Posttest		
Pretest	Low	High	Total
Low	9	20	29
%	13.0	29.0	42.0
High	7	33	40
%	10.1	47.8	58.0
Total	16	53	69
%	23.2	76.8	100.0

McNemar Test, $p < .05$.

Table 23 contains the crosstabulation of pretest-posttest distributions of the doctors on responses to Item 18, "QA Guidelines build consensus about appropriate patient care protocols." Eighteen (30.0%) of the doctors scored low on the pretest and high on the posttest, indicating a positive shift

in attitude toward the use of QA in developing consensus about appropriate patient care protocols ($p < .01$).

Table 23
Crosstabulation of Pretest and Posttest Responses on Item 18, "QA Guidelines build consensus about appropriate patient care protocols."

		Posttest		
Pretest		Low	High	Total
Low		14	18	32
	%	23.3	30.0	53.3
High		4	24	28
	%	6.7	40.0	46.7
Total		18	42	60
	%	30.0	70.0	100.0

McNemar Test, $p < .01$.

Table 24 presents the crosstabulations of residents' responses to Item 22, "QA Guidelines ensure that the JCAHO standards are met." Thirteen (22.4%) of the respondents scored on low the pretest and high on the posttest indicating a significant shift to a more positive view that QA guidelines ensured standards.

Table 24

Crosstabulation of Pretest and Posttest Responses on Item 22, "QA Guidelines ensure that the JCAHO standards are met."

		Posttest		
Pretest		Low	High	Total
Low		10	13	23
	%	17.2	22.4	39.7
High		3	32	35
	%	5.2	55.2	60.3
Total		13	45	58
	%	22.4	77.6	100.0

McNemar Test, $p < .05$.

Summed Scale Analyses

As noted above, the items assessing attitudes toward QA guidelines clustered into four reliable and valid scales: Maintenance of Standards, Diversity of Practice, Quality of Care, and General Attitude toward QA Guidelines. Each scale was analyzed using repeated measures analyses of variance using cohort, sex, and country of training as between-subjects factors. Table 25 presents the means and standard deviations for all subgroups and the total sample. Table 26 presents the results of the analysis of variance.

Table 25

Means and Standard Deviations for Maintenance of Standards (N = 72)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
1991					
Males	6	12.08	4.77	13.00	2.68
U.S.	5	10.70	3.75	12.40	2.51
Non-U.S.	1	19.00	0.00	16.00	0.00
Females	11	11.50	1.56	11.82	2.64
U.S.	6	11.58	1.80	11.00	3.03
Non-U.S.	5	11.40	1.43	12.80	1.92
Total	17	11.71	2.95	12.24	2.63
U.S.	11	11.18	2.73	11.63	2.77
Non-U.S.	6	12.67	3.36	13.33	2.16
1992					
Males	5	12.40	4.04	15.00	2.24
U.S.	4	11.50	4.04	14.25	1.71
Non-U.S.	1	16.00	0.00	18.00	0.00
Females	11	11.18	2.52	14.45	2.34
U.S.	4	11.25	2.22	14.25	1.50
Non-U.S.	7	11.14	2.85	14.57	2.82
Total	16	11.56	2.99	14.63	2.25
U.S.	8	11.38	3.02	14.25	1.49
Non-U.S.	8	11.75	3.15	15.00	2.88

Table 25 (cont.)

Cohort/Sex/Country	*n*	Pretest *M*	Pretest *SD*	Posttest *M*	Posttest *SD*
1993					
Males	5	10.80	3.63	13.60	3.36
U.S.	3	9.33	4.16	12.33	4.04
Non-U.S.	2	13.00	1.41	15.50	0.71
Females	14	12.25	2.29	13.57	3.25
U.S.	5	12.50	2.69	11.60	2.79
Non-U.S.	9	12.11	2.20	14.67	3.08
Total	19	11.86	2.68	13.58	3.18
U.S.	8	11.31	3.43	11.87	3.04
Non-U.S.	11	12.27	2.05	14.82	2.79
1994					
Males	5	14.60	1.52	13.60	1.52
U.S.	1	12.00	0.00	12.00	0.00
Non-U.S.	4	15.25	0.50	14.00	1.41
Females	15	12.93	3.15	12.87	2.33
U.S.	11	12.27	2.80	12.73	2.49
Non-U.S.	4	14.75	3.77	13.25	2.06
Total	20	13.35	2.89	13.05	2.14
U.S.	12	12.25	2.67	12.67	2.39
Non-U.S.	8	15.00	2.51	13.63	1.69

Table 25 (cont.)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
Total					
Males	21	12.45	3.73	13.76	2.47
U.S.	13	10.73	3.53	12.92	2.53
Non-U.S.	8	15.25	1.98	15.13	1.73
Females	51	12.06	2.52	13.18	2.75
U.S.	26	12.00	2.40	12.35	2.65
Non-U.S.	25	12.12	2.71	14.04	2.64
Total	72	12.17	2.91	13.35	2.67
U.S.	39	11.57	2.84	12.53	2.59
Non-U.S.	33	12.88	2.86	14.30	2.47

According to the data in Table 26, time (pretest to posttest) was a significant within-subjects factor ($F_{[1, 60]} = 9.71$, $p < .01$). The pretest score for the total sample was 12.17 (SD = 2.91) and the posttest score was 13.35 (SD = 2.67), indicating that there was a positive shift in attitudes toward the use of QA in the maintenance of standards. The time variable accounted for 14% of the variance in the equation. The data also indicated a significant time by cohort interaction ($F_{[3, 60]} = 3.27$, $p < .05$). The data in Table 25 indicate that the 1991, 1992, and 1993 cohorts changed positively, while the 1994 cohort started with a higher score than the other cohorts and evidenced virtually no change.

Table 26

Summary of Repeated Measures Analysis of Variance for Maintenance of Standards (N = 72)

Source	*SS*	*df*	*MS*	*F*	η^2
	Within Subjects				
Time	47.25	1	47.25	9.71**	.14
Time x Cohort	47.76	3	15.29	3.27*	.14
Time x Sex	1.92	1	1.92	0.39	.01
Time x Country	0.61	1	0.61	0.13	.00
Time x Cohort x Sex	6.32	3	2.11	0.43	.02
Time x Cohort x Country	17.83	3	5.94	1.22	.06
Error (Time)	291.96	60	4.86		
	Between Subjects				
Cohort	22.91	3	7.64	0.79	.04
Sex	12.77	1	12.77	1.32	.02
Country[a]	84.19	1	84.19	8.68**	.13
Cohort x Sex	13.93	3	4.64	0.47	.02
Cohort x Country	3.74	3	1.25	0.13	.01
Error	582.32	60	9.70		

*$p < .05$. **$p < .01$.

Note. [a]Non-U.S. > U.S.

The between subjects analysis was computed on a transformed score that was the numerical average of pretest and posttest scores. It indicated that those who were trained in non-U.S. medical schools had significantly

more positive attitudes toward QA as maintaining standards than those who were trained in the U.S. ($F_{[1, 60]} = 8.68$, $p < .01$). No other between subjects factors were significant. U.S. trained physicians had a pretest mean of 11.57 ($SD = 2.84$) compared to non-U.S. trained physicians' mean of 12.88 ($SD = 2.86$). Similarly, on the posttest, U.S. trained physicians had a mean of 12.88 ($SD = 2.86$) compared to non-U.S. trained physicians' mean of 14.30 ($SD = 14.30$).

Table 27 presents the means and standard deviations for pretest and posttest assessments on attitudes toward QA encouraging diversity of practice. No significant within-subjects differences were found, as shown in Table 28. The between subjects analyses revealed that non-U.S. trained housestaffers had more positive attitudes toward QA as encouraging diversity of practice than did U.S. trained housestaffers ($F_{[1, 60]} = 4.44$, $p < .05$). U.S. trained physicians had a pretest mean of 4.82 ($SD = 1.47$) compared to non-U.S. trained physicians' mean of 5.82 ($SD = 1.83$). Similarly, on the posttest, U.S. trained physicians had a mean of 4.69 ($SD = 1.61$) compared to non-U.S. trained physicians' mean of 5.61 ($SD = 2.07$).

Table 27

Means and Standard Deviations for Diversity of Practice (N = 72)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
1991					
Males	6	4.83	1.94	4.50	2.26
U.S.	5	4.20	1.30	4.00	2.12
Non-U.S.	1	8.00	0.00	7.00	0.00
Females	11	5.00	0.77	5.18	1.60
U.S.	6	4.83	0.98	5.00	1.41
Non-U.S.	5	5.20	0.45	5.40	1.95
Total	17	4.94	1.25	4.94	1.82
U.S.	11	4.55	1.13	4.55	1.75
Non-U.S.	6	5.67	1.21	5.67	1.86
1992					
Males	5	4.20	1.48	4.80	1.92
U.S.	4	3.75	1.26	4.25	1.71
Non-U.S.	1	6.00	0.00	7.00	0.00
Females	11	4.82	1.78	5.18	1.60
U.S.	4	4.00	1.41	5.00	0.82
Non-U.S.	7	5.29	1.89	5.29	1.98
Total	16	4.63	1.67	5.06	1.65
U.S.	8	3.88	1.25	4.63	1.30
Non-U.S.	8	5.38	1.77	5.50	1.93

Table 27 (cont.)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
1993					
Males	5	5.00	2.00	5.60	2.61
U.S.	3	5.67	1.53	4.67	2.52
Non-U.S.	2	4.00	2.83	7.00	2.82
Females	14	5.86	2.18	4.79	1.81
U.S.	5	4.60	2.70	4.00	1.87
Non-U.S.	9	6.56	1.59	5.22	1.72
Total	19	5.63	2.11	5.00	2.00
U.S.	8	5.00	2.27	4.25	1.98
Non-U.S.	11	6.06	1.97	5.22	1.72
1994					
Males	5	6.80	1.92	6.60	2.61
U.S.	1	6.00	0.00	6.00	0.00
Non-U.S.	4	7.00	2.16	6.75	2.99
Females	15	5.40	1.24	5.00	1.81
U.S.	11	5.55	0.82	5.09	1.51
Non-U.S.	4	5.00	2.16	4.75	2.75
Total	20	5.75	1.52	5.40	2.09
U.S.	12	5.58	0.79	5.17	1.47
Non-U.S.	8	6.00	2.27	5.75	2.87

Table 27 (cont.)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
Total					
Males	21	5.19	1.96	5.33	2.33
U.S.	13	4.53	1.45	4.38	1.89
Non-U.S.	8	6.25	2.31	6.88	2.23
Females	51	5.31	1.61	5.02	1.68
U.S.	26	4.96	1.48	4.85	1.46
Non-U.S.	25	5.68	1.68	5.20	1.89
Total	72	5.28	1.71	5.11	1.88
U.S.	39	4.82	1.47	4.69	1.61
Non-U.S.	33	5.82	1.83	5.61	2.07

Table 29 presents the means and standard deviations for pretest and posttest assessments on attitudes toward QA as improving quality of care. Table 30 presents the summary of the repeated measures analysis of variance. An interaction between time and cohort was found ($F_{[3, 60]} = 3.68$, $p < .05$) that accounted for 16% of the variance in the equation. An analysis of the pretest and posttest means suggest that the 1992 and 1993 cohorts showed positive change while the 1991 and 1994 cohorts evinced negative change on their attitudes toward QA influencing the quality of care.

Table 28

Summary of Repeated Measures Analysis of Variance for Diversity of Practice (N = 72)

Source	SS	df	MS	F	η^2
	Within Subjects				
Time	0.01	1	0.01	0.06	.00
Time x Cohort	2.32	3	0.77	0.49	.02
Time x Sex	0.72	1	0.72	0.46	.01
Time x Country	0.00	1	0.00	0.01	.00
Time x Cohort x Sex	5.49	3	1.82	1.17	.06
Time x Cohort x Country	1.43	3	0.48	0.30	.02
Error (Time)	94.19	60	1.57		
	Between Subjects				
Cohort	19.53	3	6.51	1.36	.06
Sex	5.04	1	5.04	1.06	.02
Country[a]	21.17	1	21.17	4.44*	.07
Cohort x Sex	10.98	3	3.66	0.77	.04
Cohort x Country	10.23	3	3.41	0.72	.04
Error	286.14	60	4.76		

*$p < .05$. **$p < .01$.

Note. [a]Non-U.S. > U.S.

On the between subjects analyses based upon the numerical average of pretest and posttest scores, housestaffers trained in non-U.S. medical schools had more positive attitudes toward QA influencing the quality of

patient care than did those trained in U.S. medical schools ($F_{[1, 60]} = 6.88$, $p < .05$). U.S. trained physicians had a pretest mean of 9.08 ($SD = 2.54$) compared to non-U.S. trained physicians' mean of 11.87 ($SD = 2.23$). Similarly, on the posttest, U.S. trained physicians had a mean of 9.42 ($SD = 2.02$) compared to non-U.S. trained physicians' mean of 10.25 ($SD = 1.16$).

Table 29

Means and Standard Deviations for Quality of Care (N = 72)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
1991					
Males	6	11.00	3.03	10.17	1.72
U.S.	5	10.40	2.97	9.80	1.64
Non-U.S.	1	14.00	0.00	12.00	0.00
Females	11	9.45	1.86	9.45	2.20
U.S.	6	8.67	2.25	9.00	1.64
Non-U.S.	5	10.40	0.55	10.00	1.58
Total	17	10.00	2.37	9.71	2.02
U.S.	11	9.45	2.62	9.36	2.20
Non-U.S.	6	11.00	1.55	10.33	1.63
1992					
Males	5	8.60	1.67	11.00	1.22
U.S.	4	8.50	1.91	10.75	1.26
Non-U.S.	1	9.00	0.00	12.00	0.00
Females	11	10.27	1.90	11.00	1.67
U.S.	4	10.00	1.63	10.75	0.96
Non-U.S.	7	10.43	2.15	11.14	2.04
Total	16	9.75	1.95	11.00	1.51
U.S.	8	9.25	1.83	10.75	1.04
Non-U.S.	8	10.25	2.05	11.25	1.91

Table 29 (cont.)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
1993					
Males	5	9.60	1.52	11.80	2.28
U.S.	3	9.67	1.53	11.67	3.06
Non-U.S.	2	9.50	2.12	12.00	1.41
Females	14	9.64	2.10	10.07	2.13
U.S.	5	9.40	1.82	9.00	2.34
Non-U.S.	9	9.78	2.33	10.67	1.87
Total	19	9.63	1.92	10.53	2.25
U.S.	8	9.50	1.60	10.00	2.78
Non-U.S.	11	9.73	2.20	10.91	1.81
1994					
Males	5	11.60	1.82	10.40	1.34
U.S.	1	9.00	0.00	9.00	0.00
Non-U.S.	4	12.25	1.26	10.75	1.26
Females	15	9.73	2.98	9.53	1.85
U.S.	11	9.09	2.66	9.45	2.11
Non-U.S.	4	11.50	3.11	9.75	0.96
Total	20	10.20	2.75	9.75	1.74
U.S.	12	9.08	2.54	9.42	2.02
Non-U.S.	8	11.87	2.23	10.25	1.16

Table 29 (cont.)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
Total					
Males	21	10.24	2.32	10.81	1.69
U.S.	13	9.54	2.22	10.46	1.90
Non-U.S.	8	11.38	2.13	11.38	1.19
Females	51	9.76	2.23	9.98	2.00
U.S.	26	9.19	2.21	9.46	2.14
Non-U.S.	25	10.36	2.14	10.52	1.73
Total	72	9.90	2.25	10.22	1.95
U.S.	39	9.31	2.19	9.79	2.09
Non-U.S.	33	10.61	2.15	10.73	1.64

Table 30

Summary of Repeated Measures Analysis of Variance for Quality of Care (*N* = 72)

Source	SS	df	MS	F	η^2
	Within Subjects				
Time	4.78	1	4.78	1.87	.03
Time x Cohort	29.60	3	9.87	3.86*	.16
Time x Sex	2.99	1	2.99	1.17	.02
Time x Country	1.26	1	1.26	0.49	.01
Time x Cohort x Sex	10.96	3	3.65	1.42	.07
Time x Cohort x Country	10.39	3	3.46	1.35	.06
Error (Time)	153.49	60	2.56		
	Between Subjects				
Cohort	0.14	3	0.00	0.01	.00
Sex	10.44	1	10.44	1.81	.03
Country[a]	39.61	1	39.61	6.89*	.10
Cohort x Sex	16.91	3	5.64	0.98	.05
Cohort x Country	7.79	3	2.60	0.45	.02
Error	344.77	60	5.74		

*$p < .05$. **$p < .01$.

Note. [a]Non-U.S. > U.S.

The General Attitude Toward Quality Guidelines Scale (GATQGS), as noted in the methods chapter, is not merely an additive compilation of the previous scales assessed in this session, but contains items that are included

in some of them and also unique items. It was subjected to the same analyses as the previous QA guideline scales. Pretest and posttest means and standard deviations are presented in Table 31. The summary of the repeated measures analysis of variance is presented in Table 32. The repeated measures variable "time," which assessed pretest-posttest differences was significant ($F_{[1, 60]} = 11.86$, $p < .01$) and accounted for 17% of the variance in the equation. The pretest mean was 29.19 ($SD = 5.55$) and the posttest mean was 30.95 ($SD = 5.45$), indicating more positive attitudes toward QA guidelines than on the pretest. In addition, there was a significant interaction between cohort and time ($_{F[3, 60]} = 5.67$, $p < .01$). Perusal of the means indicated that the cohorts between 1991 and 1993 had more positive posttest scores than pretest scores, with the 1992 having posttest scores nearly 5½ points higher than their pretest scores. The 1994 cohort had the highest pretest mean score of all the cohorts ($M = 31.35$, $SD = 5.63$) and declined on the posttest ($M = 30.30$, $SD = 4.35$). Cohort pretest-posttest differences over time accounted for 22% of the variance.

Table 31

Means and Standard Deviations for General Attitude Toward Quality Guidelines (N = 72)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
1991					
Males	6	29.75	7.58	29.67	6.15
U.S.	5	26.90	3.31	27.80	4.60
Non-U.S.	1	44.00	0.00	39.00	0.00
Females	11	27.41	3.15	29.18	5.36
U.S.	6	26.42	3.64	27.33	5.71
Non-U.S.	5	28.60	2.25	31.40	4.45
Total	17	28.24	5.05	29.35	5.47
U.S.	11	26.64	3.32	27.55	4.99
Non-U.S.	6	31.17	6.60	32.67	5.05
1992					
Males	5	26.80	6.50	33.60	4.39
U.S.	4	25.25	6.34	31.75	1.71
Non-U.S.	1	33.00	0.00	41.00	0.00
Females	11	28.36	5.16	33.18	4.47
U.S.	4	27.00	4.24	32.50	3.42
Non-U.S.	7	29.14	5.79	33.57	5.19
Total	16	27.88	5.44	33.31	4.30
U.S.	8	26.13	5.08	32.13	2.53
Non-U.S.	8	29.63	5.53	34.50	5.48

Table 31 (cont.)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
1993					
Males	5	26.60	5.99	33.00	6.63
U.S.	3	25.67	6.43	30.33	7.57
Non-U.S.	2	28.00	7.07	37.00	2.82
Females	14	29.68	5.69	30.43	7.08
U.S.	5	28.30	7.21	26.40	6.46
Non-U.S.	9	30.44	4.98	32.67	6.69
Total	19	28.87	5.75	31.11	6.88
U.S.	8	27.31	6.58	27.88	6.66
Non-U.S.	11	30.00	5.08	33.45	6.29
1994					
Males	5	34.80	3.42	32.80	3.11
U.S.	1	30.00	0.00	30.00	0.00
Non-U.S.	4	36.00	2.45	33.50	3.11
Females	15	30.20	5.83	29.47	4.47
U.S.	11	29.09	5.79	29.36	4.86
Non-U.S.	4	33.25	5.50	29.70	3.77
Total	20	31.35	5.63	30.30	4.35
U.S.	12	29.17	5.52	29.42	4.64
Non-U.S.	8	34.63	4.20	31.63	3.78

Table 31 (cont.)

		Pretest		Posttest	
Cohort/Sex/Country	*n*	*M*	*SD*	*M*	*SD*
Total					
Males	21	29.50	6.56	32.14	5.17
U.S.	13	26.35	4.73	29.77	4.51
Non-U.S.	8	34.63	6.02	32.14	5.17
Females	51	29.05	5.14	30.47	5.53
U.S.	26	28.00	5.27	28.81	5.30
Non-U.S.	25	30.16	4.87	32.20	5.34
Total	72	29.19	5.55	30.95	5.45
U.S.	39	27.45	5.10	29.13	5.01
Non-U.S.	33	31.24	5.42	33.12	5.21

In the between subjects analyses, the findings indicated that Non-U.S. trained physicians had more positive attitudes toward QA than did physicians trained in the U.S. ($F_{[1, 60]} = 11.42$, $p < .01$). The pretest mean for the U.S. trained physicians was 27.45 ($SD = 5.10$) and for the non-U.S. trained, it was 31.24 ($SD = 5.42$). Similarly, the U.S. trained physicians had a mean of 29.13 ($SD = 5.01$) on the posttest compared with 33.12 ($SD = 5.21$) for the non-U.S. educated physicians. The findings will be discussed in the next chapter.

Table 32

Summary of Repeated Measures Analysis of Variance for General Attitude Toward Quality Guidelines (N = 72)

Source	SS	df	MS	F	η^2
	Within Subjects				
Time	138.26	1	138.26	11.86**	.17
Time x Cohort	198.45	3	66.15	5.67**	.22
Time x Sex	20.69	1	20.69	1.78	.03
Time x Country	0.00	1	0.00	0.00	.00
Time x Cohort x Sex	67.21	3	22.40	1.92	.09
Time x Cohort x Country	61.23	3	20.41	1.75	.08
Error (Time)	699.39	60	11.66		
	Between Subjects				
Cohort	62.71	3	20.90	0.50	.02
Sex	81.65	1	81.65	1.94	.03
Country	479.63	1	479.63	11.42**	.16
Cohort x Sex	26.27	3	8.76	0.21	.01
Cohort x Country	35.81	3	11.94	0.28	.01
Error	2520.39	60	42.01		

*$p < .05$. **$p < .01$.

CHAPTER VII

CONCLUSION

The concluding chapter will contain four sections. The first section contains a summary of the study; the second section includes a discussion of the results; the third section draws implications for social work practice; the fourth section contains recommendations for future research.

Summary of the Study

It is the purpose of this researcher to evaluate the training program in terms of its ability to increase housestaff's awareness of QA guidelines, increase positive attitudes toward the use of QA terminology, and increase positive attitudes toward the use of QA guidelines. The following hypotheses were tested in a summative evaluation of the QA inservice program:

1. A social work training seminar in Primary Health Care education, using the QA mandate will increase housestaff's awareness of hospital guidelines.

2. A social work training seminar in Primary Health Care education, using the QA mandate will improve housestaff's attitudes toward the use of QA terminology.

3. A social work training seminar in Primary Health Care education, using the QA mandate will improve housestaff's attitudes toward the use of QA guidelines.

The seminar that was the focus of this study was presented to the incoming class of interns each year after three months participation in the residency program in the hospital. It was conducted in two two-hour sessions one week apart. The first session began with an introduction and overview of the topics to be presented and administration of the pretest. The core of the seminar was conducted in small discussion groups in which residents were presented with case studies where doctors were cited for problems in patient care management related to poor documentation in patient records. Each group had a different case. They would discuss it and conclude how it should have been handled. The remainder of the session was taken up with each group reporting back to the class as a whole and the class discussing issues of documentation and management of quality care. As each group presented its conclusions, I would present the case on an overhead projector so that all could follow along and know the facts of the case. The outcome of the seminar was the creation of a list of guidelines developed by the class on documentation of patient care.

The second session began with a seminar on problem solving using the model that doctors use when dealing with a patient's presenting problems. The QA mandate required a similar approach. Residents were provided with practical suggestions about how to properly document patient records. The QA/CQI Manual was then distributed to the participating residents, along with a brief presentation of the history and intent of the manual. After the residents looked over the manual, they were invited to discuss the general principles and guidelines of QA in relation to the goals of medicine. It included discussion of the differences between QA and continuous quality improvement, client satisfaction, communication between doctor and patient, proper documentation, monitoring of physicians, and accreditation of hospitals. The second session was concluded with the administration of the posttest.

Two samples were used in this study. The first sample consisted of 24 attending physicians who responded to an open-ended six item questionnaire about what they knew about QA and their attitudes toward its implementation. These qualitative data were used to inform the researcher about the use of QA in medicine and to provide a basis for constructing the closed-end survey of housestaff to be used as the evaluation tool for the inservice seminars.

The second sample contained 75 members of the housestaff who participated in the training in four cohorts between 1991 and 1994.

Complete data were collected from 72 participants, who constituted the sample for this study. The participants were mostly female. There were slightly more married participants than unmarried. Nearly half were Caucasian, the rest were split among West Indians, Hispanics, East Indians, African-Americans, and others. Slightly more than half were born in the U.S., and approximately 70% were educated in U.S. medical schools. The mean age of the participants was 32 years (SD = 6.61).

Participants in the four cohorts were assessed pre- and post-participation on their awareness of and attitude towards QA guidelines. Data were also collected on the demographic variables of age, sex, date of medical school graduation, and where they received their medical degree. Indicators were tested for reliability and validity.

Findings from the qualitative study indicated that the attending physician were aware of QA guidelines. Most defined it in terms of monitoring procedures in order to maintain standards of health care. Most thought that the purpose of QA was to maintain standards, although large pluralities also thought that QA could be used to improve resident education or the quality of patient care.

Only about one-fourth had any formal training in QA procedures and one-third had no training at all. When asked how much time they spent in using QA procedures in care with patients and instruction with residents,

responses varied widely, depending on the breadth of their definitions of QA. Some attending physicians concluded that everything they did was a manifestation of QA. Others viewed it narrowly and indicated that they engaged in QA rarely. Major impediments to the implementation of QA were time constraints and ignorance. The most common solution to the problem of implementation was improved dissemination techniques.

The major findings from the quantitative data were as follows:

1. Hypothesis 1, which stated, "A social work training seminar in Primary Health Care education, using the QA mandate will increase housestaff's awareness of hospital guidelines," was partially supported by the data. However, because of measurement problems, several items assessing awareness could not be subjected to rigorous statistical analysis.
2. Hypothesis 2, which stated, "A social work training seminar in Primary Health Care education, using the QA mandate will improve housestaff's attitudes toward the use of QA terminology," was supported by the data. Findings also indicated that non-U.S. students had more positive attitudes than U.S. students at pretest and posttest, and that U.S. males had the least positive attitudes toward QA terminology when compared to other students.

30. Hypothesis 3 stated, "A social work training seminar in Primary Health Care education, using the QA mandate will improve housestaff's attitudes toward the use of QA guidelines." The hypothesis was partially supported for the use of QA for maintenance of standards and general attitude toward QA guidelines. It was not supported for use of QA for quality of care nor for encouraging diversity of practice. Foreign educated physicians tended to have more positive attitudes toward QA guidelines than U.S. educated physicians.

Discussion

As noted previously, this study was primarily designed to assess the impact of a two-day seminar on QA terminology and guidelines for first year residents in a graduate medical education program. Evidence from the study conducted by Sivaram et al. (1996) indicated that housestaffers were hesitant to report adverse drug reactions until a mechanism was designed to encourage such reportage. At the beginning they were suspicious. Mizrahi (1986) indicated that housestaff jealously guards its prerogatives. The seminars about QA were taught to an initially suspicious clientele. Such suspicions had to be overcome if the intervention was to be successful. Geertsma et al. (1982) suggested a three stage approach of priming,

focusing, and follow-up as a successful mode of professional instruction. Certainly, in this study priming and focusing were integral to the instructional process. Participants were made aware of how QA could help them become better doctors, a goal that Mizrahi (1986) indicated was paramount in the minds of housetaffers that she studied. Once primed, residents were organized into small groups and reviewed cases in which ignorance or violations of QA guidelines led to deleterious or disastrous consequences. That is, they became focused on the problem and were able to derive guidelines for patient care that coincided with QA guidelines. This method is similar to the peer data method used by Kincaid (1984) in helping physicians reduce patients' length of stays in hospitals. Although follow-up was not a part of this study, it was done informally by the instructor and formally by hospital administration.

The findings of this study support those of Brady et al. (1988), who found that the use of case study materials enhanced the compliance of physicians with QA standards. Keller et al. (1997) used similar techniques to help physicians reduce unnecessary hospital admissions in Maine. In this case, discrepant data were provided to physicians, who were initially defensive, but once involved, were able to share information and implement QA guidelines on admissions. The findings of this study are also consonant with those of Grol and Mokkink (1985), who found that a one year inservice

program that emphasized physician sharing of information was able to reduce their fear of making mistakes and improve their sense of confidence in their skills. Kern et al. (1990) found that auditing and providing feedback to residents improved their performance. This researcher found that providing housestaffers the opportunity to examine the behavior of others allowed them to become more open to the use of QA guidelines in maintaining adequate health care. Sririam et al. (1990), also using case materials, came to a similar conclusion. Moss et al. (1991) found that a didactic method did not improve the interviewing behavior of psychotherapists giving greater credence to more participatory modes of inservice training for doctors.

The findings of this study are also consonant with those of Faber (1991) who found that a staff development program was successful in training staff pharmacists to participate in QA monitoring of total parenteral nutrition therapy. Spellman and Beyt (1992) found that what physicians wanted was relevant and tailored educational and training sessions that show impact of TQM on business and professional practice. They also wanted presentations geared to physicians and requested the development of a QI handbook. This researcher developed a QA handbook as part of the process of disseminating QA guidelines.

Ellrodt (1993) indicated that one of the complaints of the housestaff has been that implementation of such techniques as TQM places decision making power in the hands of administration rather than doctors. The results of this assessment showed that by having the housestaff involved in the planning and implementation of TQM, they felt that the program empowered them and allowed them to have significant influence in the operation of the program. This researcher encountered similar resistance for the same reasons and also found that when housestaff members are involved in the processes, they derive QA guidelines spontaneously as part of their involvement in problem solving activities. Goldberg et al. (1995) found that use of TQM methods led to the physician-sponsored institutionalization of monthly QA meetings.

The findings of this study are consonant with the research reported in the literature review. Housestaff physicians are an insular group who are usually suspicious of what non-physicians can teach them about medical practice. This resistance has to be overcome by non-medical professionals who provide medical staff with training important to health and medical care. Housestaff physicians, although resistant to outside influence, are also intelligent and fast learners. Once they have been convinced that what they will learn will help them become better practitioners, they will learn rapidly. The inservice program evaluated in this study was successful, for the most

part, in decreasing negative attitudes toward the use of QA guidelines in patient care. That was because the researcher was able to employ physicians in important positions in the defense of the program. She was also able to draw upon her knowledge of the hospital and medical practice. The program was piloted and the materials used capitalized upon physician's orientation toward peer learning in an active environment.

The following limitations reduce the generalizability of the findings of this study. First, it was conducted in a single teaching hospital in an urban area. Because of this, the sample of interns was highly selective. Because of the urban environment and the national reputation of the hospital, it is considered by medical school students as a highly desirable environment to obtain graduate medical training. Therefore, housestaff at the particular medical center under study might be considered an elite among the elite. The interns in this program would be judged a cut above the average medical school graduate. How this selection factor influenced the outcome of the study is unknown.

Second, the study was conducted in a program of social medicine, where housestaff have made a commitment to practice in medically underserved areas. Therefore, the program selects staff members who are committed to providing medical care to poor people and poverty areas. Because these housestaffers are socially committed, they may have different

ideas than other interns and residents about what constitutes an ideal medical career. They may be more flexible in their attitudes than other housestaffers, which may make them more amenable to changing their ideas about what constitutes appropriate and high quality medical care.

Third, the study was conducted over a four year period without the aid of a control or comparison group. Because of these design weaknesses several threats to the internal validity of the study exist. Historical factors, such as the possibility of greater acceptance of QA guidelines have not been controlled. In addition, as noted above, selection factors may have influenced the outcomes of the study. Maturation factors, such as housestaff experience on the job, may have also influence the outcome of the study independent of the effects of the program.

Fourth, because the participants in the study were pretested and posttested using similar instruments, increased familiarity with the test on the posttest assessment may have influenced the findings. An attempt was made to reduce test sensitization by rearranging items from pretest to posttest; it was necessary to use the same items on pretest and posttest.

Implications for Social Work Practice

Social workers may be able to broaden their mission of service delivery in health care through the implementation of training seminars, geared towards physicians-in-training, using the (QA/CQI) mandate. The professionally trained social worker is provided with the knowledge and skills that are necessary and desirable when attempting to change the behaviors of physicians-in-training. Social works' knowledge base encompass the dynamics of human behavior, an understanding of organizational behavior and systems theory, along with the politics of effecting change in agencies. Professional social workers have in their possession skills which are valuable and useful in providing an intervention in a host agency, to another profession. These skills include but are not limited to diplomacy, capacity for self-awareness, introspection and being able to be self-critical, being able to engage others, an ability to try to understand an issue from a different prospective, being able to establish and maintain positive interpersonal relationships with a variety of workers from different levels, and an ability to assess a need with subsequent program planning knowledge in order to address the prior assessed need.

A paucity of QA/CQI information is available to housestaff. QA issues are usually dealt with via mortality and morbidity meetings. This approach is reactive rather than proactive since quality of care issues are addressed after-the-fact. The implication of this is that there is a need for the development of strategies to engage the health care field in general and the medical housestaff in particular in quality assurance training experiences. The training must be relevant to the changing health care climate and developing standards. This is especially pertinent in the era of managed care, where the option of rugged individualism is no longer tenable. Data from this and other studies (Ellrodt, 1993; Goldberg et al., 1995; Sivaram et al., 1996) have shown that physicians generally experience quality assurance as a bureaucratic threat to their autonomy. Bureaucratic authority has no credence with professionals. If the intent is to have physicians adopt quality assurance techniques, then it is prudent to gain professional support, especially from physicians in positions of leadership, such as chief residents or attending faculty. Efforts toward quality improvement would be more effective if they were part of an organized and systematic process that is authorized and approved at the leadership level. Positive implementation can be encouraged with professional support. The housestaff experience is one of insularity (Mizrahi, 1986). They do not trust others who have not shared the experiences of being medical students and housestaffers. Theirs is a

narrow range of focus whereby they do not believe that anyone who has not shared in the medical school or housestaff experiences can possibly teach them. This I refer to as "physician chauvinism."

A fundamental tenet of QA/CQI is that those who are directly affected by a process need to participate in the development of that process. The QA/CQI seminar encouraged and enhanced housestaff's participation by having them develop documentation guidelines based on the case material that was presented during the seminar. Giving housestaff input in the development of documentation guidelines provided them with a better understanding of the necessity for documentation that is accurate, appropriate, timely, and legible.

The concepts and principles of QA/CQI, coupled with the enhancement of knowledge and skills around the medical record provided a framework for approaching patient care. However, the data suggested that there are major issues in the QA training of housestaff, namely:

1. When should QA training occur in medical education? Ideally, exposing housestaff to QA/CQI as a familiar and helpful problem-solving activity in medical school will potentially lessen their negative attitudes toward the QA/CQI process. The data showed that foreign medical graduates, (FMGs) were consistently more positively disposed

towards quality assurance guidelines in medical care than U S trained physicians.

2. Why are housestaff hostile to quality assurance guidelines (QAG) even though QAGs provide a basis for improvement of patient care and a reduction of medical patient mistakes? QA involves both peer review and outside review. Medical practitioners, who have always been subjected to both kinds of review, are basically distrustful of the process. QA/QI is perceived as a formidable threat to the professional dominance of the medical establishment.

The overall purpose for developing the QA/CQI training was to effect a positive change in patient care. This researcher had a concern about the quality of the recording of the patient's hospital experience. Thus, this seminar was geared towards facilitating housestaffers' awareness and providing them with a basic working understanding of the QA/CQI process and the impact of documentation on quality patient care. The findings suggested that:

1. QA should begin in medical schools before medical student graduates have formed negative attitudes about QA.
2. The seminar did not change housestaff's attitude toward QA terminology. QA terminology should be learned in medical education at the outset.

3. Very few housestaffers had information about QAG in medical school and generally had negative attitudes toward the implementation of QAG. The intervention was successful in modifying housestaff's attitude towards QAGs, indicating that with proper instructional techniques, negative attitudes can be overcome. However, rather than solve the problem after it has been created, the problem should be prevented by having instruction about QA/CQI early in medical education.

4. The seminar that was the object of study should have been supplementing what was taught in medical school, rather than struggling against physician chauvinism and negative attitudes toward QA/CQI.

Social workers have a responsibility to educate and monitor the implementation of QA/CQI. The approach of this social worker helped to create QA/CQI awareness in a graduate medical education program. As a social worker in a host agency, one gains a new level of respect as a knowledgeable member of an interdisciplinary team if one can clarify and articulate the goals and objectives of quality improvement, and its relative importance for the patient whose health care outcome is the focus of the team meeting. This researcher accomplished this by offering technical assistance in the form of seminars whereby QA/CQI was presented in a

frame of reference for the housestaff using methods that capitalized on their preferred learning styles.

In order to effect change within an organization, one needs the support of the administration. Therefore it is critically important to secure administration approval and support prior to any effort at inducing change. In this study, the director of graduate medical education supported the project in the forms of funding, provision of available clerical services, and library access.

An appropriate theory of education is important to the success of a program. This set of seminars was based upon the adult education theory of Knowles (1970), which emphasized narrowing the gap between instructor and student, including the student in the planning and evaluation of the educational activities, and in actively involving the student in the presentation of subject matter. This strategy was sensitive to the culture of the neophyte housestaff.

If social workers are to achieve the goals of being the facilitator of the QA/CQI process, then they must determine the kind of educational techniques that are best suited for diverse groups within the medical and healthcare communities and structure the educational experience accordingly. Educational approaches that engage housestaff require flexibility on the part of the instructor.

Social workers involved in medical education must cope with physician chauvinism; that is, many housestaffers assume that those without a medical education have no knowledge that they wish to know. In addition to using instructional techniques that conform to the learning styles of the housestaff, social workers need to familiarize themselves not only with the culture of the housestaff, but must also know the medical literature on their topic. For example, if one is going to present on QA/CQI, to medical staff, one must not only know how such procedures are used in business and government organizations, they need to know what has been done in the medical field as well.

Social workers in a medical setting need to establish an exchange relationship with housestaffers who become their students. They need to learn medical terminology related to their area so that they can converse with housestaffers in their own language. As part of the instructional process, they need to be able to elicit information about the topic from the housestaffers. That means asking questions about procedures or approaches to the particular problem at hand in addition to sharing one's own expert knowledge about the topic. The goal is to encourage a mutually respectful professional relationship with housestaffers. This will greatly enhance the credibility and acceptance of the training.

There are several beneficiaries of social work's expanded role in health care:

1. Health care providers will have greater awareness of quality improvement issues in medicine. For example, medical record documentation will improve.
2. The patient will be the ultimate beneficiary of care rendered by housestaffers who have greater awareness of and sensitivity toward improvement of the quality of health care.
3. As a result of their participation in QA/CQI efforts, professional social workers will receive increased respect and recognition, not only as contributors, but also as facilitators of the process in the mandated area of healthcare QA/CQI.
4. Society in general should benefit if reductions in medical errors can be attributed to QA/CQI efforts on the part of housestaff.

Recommendations for Future Research

One major study should be to conduct a comparative survey of the attitudes of medical school faculty about QA in the U.S. and outside the U.S. The reason for such a study is that this researcher found significant differences in attitudes between U.S. educated and non-U.S. educated

housestaffers. Researchers need to know the basis of this difference. A study of U.S. and non-U.S. medical school faculty may shed some light on the source of the difference.

Second, a survey needs to be conducted on how QA issues are dealt with in medical school. To what extent are they included in the curriculum? When are QA issues introduced? How are they addressed by faculty? How are QA issues related to issues of patient care and peer review? Which medical schools include QA in their curriculum and which do not? Why do or don't they cover QA in their instruction?

A third study should focus on the relationships between attitudes toward QA and the implementation of QA guidelines among hospital housestaff. The major research question should be, "What is the relationship between attitudes toward QA and the adoption of QA guidelines by hospital physicians?" Such a study would have two major goals: (a) to examine the relationship between attitudes and behaviors among physicians, and (b) to see the extent to which attitudes are barriers or stimuli to the implementation of QA.

A fourth study should be a qualitative analysis of the efforts of a hospital housestaff to implement QA guidelines. The study could focus on the various phases of implementation: planning and needs assessment, organization of human, financial, and material resources, implementation,

and evaluation. Findings would detail problems and issues at each phase, problem solving activities, coalition formation over various issues, leadership, decision making and consensus, descriptions of resulting procedural changes, and outcomes.

APPENDIX A
ORIENTATION MANUAL

Montefiore Medical Center
Department of Family Medicine
Residency Program in Social Medicine

Continuous Quality Improvement/ Total Quality Management Orientation Manual

1994 Edition

Edited by:
Anne D. Gooding, M.S.
Quality Improvement Coordinator

Editor's Note:

This introductory Continuous Quality Improvement/Total Quality Management Orientation Manual has been prepared for use by the residents - Social Pediatrics, Social Internal Medicine and Family Practice - of the Residency Program in Social Medicine (RPSM).

The manual's content is especially relevant to the goals and mission of the RPSM as it focuses in on a wide range of CQI/TQM areas. The information contained here has been selected from a wide range of professional journals -medical, nursing, business, administrative, industrial engineering, social work, JCAHO - as well as from various newspapers and consumer publications. Other sources include conferences and seminars that I've attended as well as those I've facilitated.

Both the manual and the Orientation Courses for which it was designed were made possible with the support and ongoing interest of Hal Strelnick, M.D., Deputy Chair, Department of Family Medicine, Director of Graduate Medical Education/RPSM.

Anne D. Gooding, M.S.
October, 1994

Professional Journals

The following medical journals contain articles relevant to-QA/CQI/TQM , Peer Review Organizations, Risk Management and Healthcare Quality issues.

Annals of Internal Medicine

Journal of Ambulatory Care Management

Journal of American Medical Association

Journal of Family Practice

Journal of General Internal Medicine

Journal of Health Politics, Policy and Law

Journal of Medical Education

Journal of Quality Assurance

Medical Care

New England Journal of Medicine

Journal of Quality Improvement
(formerly Quality Review Bulletin)

American Journal of Medical Quality

Health Affairs

Journal for Healthcare Quality

Modern Healthcare

Social Work in Healthcare

Quality Management in Healthcare

Journal of Nursing Quality Assurance

N.Y. Association for Healthcare Quality Newsletter

Articles of Faith

Good medical care is the kind of medicine practiced and taught by the recognized leaders of the medical profession at a given time or period of social, cultural and professional development in a community or population group. The concept of good medical care that has been employed in this study is based upon certain "articles of faith" which can be briefly stated.

1. *Good medical care is limited to the practice of rational medicine based on the medical sciences.*
2. *Good medical care emphasizes prevention.*
3. *Good medical care requires intelligent cooperation between the lay public and the practitioners of scientific medicine.*
4. *Good medical care treats the individual as a whole.*
5. *Good medical care maintains a close and continuing personal relation between physician and patient.*
6. *Good medical care is coordinated with social welfare work.*
7. *Good medical care coordinates all types of medical services.*
8. *Good medical care implies the application of all the necessary services of modern scientific medicine to the needs of all the people.*

"The Fundamentals of Good Medical Care"
R.I. Lee; L.. W Jones, 1933

Quality Medical Care Should...

Produce optimal improvement in the patients health;

Emphasize the promotion of health and the prevention of disease;

Be provided in a timely manner;

Seek to achieve the patient's informed cooperation and participation in the care process and decisions concerning it.

Be provided with sensitivity and concerns for the patient's welfare;

Make efficient use of technology;

Be sufficiently documented to allow continuity of care and peer evaluation.

"Quality Medical Care - a Definition"
Steffen, Grant, M.D.
JAMA, July 1, 1988, vol. 260, no. 1

GUIDELINES FOR QUALITY ASSURANCE

The Council on Medical Education that of the American Medical Association has Prepared the following guidelines for the conduct of medical quality assurance activities directed toward practitioner competence. The Council believes that they should be utilized in any Medical peer review system.

1. The general policies and processes to be utilized in any quality assurance activity should be developed and concurred with by the professional whose performance will be scrutinized and should be objectively and impartially administered.

2. Any remedial quality assurance activity related to an individual practitioner should be triggered by concern for individuals overall practice patterns, rather than by deviation from specified criteria in single cases.

3. The institution of any remedial activity should be preceded by discussion with the practitioner involved.

4. Emphasis should be placed on education and modification of unacceptable patterns rather than on sanctions.

5. The quality assurance system should make available the appropriate educational resources needed to affect desired practice modifications.

6. Feedback mechanisms should be established to monitor and document needed changes in practice patterns.

7. Restrictions or disciplinary actions should be imposed on those practitioners not responsive to remedial activities, whenever the appropriate professional peers deem such action necessary to protect the public.

8.The imposition of restrictions or discipline should be timely, consistent with due process.

9.Quality Assurance systems should be structured and operated so as to ensure immunity for practitioners conducting or applying such systems who are acting in good faith.

10.To the degree possible, quality assurance systems should be structured to recognize care of high quality as well as correcting instance of deficient practice.

Glossary of Quality Improvement Terms

JCAH0	Joint Commission on Accreditation of Health Care Organization; also referred to as "Joint Commission". Provides certification that organizations are meeting pre determined standards on structure and performance relating to quality health care.
Protocol	The foundation for an explicit peer review process. The protocol defines a reasonable expectation of care.
Practice Guidelines	Tools applied prospectively that help decide the best treatment.
Quality Assurance	A structured and comprehensive system to monitor and evaluate the entire clinical care program and to resolve deficiencies in that care when discovered.
Continuous Quality Improvement (CQI)	The process of facilitating desired or positive change on an on-going basis.
PSRO	Professional Standards Review Organization. Replaced Peer Review Organizations (PRO).
IPRO	Island Peer Review Organization. New York State's PSRO.
MMC/QICC	Montefiore Medical Center Quality Improvement Coordinating Council (Organization Wide QA Program)
UM	Utilization Management. UM team of MDs and RNs perform concurrent review of patient care.
Risk Management	Investigates adverse incidents, and acts to protect hospital and staff from liability (legal sanctions).
Appropriateness	Having a reasonable chance to positively affect the patient's health in a cost-effective manner. Appropriate care neither undertreats not overtreats the patient.
Evaluation	Comparison of actual performance with the pre-established criteria and standards.
Monitoring	Systematic and routine process of gathering clinical data and reviewing on a continuing basis.
Dimensions of Quality	Effectiveness, efficiency, accessibility, acceptability and provider competence.
TQM (Total Quality Management)	A continuous quality improvement system, directed from the TOP and focused on systematic - not individual - employee problems.
Managed Care	Organized networks of doctors and hospitals that give people access to quality, cost-effective health care.
Managed Competition	Market forces: Comparison shopping by individuals from plans screened by employers or other intermediaries.

AN HISTORICAL PERSPECTIVE ON THE QUALITY MOVEMENT

In the 1960s the focus was on ACCESS, resulting in MEDICAID and MEDICARE

In the 1970S the focus was on COST, resulting in COST CONTAINMENT

In the 1980S the focus was on COST

CONTAINMENT, resulting in QUALITY

In the 1990S the focus is on QUALITY,

resulting in CQI

AN HISTORICAL PERSPECTIVE ON THE QUALITY MOVEMENT

1. Factors Driving Interest in Quality

- Cost containment pressure
- Unanswered question about efficacy of procedures
- Advances in research technology
- Emergence of managed care programs
  - response to cost containment
  - information demanded
  - proof of performance
  - cost
  - quality
  - access
  - 90s urgency to define, demonstrate

2. Quality Projects and Initiatives

FEDERAL GOVERNMENT
Health Care Financing Agency (HFCA)
Agency for Health Care Policy and Research (AHCPR)

REGULATORS
Joint Commission on Accreditation of Healthcare Organizations OCAHO)

PHYSICIANS
AMA and specialty societies, including:
American College of Physicians
American College of Cardiology
American Academy of Family Physicians
American Academy of Neurology

HEALTH MAINTENANCE ORGANIZATIONS (HMOs)
Harvard Community Health Plan
US Healthcare

RESEARCHERS
Rand Corporation

HOSPITALS
Total Quality Management Projects
Maryland Hospital Association's Quality Indicators Project

STATEWIDE COALITIONS
Ohio, Pennsylvania, Vermont, Colorado

AN HISTORICAL PERSPECTIVE ON THE QUALITY MOVEMENT

3. Lesson to Be Learned From Current Research on Outcome Measures of Quality

Outcomes measures are essential components to evaluating quality
Careful interpretation of outcomes
Careful application of quality measures
Quality must be linked to cost and access
Outcome measure of quality must be linked to processes of care

4. OUTCOMES

Mortality
Functional Status
General Health Status
Re-admission to Hospital
Hospital Length of Stay
Complications
Infection Rates

5. QUALITY MOVEMENT

Quality Assurance
Continuous Quality Improvement
Total Quality Management

6. CONTINUOUS QUALITY IMPROVEMENT (CQI) RESULTS IN:

Higher Quality
Lower Cost
Increased Access

GOALS OF OUTCOME MEASURES

- Establishing scientifically, the validity and reliability of outcome measures
- Vehicle for discussion and dialogue between providers, employers, insurers, regulators and consumers
- Use of outcome measures to improve the delivery processes

Outline of the Monitoring/ Evaluation Process

Step 1: **Assign responsibility**

a. Identify organization leaders
b. Design and foster approach to continuous improvement of quality
c. Set priorities for assessment and improvement

Step 2: **Delineate scope of care and service**

a. Identify key functions and/or identify the procedures, treatments and other activities performed in the organization

Step 3: **Identify important aspects of care and service**

a. Determine the key functions, treatments, processes and other aspects of care and service that warrant ongoing monitoring

Step 4: **Identify Indicators**

a. Identify teams to develop indicators for the important aspects of care and service b. Select indicators

Step 5: **Establish means to trigger evaluation**

a. For each indicator, the team identifies how evaluation may be triggered

b. Select the means to trigger evaluation

Step 6: **Collect and organize data**

Monitoring and/or evaluation is the process by which care is assessed and evaluation improved on an ongoing basis. The process is described in the following 10 steps.

a. Each team identifies data sources and data collection methods for the recommended indicators
b. Design the final data-collection methodology, including those responsible for collection, organization and determining whether evaluation is triggered
c. Collect data
d. Organize data to determine whether evaluation is required
e. Collect data from other sources, including

patient and staff surveys, comments, suggestion and complaints

Step 7: **Initiate evaluation**

a. Determine whether evaluation should be initiated
b. Assess other feedback (e.g., staff suggestion, patient-satisfaction survey results) that may contribute to priority setting for evaluation
c. Set priorities for evaluation
d. Teams undertake intensive evaluation

Step 8: **Take actions to improve care and service**

a. Teams recommend and/or take actions

Step 9: **Assess the effectiveness of action and assure improvement is maintained**

a. Assess to determine whether care and service have improved
b. If not, determine further action
c. Repeat a) and b) until improvement is obtained and maintained
d. Maintain monitoring
e. Periodically reassess priorities for monitoring

Step 10: **Communicate results to relevant individuals and groups**

a. Teams forward conclusion, actions and result to leaders and to affected individuals, committee, departments and services
b. Disseminate information as necessary
c. Leaders and other receive and disseminate comments, reaction and information from involved individuals and groups

PDCA Cycle for Identifying and Solving Problems

Plan change by studying a process, deciding what could improve it and identify data to help

Do test the proposed change by data simulation or small-scale trial

Check the effects by studying the results: modify the planned change if necessary

Act to improve the process by implementing change

Monitoring a Quality Improvement Program

ASSESSMENT
Appropriateness of patient care
Clinical competence
Importance aspects of care

COMPREHENSIVENESS OF CARE
Ongoing process of care

EVALUATION
Aspects of care to evaluate
Criteria section
Identifying problems to evaluate
Approve monitoring system

ASPECTS OF EVALUATION
Unusual occurrences or complications of care/therapy
Infection rates
Medical record review
Response to emergencies
Effectiveness of care
Patient-family understanding
Quality control requirements
Inservice training
Direct observation of care
Staff concerns
Patient and family satisfactions
Review of activities in special care units
Compliance with department procedures/policies
Exit interviews of staff
New Policies procedures or change in care standards
Requirements of outside agencies
Previously found problems and resolutions

An Example of Evaluation
Mortality-Morbidity rates
Appropriateness of admission/discharges
Medication-IV errors

DATA COLLECTION SOURCES
Medical record, patient plan of care, UM findings, review of prescriptions, incident reports, patient and family surveys, staff interviews, third party payers, PRO, minutes of meetings, etc.

CRITERIA FOR EVALUATION
Knowledge and experience
Literature
Standards of care and practice
Policies and procedures
Rules and regulations
Consensus of staff
Must be measurable and objective

APPROACHES TO EVALUATION
Document-based review
Direct or electronic observation
Interviews
Reviews of policies and procedures

EVALUATION OF DATA
Monitoring important data for performance results that are beneficial as well as pointing up problems in terms of scope and cause

IMPLEMENTATION OF CORRECTIVE ACTION
Probable causes can be narrowed down to three types:
- Problem of knowledge
- Problem of behavior
- Problem of systems

METHODS TO IMPROVE KNOWLEDGE
Orientation
In-service training
Continuing education
Policies and Procedures
Reference materials

METHODS TO IMPROVE BEHAVIOR
Counseling
Changing assignments
Disciplinary action

ACTIONS TO IMPROVE SYSTEMS
Communication
Staffing
Budget
Inventory
Equipment
Policies and Procedures
Planning

COMPONENTS OF ACTION PLAN
Who
- is expected to change
- is responsible

What
- actions are appropriate

when
- time frame change is to be re-evaluated

EVALUATION OF RESULTS OF FOLLOW-UP
Monitor problem not action
Impact on patient care
Ongoing monitoring

REPORT THE FINDINGS
Findings to be documented

1. Aspects of care being evaluated
2. Criteria used
3. Summary and findings
4. Pertinent conclusions

Department Specific Review

DEPARTMENT APPRAISAL
Scope of care
Specify activities performed by the department
Types of patients served
Inpatient or Outpatient
Patients with certain conditions

TYPES OF SERVICES PROVIDED
Preventative
Diagnostic
Therapeutic

Identify Important Aspects of Care (JCAHO Step 3)
Important aspects of care include those elements of a department's services that are:

a. High volume - aspects of care occurs frequently or affects large numbers of patients-,

b. High Risk - patients are at risk of serious consequences or deprived of substantial benefits if care is not provided correctly; and

c. Problem Prone - aspect of care has tended in the past to produce problems for patients or staff.

DEVELOPMENT OF CRITICAL PATHWAYS

1. Modify Generic Categories

a. Determine which categories are applicable Rank Categories by priority.

b. Starting with the category of highest priority, identify several critical paths and indicate information source

2. Critical paths are measurable variables which identify areas requiring further review and analysis
a. Structure critical paths measure inputs into care such as: resources, equipment and staffing

b. Process critical paths measure: the quality of care delivered indication for treatment appropriateness of clinical management; aspects of the processes of care including: treatment, technical performance, management of complications

c. Outcome Critical Paths: measure expected and unexpected outcomes of care both short-term and long-term

3. Identify and Schedule Review of monitors which will enable the evaluation of quality and appropriateness of care

DATA COLLECTION

1. **Define type of data collection about a critical path**
   a. Concurrent, Retrospective, Prospective
   b. Continuous collection of information, e.g., use of incident reports versus period collection of information, e.g. departmental compliance with a policy is reviewed for a predetermined time frame

2. **Define timing of data collection**

From DateTo Date

3. **Develop a Criteria Set**

   a. Set the objective - purpose of the data collection

   b. Determine the Scope - range or types of healthcare services being evaluated

   c. Determine the Sample - actual type and size of the patient and/or practitioner population to be evaluated by criteria set

   d. Determine the Type of Information needed
      i. Demographic
      ii. Criteria-based (limit criteria to approximately five)

Screens

Ask specific questions about an aspect of care or service which require a yes or no answer
Are usually derived from an existing policy or procedure
Are designed to identify situations when cases should be referred for review or are exempt from review

e.g. Social Service screening criteria for initial assessment
Screen: was patient's own perception of his/her own illness described in social workers's initial assessment? Yes or no?

Indicators and Critical Paths

Are clinically valid reasons for ordering a Particular treatment, diagnostic test or other therapeutic modality.
e.g. Indications for telemetry might include:
symptomatic chest pain known or suspected arrhythmia
pacer insertion

Management

Are clinically valid statements (such as correct drug dose, pertinent blood studies, patient observations and action appropriate to findings) of patient Management

e.g. Nursing management of patient with post-op urinary retention.

4. Identify information Sources

5. Determine Timing of Information Collection
a. Concurrent (preferred if possible)
b. Retrospective
c. Prospective

6. Establish Evaluation Frequency

7. Establish Thresholds - a level of performance at which further evaluation is triggered

INFORMATION ANALYSIS

1. Data Interpretation

a. Explaining the differences in patterns and trends from acceptable range

b. Determine where improvement Is needed and achievable

c. Determine the change strategy which may result in a positive impact

2. Pattern versus Individual Case Analysis

Analysis should concentrate first on reviewing aggregate data for patterns, and second on examining individual cases only when necessary. Individual case review is discouraged as it is generally very time-consuming and nonproductive.

INFORMATION USE

1. **Action Plan Alternatives**

a. Administrative changes
- new policies
- new equipment
- additional services and personnel

b. Continuing Professional Education
- present at formal program for skill/knowledge deficiencies
- state-of-the-art technological development

c. Patient Education

d. Resource Utilization

e. Feedback to Involved Practitioners
- establish clear performance standards
- provide feedback on performance
  - commend superior performance
  - acknowledge acceptable performance
- monitor marginal/questionable performance
- measure/restrict unacceptable performance

Six Key Elements of Continuous Quality Improvement

1. A focus on process, not people

2. Defining quality as meeting the needs of the customer

3. Improving quality to reduce costs

4. Building quality into the process

5. Using a scientific approach to probelm-solving

6. Approaching quality as a management strategy

Some Quality of Care Issues identified by PROs

DIAGNOSTIC ISSUES
Incomplete Work-up
Failure to address significant symptoms
Failure to address abnormal test results

TREATMENT ISSUES
Delay in treatment Lack of
appropriate cardiac monitoring
Unplanned surgery performed
Transfusion error/adverse reaction
Medication error/adverse reaction
Decubitus ulcer acquired
Hospital acquired infection

COMPLICATION ISSUES
Surgical mishap, properly treated
Surgical mishap, delay in
identification/management
Medical mishap, delay in or
inappropriate treatment
Unexpected death of patient
Serious complication of anesthesia

OVERUTILIZATION ISSUES
Unnecessary treatment
Unnecessary diagnostic studies
Unnecessary surgery

DISCHARGE ISSUES
Unstable at discharge
Unstable at time of transfer
Inadequate discharge planning
Inappropriate treatment//therapy
Premature discharge
Inappropriate transfer

LACK OF DOCUMENTATION
Illegible reports/notes
Missing/Incomplete report or
test results
Conflicting documentation in record
Symptoms/treatments
performed not documented in record

Guidelines for Determining Covered Hospital Level of Care

The Social Security Amendments of 1972 required that a service for which reimbursement is sought under Part A, be delivered at an appropriate care level as well as be medically necessary.

To determine that services provided are at a hospital level of care, it must be determined that the services:

- Are medically required by the patient's medical condition;
- Are of the type which, in light of the patient's medical condition, can be provided safely and effectively only in the inpatient hospital setting;
- * Cannot be provided in an alternate and less costly setting.

To determine whether hospital care provided is at a covered level of hospital care, the fol lowing factors may be considered"

- The patient's medical condition and treatment require daily or more frequent physician supervision;
- The patient's medical condition and treatment require the constant availability of medical service and equipment ordinarily available only in a hospital setting;
- The types of diagnostic tests, observations, equipment, etc., needed to perform a work-up cannot be provided on an outpatient basis without danger to the patient's health or safety.

To assess the overall quality of care rendered to the patient and to identify quality of care issues by provider and/or practitioner, the following is a copy of the generic quality screening criteria used by the IPRO (Island Peer Review Organization) for MEDICARE patients.

---

1. ADEQUACY OF DISCHARGE PLANNING

- No documentation discharge planning or appropriate follow-up care with consideration of physical, emotional and mental status needs at time of discharge

2. MEDICAL STABILITY OF THE PATIENT

- BP within 24 hours of discharge (systolic less reaction (1)than 85 or greater than potential for180; diastolic less than resulting in50 or greater than 110)
- Temperature within 24hours of discharge serious or greater than 101 degrees Fahrenheit (28.3Centigrade) oral, greater than 102 degrees Fahrenheit (38.9 Centigrade) rectal.
- Pulse less than 50 (or 45 if the patient is on a beta blocker), or greater than 120 within 24 hours of discharge
- Abnormal diagnostic findings which are not correct operative addressed and or where the record does not explain why they are not resolved
- IV fluids or drugs after 12 midnight on day of discharge
- Purulent or bloody drainage of wound or open area with 24 hours prior to discharge
- Medication or treatment changes (including discontinuation) within 24hours of discharge without adequate observation

3. DEATHS

- During or following any surgery performed during the current admission
- Following return to intensive care unit, coronary care or other special care unit with 24 hours of being transferred out
- Other unexpected death

4. NOSOCOMIAL INFECTION

- Hospital acquired infection

5. UNSCHEDULED RETURN TO SURGERY

surgery within the same admission for the same condition as previous situation is surgery or to correct for patient's operative problem

6. TRAUMA SUFFERED IN THE HOSPITAL

- Unplanned surgery which includes but is not limited to, removal or repair of a normal organ or body part (i.e., surgery not addressed specifically in the operative consent)
- Fall
- *Serious* complications of anesthesia
- Any transfusion error or serious transfusion reaction
- Hospital acquired decubitus ulcer and/or deterioration of an existing decubitus
- Medication error or adverse drug with (1) serious potential for serious harm or (2) measures to correct
- Care or lack of care resulting in potentially serious complications complications
- Other

Abstracted from Medicare *Memo #90-40, 9/1/90*

To assess the overall quality of care rendered to the patient and to identify quality of care issues by provider and/or practitioner, the following is a copy of the generic quality screening criteria used by the IPRO (Island Peer Review Organization) for MEDICAID patients

---

1. MORTALITY

- During or following surgery
- Following return to intensive care unit, coronary care or special care unit within 24 hours of being transferred out
- Fetal death
- Maternal death
- Other unexpected death

2. SURGICAL COMPLICATIONS

- Unscheduled return to surgery within the same admission for the same condition as previous surgery or to correct operative problem
- Unplanned removal or repair of a normal organ
- Unnecessary or inappropriate surgery
- An MI/CVA during or within 48 hours after surgery
- Cardiac or respiratory arrest during or within 48 hours after surgery

3. MEDICAL COMPLICATIONS

- Life threatening complication of anesthesia
- Life threatening transfusion reaction or error
- Fetal distress not addressed or treated
- Care of lack of care resulting in serious, potentially serious or life threatening complications not present or admission, including but not limited to the neurological, endocrine, cardiovascular, renal, gynecological or respiratory bbody systems (e.g., unplanned transfer to special care unit, lengthened hospital stay)

4. MEDICAL STABILITY OF PATIENT

- BP on day before or day of discharge (Adult): Systolic less than 85 or greater than 180, Diastolic less than 50 or greater than 110. (Newboarn, Pediatric) Systolic less than 65 or more than 120 (0-10 years). Systolic less than 65 or more than 140 (10 years and over). Diastolic less than 90.
- Temperatrue on day before or day of discharge more than 101 degrees oral (rectal 102 degrees-adult). Temperature within 24 hours of discharge greater than 100.5 degrees oral (rectal 101.5-Newborn/Ped.)
- Pulse less than 50 (or 45 if the patient is on beta blocaker) or more than 120 within 24 hours of discrhage (Adult). Pulse less than 70 within 24 hours of discharge (0-1 year) or greater than 160 (three months-1 year).
- Abnormal results of diagnostic services which are not addressed or explained in the medical record
- IV fluids or drugs on day of discrhager (excluded KVO's antibiotics, chemotherapy or TPN)
- Purulent or bloody drainage of postoperative or other wound within 4 hours prior to discharge
- Meication or treatment changes (including discontinuation within 24 hours of discharge without adequate observation
- Discharge istuation is inadeuate for patients satety and well being (e.g., lack of responsible caretakers, lack of home care services, lack of child rprotective service referral).
- Other premature discharge resulting in or with the potential to result in mobility/mortality

Abstracted from Medicaid
Memo #90-10, 9/1/90

Responding to an IPRO Quality Citation

1. Please take all potential citations seriously.

2. Your hospital's Utilization Review or Quality Assurance/Quality Management Department is available to provide assistance in preparing your response.

3. When the case involves a resident or intern, contact the Program Director or the Director of the Department at your Hospital.

4. Review the patient's chart and respond to the issues.

5. As part of your response, send copies of specific supporting documentation from the record plus any other relevant materials such as a consultant's opinion about the specific case, outpatient records, records from prior hospitalization, etc.

6. Responses must be returned within the allotted time noted on the citation. Response times are set by the Health Care Financing Administration (HCFA) and are not at the discretion of IPRO. These deadlines are part of the HCFA's contracts with all PROs. Other than in unusual circumstances, a late response is equivalent to not responding at all.

7. Please return a copy of the original IPRO citation with your response.

8. If new additional information is available after a citation has been finalized, you may request a reopening. Even if the case is not reopened, the relevant material will be included in the case file.

9. The best approach to citations is to prevent them. Many citations (denials) are related to problems with documentation. Anticipate the problem areas, address all abnormal laboratory and diagnostic tests, and **write legibly.**

A Resident's Guide to Responding to the Medicare PRO

(or "What to Do With a Letter from IPRO that Questions Care")

1. Immediately call the hospital's Quality Improvement/Utilizaton Management Department or designated committee. Please do not discard this letter. A promptly completed response, written with the hospital's assistance, will help you to avoid problems later.

Name:_____
Title:_____
Extension:_____

2. Inform them that you have recieved a PRO "Quality Citation." Tell them the patient(s) name, medical record number, admission date. (As noted on letter.) They wil obtain the medical record for you.

3. Quickly arrange a meeting to discuss the case and write the response together. You have 30 days from the date of the IPRO to return your completed response. Please read the medical record carefully.

4. When jointly composing the response, which may be short or long and with which the hospital will help you, specifically address the issues) questioned by the PRO physician reviewer. (Please try to resist the temptation to comment about their process including the Federal Government's intrusion into physician practice.) You may provide additional documentation, i.e., copies of lab reports, etc. In most instances, IPRO already has a complete copy of the medical record, so only your response must be sent to IPRO.

5. IPRO will respond to you with Its evaluation of your response generally within 30 days. Please share the IPRO information with the hospital's QA/UM Department, if they have not asssisted you in your response.

Confessions of a PRO reviewer

by Leslie R. Fleischer, M.D., FACC

By way of introduction, let me say that I am not responsible for Peer Review Organizations (PROs), the Health Care Financing Administration (HCFA), the Department of Health and Human Services, or the state of Medicine in general. I simply want to describe what I see as important in our charts as we try to fit them into HCFA's scheme.

Note: I am in a private practice and subject to the same pressures you are. Note also: I didn't make the rules and don't necessarily agree with them. I do believe, however, that our intelligence and hard work are obvious if enough information is present in our charts.

This brings me to ***RULE NO. 1. Say what you mean.*** Organize your history so that your reasoning is clear. Establish that you understand the implication of your patient's history. just as important, if you wish to observe a rising temperature or let a clinical scenario unfold, note it.I think it is germane to mention the stance HCFA has taken toward us. All of us remember being on rounds with the chairman of the department or his appointed assassin, the chief resident. We always were held responsible for everything about our patients, their remotest history and the tiniest quirk of their charts. Well, welcome back! HCFA - our new chief resident - seems to have the same standards.

RULE NO. 2. Mean what you say. If you admit someone with unstable angina, act like it. Don't put them in a regular room, forget the oxygen and fail to adjust their medication for repeated bouts of chest pain. In other words, once you have labeled your patient, accept the implications and act accordingly.

RULE NO. 3.- Read the chart. Many people write it in, nurses, dieticians, respiratory therapists. If someone documents an increasing respiratory rate in your patient and you fail to recognize or respond to it, imagine the problem when later, your patient has a respiratory arrest.

RULE NO. 4. Look at the labs every day. If you find an abnormality, either do something about it or note your thoughts on the chart. It is no crime not to repeat a work-up. However, in the present climate, I would advise noting your reasons.

RULE NO. 5: Consider what your chief resident would have said. Is your work up sound? Have You covered the major contingencies? Are you responding to changes In the patient's status?

RULE NO. 6. Take care of basics. Address all loose ends. Major problems arise from failure to respond to changes in vital functions and lab abnormalities. Don't forget the bleeding studies in the pre-op patient. Follow-up the low hemoglobin with the microcytic indices. Don't give a liter of saline to your patient in heart failure. On the other hand, I have not yet seen a letter concerning the failure to order a delta-aminolevulinic acid.

RULE NO. 7. Answer letters from the PRO. If you don't respond, no one can assess your reasoning. Chart documentation stands on its own and we all know it's sometimes scanty.

RULE NO. 8: Try to hold your temper. No one likes to have the reviewers looking over their shoulders. However, at the present time, the reviewers happen to be our peers. Even if the system seems foolish, we should be thankful for that. Finally, if you don't like the reviewers, volunteer to help. It certainly helped me to understand the system. And I still didn't say I liked it.

IPRO Discharge Planning Guidelines

Hospitals are required to have a coordinated discharge planning program to ensure continuity of care and the most effective utilization of hospital and community-based health and social services. Hospitals are required to have written criteria for an admission high risk screening system to promptly identify patients who may need post-hospital care and planning.

All health care professionals play a role In assessing patients' posthospital needs and developing individualized, comprehensive discharge plans consistent with physician orders and patient needs.

Physicians have a key role in determining medical readiness for discharge and communicating this information to patients, families and other staff.

Discharge planning shall include patient and family participation in the decision-making process regarding post-hospital care and the selection of specific services.

Patients and family representatives shall be provided with information regarding the range of community services available.

Post-hospital care planning shall include consideration of the following types of services:

1. **Home Care**
   - certified home health agencies
   - long-term home health programs
   - home attendance services
   - meals-on-wheels programs
   - electronic home emergency response systems

2. **Residential health care facilities**
   - Short-term rehabilitation facilities
   - long-term care facilities
   - specialized facilities for head injury, terminal care, etc.
3. **Hospice**
4. **Day Care**
5. **Respite Care**
6. **Community health, mental and social agencies**
7. **Linkage to entitlement such as Medicaid, food stamps, prescription subsidies, Social Security Disability, public assistance**

Hospitals must provide patients with a written discharge notice and a written discharge plan.

Patients seen in the Emergency Room but not admitted shall also be provided with discharge planning services.

IPRO Consultation Guidelines

A. Except in an emergency, medical consultation Is strongly suggested when:

1. A diagnosis is obscure
2. Doubt exists as to the best therapeutic measure(s) to use
3. Surgery is Planned (excludes emergency surgery) on:
   a. Any patient above age 60 (or any other age as determined by the hospital) who is to receive general, regional, spinal or caudal anesthesia
   b. Any patient with serious or potentially serious pre-existing medical conditions, regardless of age
   c. Any patient who is not a good risk for surgery or anesthesia

B. A satisfactory consultation should include:

1. A history and review of the patient's medical record
2. A physical examination of the patient
3. Written opinion signed by the consultant and dated with time
4. The consultant's recommendations

C. Consultations are generally performed within 24 hours of requests; common courtesy suggest adequate notice to consultants, especially when a patient is to be admitted late in the day or on a weekend for scheduled surgery.

D. Pre-operative consults must be written prior to procedure.

E. Consultation may be performed only by a physician with Privileges to give consultation in the specialty area in which it is sought.

F. The request should include:

1. Consultation only, or,
2. Consultation and follow-up

G. The consultant is considered to have an advisory role; his recommendation may or may not be accepted by the physician of record.

H. The patient's physician of record is the captain of the ship and is the physician directing the care; reasons for not following the consultant's recommendations should be carefully documented in the chart.

Risk Management

The Definition of Risk Management

Healthcare risk management is a comprehensive system or process through which risks to a hospital, and all who are by and associated with, are identified, classified, evaluated and controlled to predict, limit and reduce future potentials for risks or losses.

Glossary of Risk Management Terms	
ASHRM	The American Society for Healthcare Risk Managers ofthe American Hospital Association (Chicago), formed in1980 to promote institutional risk managementprograms aimed at identifying and correcting deficientpatterns of care that could lead to malpractice claims.
Criminal Malpractice	Professional misconduct involving a criminal act such as assault and battery or euthanasia.
Ethical Malpractice	Professional misconduct of an improper or immoral nature. A violation of professional ethics that generallyresults in disciplinary actions by a professionalassociation and/or licensing board.
Liability	An incurred obligation through an act or failure to actfor which a plaintiff can charge his injury.
Malpractice	Misconduct, professional in nature, that results in harmto another.
Negligence	Failure to act prudently and in a reasonable mannerunder a specific circumstance.
Torts	A civil wrong concerning a healthcare professional. It isa legal wrong for which the court will provide theremedy in the form of a monetary award.

THE HISTORICAL DEVELOPMENT OF RISK MANAGEMENT

The following events represent a chronologic history of how risk management has developed and became an integral part of the management of healthcare organizations.

1960s	The term 'risk management' was originally used inthe insurance industry. This was primarily concernedwith the financing and control of business activitylosses.
1970s	Risk management introduced into the health carefield to respond to what was termed as insurancecrisis as jury awards and settlements sharplyincreased.
1980s	The American Society for Healthcare Risk Management (ASHRM) of the American Hospital Association is established and holds its first annual meeting.
	An increasing number of states passed legislation requiring the development of hospital risk management programs.

ASHRM drafted model language for risk management programs.

The Joint Commission integrates standards for risk reductions in the Accreditation Manual for Hospitals.

Hospitals expand delivery systems to include institutional long-term care services, with recognition of differences in issues and challenges that had not Previously been encountered in the acute care setting.

The Consolidated Omnibus Reconciliation Act (COBRA) of 1985 was passed. This act imposed conditions that had to be met before patients were transferred to another facility.

1990s	The Health Care Quality Improvement Act of 1986 was passed. This legislation established, among other things, the National Practitioner Data Dank, which went into effect in 1990.
	The New Joint Commission standards for risk management are implemented.

Joint Commission Requirements for Risk Management

The Joint Commission Accreditation Manual for Hospitalscites a number of risk management requirements for theGoverning Body, Administration and Medical Staff, as well as several other departments. These requirements are paraphrased from the most recent edition of the Accreditation Manual for Hospitals.

Governing Body Responsibilities

The Governing Body is required to provide the resources and support systems for the quality assessment and improvement functions that relate to patient care and safety.

Management and Administrative Services Responsibilities

The management of an organization must act to assure:

- support for the medical staff's involvement in risk management
- the establishment and maintenance of operational linkages between risk management and quality assessment and improvement functions
- access to existent risk management information to facilitate identification of clinical problems and/or opportunities to improve the quality of patient care.

Medical Staff Responsibilities

The medical staff is required to:

- Maintain a process for delineation of clinical privileges to include limitations pertinent to the qualification of the physician/practitioner
- Actively participate in risk management activities related to the clinical aspects of patient care and safety regarding the following:
  - identification of general areas of risk
  -development of criteria for identifying special cases with potenti ' al risk
  - correction of problems design of programs to reduce risk

Legal Imperatives and Accrediting Agency Requirements

Two recent legislative acts and the Joint Commission on Accreditation of Healthcare Organizations are primarily responsible for many of the recent developments in healthcare risk management.

The Consolidated Omnibus Budget Reconciliation Act of 1985

Purpose	To provide necessary emergency care, examination or screening regardless of the ability of the patient to pay. To impose conditions that must be met before patients may be transferred to different organizations.
Applies to:	Any hospital that receives Medicare reimbursement, but directed toward all individuals seeking care, whether they are a Medicare beneficiary or not.
Requirements	To determine if an emergency condition exists or if a woman is in active labor. If treatment of the labor is appropriate to the abilities of the staff and capabilities of either situations exists, treatment must be given to stabilize the medical condition or provide for facility. Transfer of the patient can occur when the patient is stabilized and the services at the receiving facility are available and appropriate to the patient's needs.
Possible Penalties	Fines and possible termination of Medicare provider agreements for hospitals and physicians who violate requirements.

The Health Care Quality Improvement Act of 1986	
Purpose	The act "is intended to promote effective professional review, improve the quality of medical care and restrict the ability of incompetent physicians to move from state to state to avoid licensure difficulties." It establishes a national database for information related to physician competence and conduct (called the National Practitioner Data Bank).
Applies to:	Hospitals and their medical staffs and other entities that perform professional review activities.
Requirements:	This act promotes peer review and entails requirements related to reporting of and inquiry as to the competence and professional conduct of physicians.

Promotion of Peer Review Activities for Physicians, Osteopaths and Dentists

Limited Immunity for peer review actions that

1. are believed to be taken to further the quality of care;
2. show that a reasonable effort was made to obtain the facts;
3. demonstrate the adequate due process was provided; and
4. show that action was warranted by actual facts.

National Practitioner Data Bank

Three entities are required to report actions, awards or settlements to the National Practitioner Data Bank: Insurers, licensing boards and health care entities.

1. Insurance companies must report payments to settle or satisfy judgments against physicians involved in medical malpractice actions. Reports must includ the:
    a. Name of the physician
    b. Amount of payment
    c. Name of any hospital with which doctor is affiliated
    d. Description of the acts or ommissions, injury, or illnes upon which the action is based.
2. State Licensing Boards must report to the Department of Health and Human Services (DHHS) any revocation,suspension or restriction of a physician's license, censures, reprimands or probation for incompetence or misconduct. The report must include the:
    a. Name of the physician; and
    b. Description of the act or omission and reason.

3. Health Care entity must report to the State Licensing Board any adverse decision affectivvng a physicians' clinical privileges for longer than 30 days or the acceptance of surrendered clinical privileges while the physician is under investigation.

DUTY TO INQUIRE

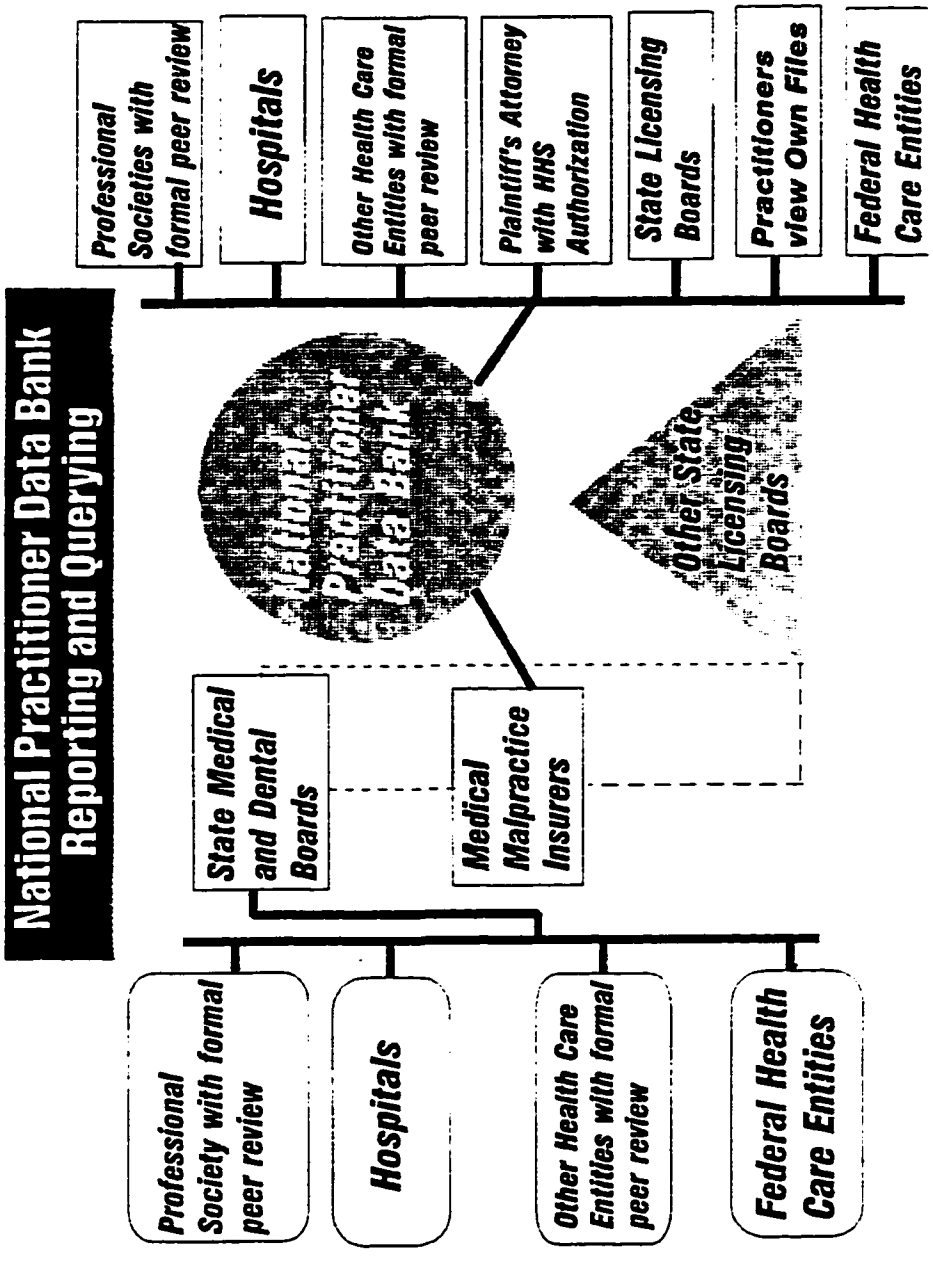
Hospitals must request information from the national Practitioner Data Bank on all physicans applying for staff membership or clinical privieleges. The must check the Data Bank every two years on all physicans who have clinical privileges.

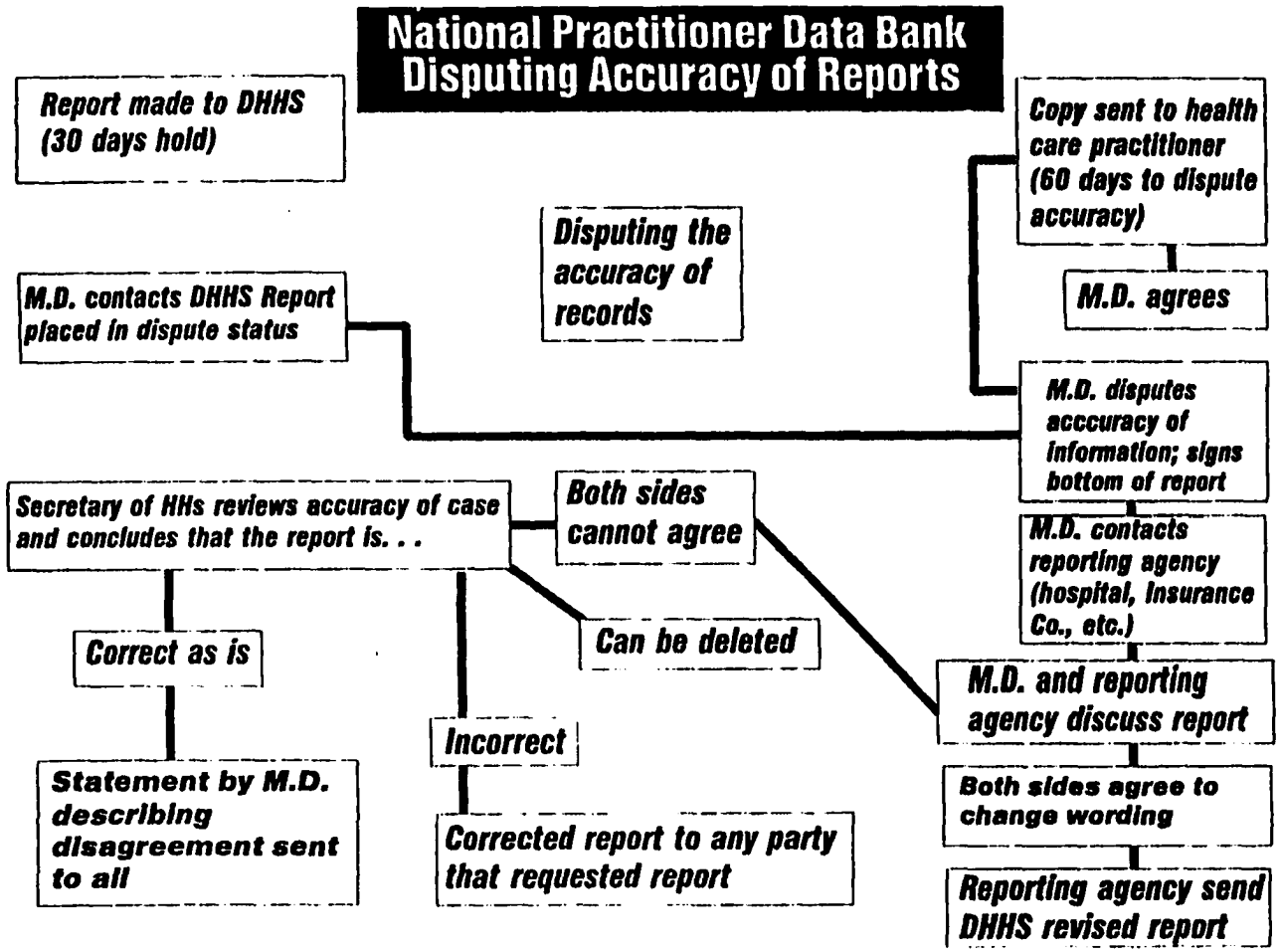
Other health care entities, like state licensing boards, health maintenance organizations, etc., may request information from the Data Bank but are not required to do so.

Possible Penalties:

1. Civil money penalty of not more than $10,000 for not reporting payment
2. Healthcare entities can lose immunity for failing to report to State Agency. Entity's name will bue published in the Federal Register.
3. Secreatry can appoint another Agency to handle state mandatory reporting if State Medical Baord fails to report mandatory data to DHHS.

While access to information in the national Practitioner Data Bank is limited, the data Bank represents a mjor step in collecting information on medical malpractice. The Dat Bank may ultimately have major impact on physician-hospital relations, malpractice premiiums, defense costs and hospitals' options concerning disciplinary actions. While professional organizations like the AMA and AHA support the data bank with reservations, Representative Ron Wyden (D-Oregon), who sponsored the legislation--and consumergroups--support public access. A recent New York Times article concludes by stating; "With the possibility that the system might someday be open to everyon's perusal, doctors can be expected to fight especially hard against black marks on their records."





Record-Keeping Practices

1. Legibility
2. Past medical history
3. Problem list present on front sheet
4. Allergic history on front sheet
5. Smoking and alcohol history on front sheet
6. Social history on front sheet
7. Medication regiment clearly displayed
8. Visit notes problem - Oriented
9. Visit notes with SOAP format, including vital signs
10. Patient education documented

10 Steps to Effective Medical Record Documentation

The following guidelines are designed to assist the physician in preparing a record which accurately and adequately documents the care rendered to a patient in the hospital.

1. A complete history and physical exam including baseline lab values, pap smear, breast examination and rectal examination are required. Provisional diagnosis must be documented.

2. Daily progress notes must reflect findings, assessments and plan of care. Avoid use of such phrases as "status quo." Progress notes should reflect the acute condition of the patient.

3. Physician orders must reflect treatment of the condition for which the patient was admitted or which develops subsequently. If ancillary test or medical therapies are ordered which are not consistent with the current diagnosis or condition, they should be justified in the progress notes.

4. Note all abnormal test findings in your program notes, along with an assessment of the findings' impact on the patient's current condition. A plan for treatment or follow-up must be included.

5. If antibiotics ordered do not conform with sensitivity results, document the reason for your choice.

6. If the patient must undergo unplanned surgery, document indications clearly.

7. Nosocomial infections, transfusion reaction or errors, medication errors, or trauma suffered in the hospital should be completely assessed in the progress notes.

8. Document early efforts to arrange an adequate discharge plan for the patient.

9. Your final note should reflect the medical ability of the patient on discharge. Blood pressure and temperature within normal limits, wound clean and dry, and any abnormal ancillary findings should be addressed with a plan for follow-up post-discharge.

10. Your final summary should be a meaningful recapitulation of the patient's course of illness, hospital management, discharge plan/ instructions and include a plan for follow-up care. At discharge, the final diagnosis which relate to the current hospitalization should be included.

Have an AWARENESS of the patients' problems!

ADDRESS the patient's problem in a competent manner

FOLLOW-UP on the intervention plan!!!

APPENDIX B
ORIENTATION SEMINAR

First Session: *2 hours length*

Segment 1

Time: 15 minutes

Activity: Introduction and overview of the seminar: What are the issues in delivering Quality medical care?

"It is not uncommon for physicians to feel that there is too much intrusion, e.g. regulations, guidelines etc, in their practices. My purpose in teaching this seminar is to help prepare you, via information, so that there will be less of a need for the various intrusions."

[**Rationale**-starting where the client is]

"This will NOT be a lecture! my expectations are that the material to be presented will generate some interest, and the case material that I've assembled, will stimulate lively discussion,"

[**Rationale**-Physician thrive on the presentation of case material].

Overhead-RPSM mission statement (1)

"Why is there an interest and/or a need for quality in health care?"

[Rationale-to give Housestaff an opportunity to become involved in the process]. *The facilitator continues.*

1. "Rising health care costs-particularly with reference to the OVERUSE of services, e.g. MC and MA. Physicians were responsible for fiscal excesses in both programs, however, there is no evidence that the quality of care was "better."
2. Access or the lack of access to health care
3. Quality-the unanswered questions about the efficacy of procedures. The concerns with quality gave birth to the emerging guidelines on standards of care.
4. Advances in Research Technology

Overhead-"Up $100 Billion" (2) breakdown of health care dollars e.g. percentage of GDP (gross domestic product), and percentages that goes to hospitals, physicians, SNFs, drugs/supplies, dental administration and other personal services.

Overhead Historical perspective of the quality movement: (3)

1960s Access----> Medicaid/Medicare
1970s Costs----> Cost Containment
1980s Cost Containment----> Quality Assurance
1990s Quality----> as in health care quality

Overhead- Triangle (4)

Cost

Quality Access

Interaction: "Who might be interested in this triangle?"

(Some time is given to their responses)

"Interested are the legislature, businesses, insurance companies, the president and Hillary, physicians, nurses, and social workers.

Facilitator: "I am the Educational Coordinator of RPSM. I am a professionally trained social worker. I'll share some information with you that will prove to be most helpful, especially as you collaborate with social workers around discharge planning and other areas of patient care. Social workers have been involved in health care for about one hundred years. As a matter of fact-health care is the largest field of social work practice. Social workers have a well documented history in the areas of both patient care and advocacy on behalf of the patient. Interestingly, there is a similarity between your emerging advocacy role on behalf of the patient and the social worker's role. Social workers are members of the psychosocial unit here at RPSM and quite involved in your training. Social work's 'knowledge base' is analogous to your 'fund of knowledge', however, instead of the biomedical processes, a social worker's training incorporates cultural patterns, socio-economic class systems, socio-political systems, human behavior including social environment, normal-deviant behavior, personality development, family dynamics, and knowledge of specific disease/dysfunctional entities and their management, among others. Much of what is mentioned will be incorporated into your RPSM training. We differ, however, in that you're taught to focus on the treatment of disease and the biological medication model. Social workers are trained as management advocates-the focus being on the whole person and their social environment.

We're each advocates for the needs of our patients, and are frustrated by limited access to health care, lack of resources and the frequency of the social environmental forces that impinge on people's health status. We'll cover medical records documentation a little later, however, I do want to encourage you to read the social worker's chart notations. Your patients will benefit by your having the additional and necessary information. [Rationale: the facilitator's attempt to sensitize neophyte physicians to the role and contributions of social work in the health delivery environment].

Segment 2

Time: 15 minutes

Activity: PRE-TEST: Resident QA/CQI Survey

"This course was developed based on the results of a survey given May 1990 to all of the Social Medicine Residents. Its about change! We need to know whether we've succeeded in developing a course which RPSM residents find helpful, informative and thought-provoking. We're asking you to complete two short questionnaires-one today, the other next week at the end of the course. On each survey I'll need the last four digits of your social security number. This is for statistical purposes only. No names please. Each survey has been timed to take twelve minutes or less of your time." [Survey and black pens are distributed and subsequently, collected].

Segment 3

Time: 30 minutes

Activity: Case studies

INTRODUCTION:

"This is 'open season' for review:
Q/A----> Documentation
UR----> length-of-stay
DRG----> improper coding and appropriateness of admissions
Cost Containment----> test ordering, length-of-stay
Attestation----> Physician's signature for diagnosis"

Facilitator queries housestaff about Peer Review Organization.
[Rationale-important to know for case studies]
"Island Peer Review Organization [IPRO] is N.Y.S's PRO. Most of the documentation in ambulatory areas in MMC has been insufficient, i.e. doesn't meet standards. When in doubt, IPRO cites everybody."
[Distribution of cases following formation of 3-5 groups of 4 or 5 interns. Each group is given a different case for discussion.]
Facilitator-"In May 1991, 377 G.I. charts were reviewed. The findings of the review revealed that in more than 60% of those G.I. cases-there was no documentation that a rectal exam was performed. Therefore, no rectal was done."
[Rationale: This information always generates lots of discussion and misunderstanding about documentation or the lack there of].
Instructions given with case material:
"Each group is to (1) review their case,
(2) discuss the following:
-who should be cited?
-why should they be cited?
-does anyone in the group have knowledge of a similar experience?
(3) Formulate ideas as to:

-how the case was handled?
-how do they imagine that this problem should have been resolved?

Segment 4

Time: 60 minutes

Activity: Discussion-Having PGY-1s formulate principles and guidelines for "quality" care in this institution based on cases.

[Rationale: the formulation of guidelines by housestaff is to facilitate their ownership and participation in determining the salient quality issues involving documentation in the process of health care delivery.

The separate groups reassemble into a large circle and discuss the "findings" of each case. An overhead of each of the five cases is viewed and discussed by the original groups of three or four, with the rest of the residents freely participating. Overhead IPRO MC Denial (5).

This process enables the housestaff to link documentation in the patient's medical record with continuity of care while developing some vague notions about the comprehensiveness of care.

Facilitator briefly discusses current health care QA/CQI Terminology. Overhead QA/CQI alphabet (6) e.g. JCAHO, PSRO, DRG, QA, CQI, etc. Overhead (7)
Structure/Process/Outcome (SPO) is discussed focusing on what was considered an important aspect of quality previously (S & P) and what the focus is currently, (O).

Prior to the end of this session, an Overhead " Some Quality of Care issues identified by PROs,(8) is displayed. This overhead succinctly lists six major areas of inappropriate medical care, including lack of Documentation. The group is told that this will be in the Orientation Manual which they will receive next session.

Guidelines Formulated By RPSM Housestaff

1. Document: DX, vitals, temperature patterns, labs Hx & P
2. Write DC summary-with admission note in hand to recall all pertinent info.
3. Use S-O-A-P format
4. Write legible
5. Keep your own notes on patients items (2) & (3) for completeness

Second Session 2 hours length

Segment 1

Time: 30 minutes

Activity: QA/CQI As A Problem-Solving tool

Facilitator introduces Housestaff to second QA/CQI Orientation seminar "How do we Problem-Solve?

[Rationale-this sets the tone for an interactive/participative session]. Various responses are given. As facilitator of the process, I sum up the various responses, e.g., absolution-ignore the problem and hope that it goes away; Dissolution-eliminate the problem by redesigning the system (RE-ENGINEERING concept);
Resolution-do something to yield an outcome that satisfies;
Solution-do something to yield the best possible outcome.
Facilitator uses a series of over-heads to demonstrate the similarities between the problem solving process familiar to housestaff: Problem-Oriented-Medical-Record (POMR), with a problem-solving process less familiar to them: JCAHO's 10-step monitoring and evaluation process of Quality Improvement.
Overhead: The four Phases of Solving a Problem (9)

1. Collecting Information
2. Processing Information
3. Formulation of Plans
4. Implementation of Plans

Housestaff is reminded that the first two phases encompasses an understanding of the problem; that the latter two phases are about finding a solution based on the available data and the processing of that data.
Overheads (10)-a series of four P-O-M-R Quarter views. Note: a circle is divided into the four areas related to problem-solving:

1. Collecting information,
2. Processing information,
3. Planning intervention, and
4. Implementing plans and feedback

-Each overhead depicts the items necessary for that particular area, e.g. Section 1 (Data Base) lists the variables necessary for collecting information-patient's chief complaint, patient's profile, present illness, past history and systems review, physical exam, and Base-line laboratory examinations. Section 2 list items necessary for processing information, e.g. patient's problem list including biopsychosocial variables. Section 3 lists those variables necessary for planning an intervention; e.g. Diagnostic (plans for collection of further data); therapeutic (specific procedures or drugs); and patient education (plans for educating patient about their illness and their role in managing it). Section 4 lists those items necessary for implementing plans and feedback.

These variables include narrative progress notes (S-O-A-P format); and flow sheet data, e.g. tabular, graphic or schematic forms containing specific objective data monitoring particular parameters. A fifth Overhead in this series is the complete circle or P-O-M-R's method of problem-solving. The next Overhead (11) was developed by this author and a chief resident using

a computer graphics program. The intent was to demonstrate the JCAHO's Ten-step Monitoring and Evaluation process in a 'user-friendly' manner. The final Overhead (12) is the JCAHO's actual schematic drawing of their ten-step monitoring and evaluation process for quality improvement.
[Rationale: These overheads were used as a vehicle to gradually sensitize resident physicians to the widely used and accepted method of monitoring and evaluation of the health care that they will be delivering.

There was also a second agenda connected to my 'user-friendly' approach, i.e. to discredit the myths surrounding Q/A monitoring and evaluation, and to make it less frightening to serve on QA/QI committees during and after their residency].

Segment 2

Time: 15 minutes

Activity: Distribution and Discussion of QA/CQI Manual

[Facilitator distributes residents QA/CQI Orientation manual and discusses the following with the residents:

1. brief history and intent of the manual which is revised annually;
2. residents are encouraged to review the various topical sections of the manual. Facilitator informs residents that references to the various topics of the manual will be referred to in the next segment of this session.]

Segment 3

Time: 60 minutes

Activity: General Principles and Guidelines

Facilitator introduces this section with a question. "what is the goal in medicine?" Residents give a variety of answers. Facilitator sums up their responses: "we all agree, then, quality care is the goal in medicine. Quality Assurance is one means of realizing that goal-it is a process or objective for reaching your goal."
"What is Quality Assurance or QA?, How do we define it?" [usually, one or perhaps two residents will attempt to tell me what QA is. It isn't always accurate and rarely positive. I am supportive of their efforts. QA is defined as an ongoing program designed to objectively and systematically monitor and evaluate the quality and appropriateness of patient care, pursue opportunities to improve patient care, and resolve identified problems. Facilitator leads a discussion on the characteristics of the 'traditional QA' tenets. An Overhead (13) is displayed listing the more negative aspects of traditional QA. This is followed by an Overhead (14) which lists the positive aspects of Continuous Quality Improvement (CQI). The six key elements of CQI are discussed individually and comparisons are made between the more punitive Q/A and the more improvement/customer focused CQI; e.g.

QA	CQI
1. detection-oriented	1. Prevention-oriented
2. reactive	2. Proactive
3. individual focused	3. System focused
4. responsibility of few	4. Responsibility of many
5. correction of special causes	5. correction of common causes
6. leadership may not be invested	6. leadership actively leading
7. problem-solving by authority	7. problem-solving by employees at all levels

Facilitator defines CQI as enlisting an entire organization to work towards a goal of continuous improvement in quality as defined by the needs and wants of the customer. The 'Customer' includes patients and their families, physicians (as internal customers of the health care facility), payers and suppliers. This concept of 'customer' is not easily understood, nor accepted readily by housestaff, e.g. "that individual in room 282 bed A is a 'patient' not a 'customer'." A discussion ensues re: what is a customer and why must we satisfy the 'customer'?

Facilitator asks group; "why is documentation important or even necessary?" The Overhead (15) displayed is a page from a report issued by MMC-QA coordinating council's Clinical Department of Q/A activities. The area of new business in this report by the institution's QA coordinating council's report (which is subsequently forwarded to the institution's medical committee of the Board of Trustees) focused on "the need to educate attending physicians, housestaff and medical students on QA issues such as hand writing, illegible signature, dating and timing of orders and notes." Their recommendation was for "members to continue to work on possible solutions." After some discussion is held, I as facilitator proffer the salient reasons for documentation:

1. Means of communication for planning patient care and keeping all members of the health care team informed;
2. for justifying reimbursement;
3. a legal document-admissible as evidence in medical malpractice, disability and personal injury as well as general liability suits;
4. to evaluate a physician's performance and determine the quality of clinical care;
5. in hospital setting, the medical chart is the basis for QA/CQI/UR and research activities.

Overheads (16) (17) are displayed-lack of documentation, (Quality problem notice, and admission denial). Facilitator inquire as to resident's opinion re: issues and concerns around documentation. Facilitator reframe their

concerns (fragmentation, continuity of care) and issues (legibility, 'how you write it and what you say, and follow-up, i.e. if you order a procedure, then follow-up on it.) Residents usually articulate their time constraints as "we're too busy to adequately document." To this, I reply: "It takes more time later explaining and defending why you didn't comply with documentation requirements."

Overhead:(18) Ten steps to effective Medical Records Documentation. Residents are informed that these 10 steps are included in their manual. Facilitator shares with residents the five documentation concerns that will always signal a review by IPRO.

1. ordering tests on day of discharge
2. abnormal lab values not addressed
3. chest x-ray = missing and/or incomplete report
4. Urine Analysis (U/A) not addressed
5. Hematocrit/Hemoglobin (H & H) not addressed

At this point, residents are expressing some displeasure around "the over-whelming burden of documentation." The facilitator offers some reassurance. "The hospital, IPRO and JCAHO all request that you perform three activities when it comes to patient care-(An Overhead (19) is displayed),

1. that you are AWARE of the patient's problem/status;
2. that you ADDRESSED the patient's problem, and
3. that you provided appropriate FOLLOW-UP.

Facilitator queried the residents, "what do you know about the Joint Commission or JCAHO?" The garden variety of responses include: "they're the folks that snoop around to catch you"; "They're the ones the hospital spruces up for, you know, a paint job, new curtains etc," "they shake things up when they come."

Facilitator responds without ridicule:

"JCAHO stands for Joint Commission on Accreditation of Health care Organizations, however, it is commonly referred to as 'Joint Commission'.

JCAHO was established as an independent accreditation program to review hospital facilities. Actually, JCAHO review and accredits many different health facilities and not just hospitals. The Joint Commission was founded by the American College of Surgeons in 1957. Its member organizations include the following: The American Medical Association, American Dental Association, American College of Physicians, American Hospital Association and the American College of Surgeons." There is usually some expression of amazement and disbelief following the above information, e.g. "They're one of us !!!"; "My God, physicians are snooping on physicians!."

Facilitator: "The survey which the JCAHO performs is a quality review of past services rendered by a particular institution and a clear detailed accounting of what is lacking, missing or below a pre-determined set of standards. The JCAHO survey is voluntary. Member hospitals pay for this survey every three years. JCAHO will assign one of four accreditation designations following their visit(s):

1. accredited,
2. non-accredited,
3. conditionally accredited and
4. accredited with commendations.

The JCAHO sends a team consisting of an MD surveyor who evaluates compliance with medical staff functioning; an RN surveyor who assess compliance with nursing activities and infection control; an M.S.W. who assess social service activities; and an administrative surveyor who evaluates the hospital's administrative functions."

Facilitator: "Why do you think this information should be of interest to residents?" No one among the residents has an answer. [There is some shrugging of the shoulders.] This training provides the eligibility for all of you to sit for the respective 'Board' exams and become 'Board Certified' in your areas. Physicians CANNOT sit for their Boards, unless they are trained in an accredited institution! Secondly, a facility that is accredited by JCAHO, receives the higher reimbursement rates from third-party insurers.

Facilitator: "you may recall that we began this second session with a series of overheads joining together the four phases of problem-solving using the P-O-M-R. Since you're now more familiar with what the JCAHO is, we can take a look at its 10-steps Monitoring and Evaluation model. You've seen the schematic overhead. This is the 'long-hand' version, [Overhead (20) JCAHO's 10 step model]."

Facilitator: "we will go over each of the steps briefly. There's a more detailed explanation of the steps in your manual. I think it'll be helpful to your understanding of this process if we try to link the 10 steps with some phase of problem-solving as you know it."

[Rationale: Having the residents match an area of the problem-solving process with the individual 10-steps can be helpful in de-mystifying JCAHO's 10-step Monitoring and Evaluation process].

Step 1. Assign Responsibility;
Step 2. Delineate Scope of Care and Service;
Step 3. Identify important aspects of care and service;
Step 4. Identify indicators;
Step 5. Establish thresholds for evaluation;
Step 6. Collect and organize data;
Step 7. Initiate evaluation;

Step 8. Take actions to improve care and service;
Step 9. Assess the effectiveness of actions and maintain the gain;
Step 10. Communicate results to affected individuals and groups.
Facilitator: "If after checking out your manual, you have additional questions or concerns related to JCAHO-call me and we'll meet on an individual bases."
Facilitator: "Anyone here familiar with the National Practitioners Data Bank or NPDB??" [usually out of a group of 14 to 19 housestaff, one or two residents will respond, however, the information is not factual and is often negatively skewed.]
Facilitator: "The NPDB was created by congress as part of the Health Care Improvement Act of 1986 (Pub. L. No. 99-660 Stat 3784).
The act is (1) intended to promote effective professional review, (2) improve the quality of medical care and (3) restrict the ability of incompetent physician to move from state to state to avoid licensure difficulties. Some interesting aspects of the act include the following:

1. it established a national database for information related to physician competence and conduct;
2. it applies to hospitals and their medical staffs and other entities that perform professional review activities;
3. whoever makes a malpractice payment must report it, e.g. insurance companies, self-insured hospital or self-insured individuals,
4. state medical and dental boards must report disciplinary actions taken against a physician or dentist's license;
5. the Data Bank will maintain a lifetime record on individuals;
6. censure and reprimand actions need not be reported."

Facilitator: "The process of requesting data is fairly easy-an authorized person or entity must complete the appropriate form, the form is then sent by mail-no faxes, no computers to NPDB P.O. Box 6048, Carmarillo, CA 93011-6048, you can contact them also by phone 1-800-767-6732. A single form may be used to request information about one physician or multiple physicians, the Data Bank receives more than 20,000 queries weekly. The response on one physician is within 5 working days; on multiple physician, it takes 8 to 10 weeks. The current fee is $6.00 for hospitals. There is no fee for individual doctors."
Overhead: (21) NPDB-Reporting and Querying has been up throughout this segment. Overhead: (22) NPDB-disputing the Accuracy of Reports is now displayed.
Facilitator: "who has access to NPDB?" [usually, at this moment some housestaff begin to articulate their displeasure and concern about (1)'people attacking doctors'; (2) why weren't they informed of this in Med(Medical) school?]

Facilitator: "Originally, the 'Act' envisioned widespread access to the Data Bank, however, in 1987 the AMA was successful in having the Act amended. This limited access to the Data Bank.

1. Each hospital must request information from the Data Bank; (a) before hiring, (b) every 2 years thereafter;
2. State licensing boards;
3. Health Care facilities, e.g. clinics
4. Professional Societies
5. Plaintiff's attorney (with HHS's authorization);
6. Individual Practitioners, (their own files at no fee);
7. Any nurse-files which concern her for litigation purposes.

There are some differences between NPDB and IPRO. IPRO (Island Peer Review Organization) is NYS's peer review organization which reviews medical records in NYS's health care institutions. It is mandated by NYS. The purpose is (1) to assess the overall quality of care rendered to the patient and (2) to identify quality of care issues by practitioners.

The NPDB, on the other hand, is an act of congress. It's a collection of adverse information on practitioners and dentists and requires inquiries (a) before hiring (b) before repriviliging every two years. Further, NPDB maintains a lifetime record on individuals."

[The mood at this time is quite somber and 'worried'].

Facilitator: "What are the implications for practice?" [There are some 'irrational' comments]

Facilitator: 1. Hospitals are not required to seek information on housestaff-technically they are trainees in structured programs of supervised Graduate Medical Education. However, (a) reports must be submitted to the Data Bank when malpractice payments are made in their behalf, or (b) when adverse licensure actions are taken against them; 2. Documentation issues-inadequate documentation e.g. if procedure is/was not done and no notation to indicate whether it was or not-e.g. the rectal exam discussed previously, consults not place in the chart; 3. Lawyers do a lot of reading between the lines in terms of what the medical record doesn't say; 4. NEVER alter the medical record-this is a misdemeanor in N.Y.S., should be clear to anyone that you are adding information retrospectively for purposes of clarification." [This section on implications for practice is, in reality, a reiteration of documentation guidelines].

Segment 4.

Time: 15 minutes

Activity: Post-test: Residents QA/CQI survey

Facilitator Thank you for your time and for staying focused. I'm going to distribute the second survey-remember, I mentioned it last week-and black pens. Please-no names, however I do want you to document (oops!) the last

four digits of your social security number on page three. [There is laughter following my use of the word document and 'oops'. Rationale this serves to release some of the tension which is always present following the segment on NPDB].

As residents hand in their survey (takes 12 minutes or less), I extend an invitation by offering to precept (train/teach) them on an individual basis in any area which was not clearly understood. They're also invited and encouraged to attend upcoming QA/CQI workshops.

APPENDIX C

FACULTY DEVELOPMENT QUALITY ASSURANCE SURVEY

February 20, 1990

1. The term "Quality Assurance" is widely used. How do you define it?

2. What kind of training if any have you had about quality assurance issues?

3. What percent of your time is spent on quality assurance issues

_____when you care for patients?

_____when you train residents?

4. Can you think of instances where the failure of Quality Assurance reviews put a patient at risk? I.e., where an identifiable mistake was made more than once? If yes, please give example.

5. What are the primary reasons for implementing Quality Assurance activities/programs?

6. What are the primary impediments to residents following Quality Assurance guidelines? How do you think each of these could be addressed?

Impediment	Solution

APPENDIX D
HOUSESTAFF SURVEY

Montefiore Medical Center Department of Family Medicine
Social Medicine Resident Survey on **Quality Assurance**

. **Pre-Test Date:** (MM/DD)_____(1-4)

Please indicate to what extent you agree or disagree with the following statements about Quality Assurance.

Response Scale:

1 = Strongly Disagree 3 = Uncertain 4 = Agree
2 = Disagree 5 = Strongly Agree

I Quality Assurance Terminology

(5) Evaluation and analysis of data of Quality Assurance help to identify problems that require improvement in patient care 1 2 3 4 5

(6) The monitoring procedures developed for Quality Assurance provide clinically useless information 1 2 3 4 5

(7) Evaluation and analysis of data for Quality Assurance help to document acceptable levels of care 1 2 3 4 5

(8) Monitoring should not be seen as a policing procedure 1 2 3 4 5

(9) Quality Assurance and quality medical care mean the same thing 1 2 3 4 5

(10) Evaluation criteria for Quality Assurance are reasonable guidelines for assessing the quality and appropriateness of care 1 2 3 4 5

II Quality Assurance Guidelines:

(11) Encourage practitioners to develop their own individual mechanisms for assuring the quality of care they give on patient-by-patient basis 1 2 3 4 5

(12) Are generally accepted as appropriate standards for patient care 12 3 4 5

(13) Prevent mistakes by having a second level of review to establish and uphold standards 1 2 3 4 5

14. Are unrealistic because physicians are reluctant to review their peers 1 2 3 4 5

(15) Have realistic expectations of the time and resources required for compliance 1 2 3 4 5

(16) Are adequately disseminated to residents and faculty 1 2 3 4 5

(17) Are useful for evaluating residency training programs 1 2 3 4 5

(18) Builds consensus about appropriate patient care protocols 1 2 3 4 5

(19) Are clearly presented in the education of residents 1 2 3 4 5

(20) Encourage diversity of practice 1 2 3 4 5

(21) Are followed by faculty and attendings in the care of patient 1 2 3 4 5

(22) Insure that Joint Commission On Accreditation of Healthcare Organizations' (JCAHO) standards are met 1 2 3 4 5

(23) Would be complied with if charts could be retrieved in a timely manner 1 2 3 4 5

(24) Minimizes the harm the provider can potentially inflict 1 2 3 4 5

III Quality Assurance Involvement

Should training about Quality Assurance protocols should be included in the curricula?

(25) A. Medical School 1. Yes 2. No
(26) B. Residency Training 1. Yes 2. No

(27) Would you benefit by knowing more about Quality Assurance protocols? I. Yes 2. No

(28) Which topics would you like to see addressed in a seminar on Quality Assurance?

(Please circle choices.)

A. Quality Assurance Guidelines
B. Quality Assurance Terminology
C. Developmental history of Quality Assurance Program
D. Quality Assurance Monitoring Methods
E. Quality Assurance at MMC/RPSM

(29) Do you know the Quality Assurance guidelines for Montefiore Medical Center?

1. Yes 2. No

(30) How many times have you participated in a chart review since beginning your residency training?

1 = Never
2 = 1 - 2 times

(31) Have you ever attended a Quality Assurance Committee meeting? 1 - Yes 2. No

(32) Current Status:(please circle choice) PGY-1 or PGY-2
(33) last 4 digits of Social Security #

*Developed by Anne Gooding, Education Coordinator, Residency Program in Social Medicine/Department of Family Medicine, Montefiore Medical Center

APPENDIX E
LETTER OF CONSENT

Montefiore

Montefiore Medical Center
Henry and Lucy Moses Division

To

Date April 30,1990

From Bob Massad/Anne Gooding

Subject Social Medicine Resident Quality Assurance Survey

The changing and complex health care environment (see N.Y. Times Series "Doctors in Distress" 2/18 - 20/90) highlights the need for practitioners to have an understanding of Quality Assurance and its impact on service delivery.

The mission of this program is to provide residents with training which will encourage the development of skills in delivering, monitoring and improving primary medical care.

The current curriculum focuses on biomedical, psychosocial and social medicine training. An additional component of the RPSM will have as its focus the enhancement of your skills in utilizing the "tools" of Quality Assurance.

Anne Gooding has been charged with the responsibility of developing a Quality Assurance component for the curriculum.

Attached is a questionnaire which has been designed to elicit the necessary data which will help the department to assess the needs of residents in developing a Quality Assurance training component.

The survey WILL NOT be included in any of your evaluations or files. However, we do need to compare your responses before and after the training program. Please place the completed questionnaire in the envelope that has been provided.

I will separate the cover from the survey to assure your anonymity in responding to these questions. Return the questionnaire in the stamped self-addressed envelop and placed in a designated box at RPSM.

Your signature will indicate that you are willing to participate in this survey.

Thank you for your cooperation and input in this Quality Assurance curriculum assessment.

_____
Signature

APPENDIX F
IRB APPROVAL LETTER

College of Medicine
Henry and Lucy Moses Division

Letter of Approval from the IRB

November 15, 1993

Anne Gooding

Department of FAMILY MEDICINE

RE: RPSM Quality Assurance Survey- (*1199004096)

Montefiore Medical Center's Institutional Review Board (IRB) has approved the progress report and continuation of the above referenced study for another year. This approval was given at the IRB's scheduled meeting which was held on Friday, 11/12/93.

If you require additional information, please let me know.
sincerely yours,

Rosa Morales, Recording Secretary
Institutional Review Board
Office of Research and
Sponsored Programs

/rm

* Please use this reference number in any correspondence regarding this protocol.

REFERENCES

Abramson, J., & Mizrahi, T. (1986). Strategies for enhancing collaboration between social workers and physicians. *Social Work in Health Care, 12*(1), 3.

Abramson, J., & Mizrahi, T. (1993). When social workers and physicians collaborate: Positive and negative interdisciplinary experiences. *Journal of the National Association of Social Workers, 41*(3), 270-281.

Ackerman, F. K. I., & Nash, D. B. (1991, June). Teaching the tenets of quality: A survey of medical schools and programs in health administration. *QRB Quality Revue Bulletin, 17,* 200-203.

Anderson, J. G., Jay, S. J., Perry, J., Anderson, M. M., & Schweer, H. M. (1988). Informal networks and change in physicians' practice behavior. Paper presented at the Annual Conference on Research in Medical Education.

Batalden, P., & O'Conner, K. (1980). *Quality assurance in ambulatory care.*

Berger, C. S., Cayner, J., Jensen, G., Mizrahi, T., Scesny, A., & Trachtenberg, J. (1996). The changing scene of social work in hospitals: A report of a national study by the Society for Social Work Administrators in Health Care and NASW. *Social Work in Health Care, 21*(3),

Bergstrom, C. (1979). The teaching social worker in family medicine: A prototype for the hospital social worker? *Social Work in Health Care, 4*(4), 409-421.

Berkman, B. (1977). *Changing roles in social work practice.* PA: Temple University Press.

Berkman, B. (1996). The emerging health care world: Implications for social work practice and education. *Social Work: Journal of the National Association of Social Workers, 41.*

Brady, W. J., Hissa, D. C., McConnell, M., & Wones, R. G. (1988). Should physicians perform their own quality assurance audits? *Journal of General Internal Medicine, 3,* 560-565.

Brennan, T. A., Lee, T. H., O'Neil, A. C., & Petersen, L. A. (1992). Integrating providers into quality improvement: A pilot project at one hospital. *Quality Management in Health Care, 1*(1), 29-35.

Butryn, Z., & Horder, J. (1983). *Health doctors and social workers.* Washington, DC: Library of Congress.

Cassie, J. M. (1977). An in-service teaching improvement programme for attending physicians. [Journal article]. *Annual Conference of Research Medicine Education, 16,* 333-336.

Clayson, M. (1993). Starting out as a trainee. *Practitioner, 237,* 669-671.

Codman, E. A. (1914, April). The product of a hospital. *Surgery, Gynecology, and Obstetrics, 18.*

Cohen, D. I., Littenberg, B., Wetzel, C., & Neuhauser, D. B. (1982). Improving physician compliance with preventive medicine guidelines. *Medical Care, 20*(10), 1040-1045.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Cohn, Y. (1971). The social worker on the multi-disciplinary team. *Social Service Quarterly, 46,* 40.

Council on Medical Service Quality of Care. (1986). Report to inform the House of Delegates. Editorial. *Journal of the American Medical Association,* pp. 1032-1034.

Council on Medical Services. (1988). Editorial. Guidelines for Quality Assurance *Journal of the American Medical Association, 259*(17),

Crawley, L. Q., Malfetti, J. L., & Bartholomew, F. E. (1972). Sex education for school physicians: Report on an in service training course. *Journal of School Health, 42*(1), 25-31.

Davis, J. E. (1985). The relationship of resident physicians' medical care performance to their medical recording. *Annual Conference on Research in Medical Education, 24,* 173-178.

den Otter, J. J., Knitel, M., Akkermans, R. P., & van Schayck, C. P. (1997). Spirometry in general practice: The performance of practice assistants scored by lung function technicians. *British Journal of General Practice, 47,* 41-42.

Dickie, G. L., & Bass, M. J. (1980). Improving problem oriented medical records through self-audit. *The Journal of Family Practice, 10*(3).

Donabedian, A. (1989). The end results of health care: Ernest Codman's contribution to quality assessment and beyond. *The Milbrook Quarterly, 67*(2).

Ellrodt, A. G. (1993). Introduction of Total Quality Management (TQM) into an internal medicine residency. *Academic Medicine, 68*(11), 817-823.

Eskin, F. (1979). The role of management training in community medicine. [Journal article]. *Community Medicine, 1*(3), 236-43.

Etzioni, A. (1969). *The semi-professions and their organization.* New York: The Free Press.

Faber, E. M. (1991, May). Program for training staff pharmacists in total parenteral nutrition. *American Journal of Hospital Pharmacists.*

Flexner, A. (1910). *Medical education in the U.S. and Canada.* New York: Carnegie Foundation for the Advancement of Teaching.

Friedmann, P., & Selbovitz, L. G. (1992). Continuous quality improvement and physician training. *Quality Management in Health Care, 1*(1), 13-19.

Geertsma, R. H., Parker, R. C. J., & Whitbourne, S. K. (1982). How physicians view the process of change in their practice behavior. *Journal of Medical Education, 57,* 752-761.

Goldberg, E., Diamond, H., & Rongaus, A. (1995, Spring 1995). Total Quality Management of a medical residency. *American Journal of Medical Quality, 10*(1), 10-13.

Grol, R., Tielens, V., & Mokkink, H. (1985). Attitude changes in the vocational training of general practitioners. *Medical Education, 19,* 479-486.

Hatton, J. (1992). Multidiciplinary drug-use evaluation for stress ulcer prophylaxis. *American Journal of Hospital Pharmacists, 49,* 1440-1444.

IFA Services. (1998). McNemar's test. Available: http://fonsg3.let.uva.nl:8001/Service/Statistics/McNemars_test.html (Accessed 18/8/98).

Joint Commissions on Accreditation of Health Care Organizations (JCAHO). (1990). *Accreditation manual for hospitals.* Chicago, IL: Author.

Jones, N. E. (1991). Training in injury prevention for health professionals. *Journal of the New York State Nurses Association, 22*(4), 4-5.

Kane, R. (1981, November). QA in long-term care: An overview. Paper presented at the American Public Health Association. Los Angeles, CA.

Kardos, G. (1991). Failure to document. *Journal of Quality Assurance and Utilization Review, 6,* 99-103.

Keller, R. B., Wennberg, D. E., & Soule, D. N. (1997). Changing physician behavior: The Main Medical Assessment Foundation. *Quality Management in Health Care, 5*(4), 1-11.

Kern, D. E., Harris, W. L., Boekeloo, B. O., Barker, L. R., & Hogeland, P. (1990). Use of an outpatient medical record audit to achieve educational objectives: Changes in residents' performance over six years. *Journal of General Internal Medicine, 5,* 218-224.

Kincaid, W. H. (1984, August). Changing physician behavior: The peer data method. *QRB Quality Revue Bulletin.*

Knowles, M. (1970). *The modern practice of adult education: Andragogy versus pedagogy.* New York: Association Press.

Kwast, B. E. (1995). Building a community-based maternity program. *International Journal of Gynaecology and Obstetrics Supplement, 48,* S67-S82. Ireland.

Lacy, C. F., Saya, F. G., & Shane, R. R. (1996). Quality of pharmacists' documentation in patients' medical records. *American Journal of Health Systems Pharmacology, 53*(18), 2171-2175.

Lowenstein, S. R., Sabyan, E. M., Lassen, C. F., & Kern, D. C. (1986). Benefits of training physicians in advanced cardiac life support. *Chest, 89*(4), 512-516.

Mandel, I., Franks, P., & Dickinson, J. (1985). Improving physician compliance with preventive medicine guidelines. *The Journal of Family Practice, 21*(3), 223-224.

Marcus, B. H., Goldstein, M. G., Jette, A., Simkin-Silverman, L., Pinto, B. M., Milan, F., Washburn, R., Smith, K., Rakowski, W., & Dube, C. E. (1997). Training physicians to conduct physical activity counseling. *Preventive Medicine, 26*(3), 382-388.

McNamara, R. M., Sanders, A. B., Ling, L., Witzke, D. B., & Bangs, K. A. (1994). Substance use and alcohol abuse in emergency medicine training programs, by resident report. SAEM Residency Survey Task Force. *Academy of Emergency Medicine, 1*(1), 47-53.

Mizrahi, T. (1985). Sources of strain between physicians and social workers in health care settings. *Social Work in Health Care, 10*(3).

Mizrahi, T. (1986). *Getting rid of patients.* New Brunswick, NJ: Rutgers University Press.

Moran, M. (1988). Measuring residents' chart documentation practices. *Journal of Medical Education, 63,* 859-865.

Morrow, R. W., Gooding, A. D., & Clark, C. (1995). Improving physicians' preventive health care through peer review and financial incentives. *Archives of Family Medicine, 4,* 165-169.

Moss, S., Margison, F., & Godbert, K. (1991). The maintenance of psychotherapy skill acquisition: A two-year follow-up. [Journal article]. *British Journal of Medicine and Psychology, 64,* 233-236.

Nuehring, E., & Pascone, A. (1986, September/October). Single-subject evaluation: A tool for quality assurance. *Social Work.*

Oalmann, M. C., & Sappenfield, R. W. (1976). The primary care physician. *Journal of the Louisiana State Medical Society, 128*(5), 127-9.

Olsen, K. M., & Olsen, M. (1967). Role expectations and perceptions for social work in medical settings. *Social Work, 12,* 70-78.

O'Boyle, M., Paniagua, F. A., Wassef, A., & Holzer, C. (1995). Training health professionals in the recognition and treatment of depression. *Psychiatric Services, 46*(6), 616-618.

O'Leary, D. (1988). Future trends in evaluating quality of care [Michael M. Davis Lecture, University of Chicago]. Chicago, IL.

O'Leary, D. (1990, 20 July). Editorial. *Modern Health Care,* p. 40.

Palmer, H. (1983). *Ambulatory health care evaluations: Principles and practice.* Chicago, IL: American Hospital Publishing Co.

Palusci, V. J., & McHugh, M. T. (1995). Interdisciplinary training in the evaluation of child sexual abuse. *Child Abuse and Neglect, 19*(9).

Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.

Powers, J. T., & Healy, A. (1982). Inservice training for physicians serving handicapped children. *Exceptional Children, 48*(4), 332-336.

Prior, J. (1986). The Peer Review Organization. *New York State Journal of Medicine, 86*(4), 169-170.

Rehr, H. (1979). *Professional accountability for social work practice: A search for concepts and guidelines.* New York: Prodist.

Rehr, H. (1984). Health care and social work services: Present concerns and future directions. *Social Work in Health Care, 10*(1), 77-78.

Rubenstein, E. B., Fender, A., Rolston, K. V., Elting, L. S., Prasco, P., Palmer, J., Road, I., Pollock, R. E., Frisbee-Hume, S., Laurence, D., & et al. (1995). Vascular access by physician assistants: Evaluation of an implantable peripheral port system in cancer patients. *Journal of Clinical Oncology, 13*(6), 1513-1519.

Salvatore, E. (1988). Issues in collaboration and teamwork: A sociological perspective on the role definition of social work in primary health care. *Research in the Sociology of Health Care, 7,* 119-139.

Schmidt, I., Claesson, C., Westerholm, B., Nilsson, L., & Svarstad, B. (1998). The impact of regular multidisciplinary team interventions on psychotropic prescribing in Swedish nursing homes. *Journal of the American Geriatric Society, 46*(1), 77-82.

Sidel, V. (1976). Quality for whom? Effects of professional responsibility for quality of health care on equity. *Bulletin of the New York Academy of Medicine, 52*(1), 164-170.

Sivaram, C. A., Johnson, S., Tirmizi, S. N., Robertson, V., Garcia, D., & Sorrells, E. (1996). Morning report: A. *Journal on Quality Improvement, 22*(4), 259-263.

Spellman, T., & Beyt, G. (1992). Physician involvement and commitment to TQM: A report from the Quality Management Network. *Quality Connection, 1*(3), 2-3.

Sririam, T. G., Moily, S., Kuar, S. U., Chandrashekar, C. R., Ksaac, M. K., & Murthy, R. S. (1990). Training of primary health care medical officers in mental health care: Errors in clinical judgment before and after training. *General Hospital Psychiatry, 12,* 384-389.

Sririam, T. G., Chandrashekar, C. R., Isaac, M. K., Srinivasa Murthy R, & Shanmugham, V. (1990). Training primary care medical officers in mental health care an evaluation using a multiple-choice questionnaire. *Acta Psychiatry Scandanavia, 81*(5), 414-417. Denmark.

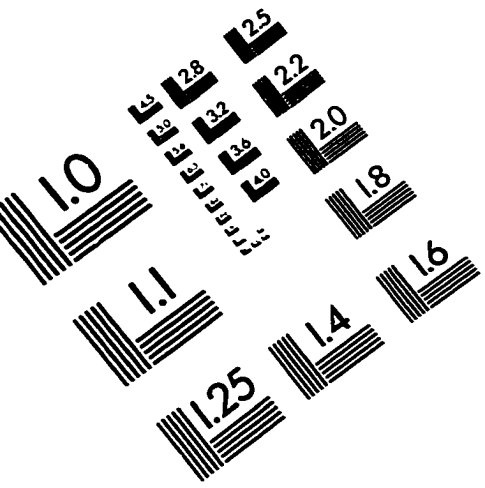
Stross, J. K., Hiss, R. G., Rinaldo, J. A., Dykman, C. J., & Vanselow, N. A. (1974). A statewide approach to graduate medical education. [Journal article]. *New England Journal of Medicine, 291*(14), 701-706.

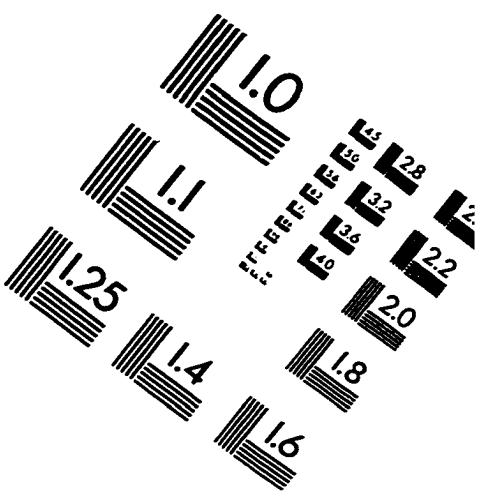
Thompson, R., & Thompson, D. (1988, January). The importance of physician-specific quality assurance. *QRB Quality Revue Bulletin,* p. 14.

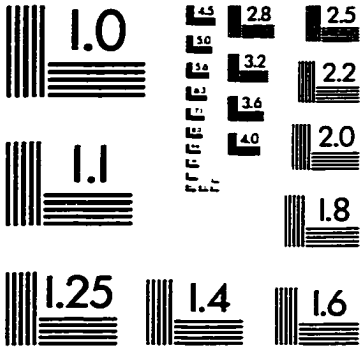
Weingart, S. N. (1996). House officer education and organizational obstacles to quality improvement. *Journal on Quality Improvement, 22*(9), 640-646.

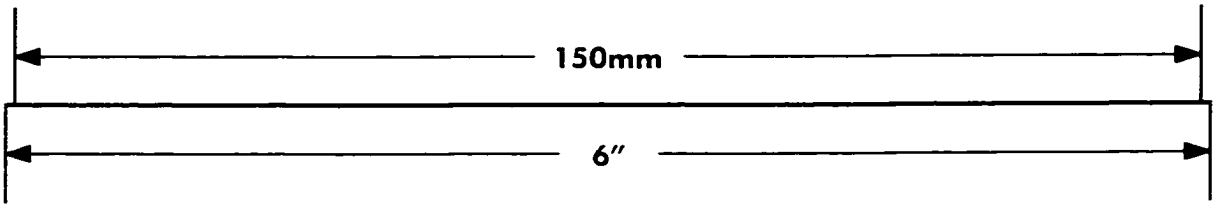
Wolraich, M. L., & Reiter, S. (1979). Training physicians in communication skills. *Developmental Medicine and Child Neurology, 21*(6), 773-778.

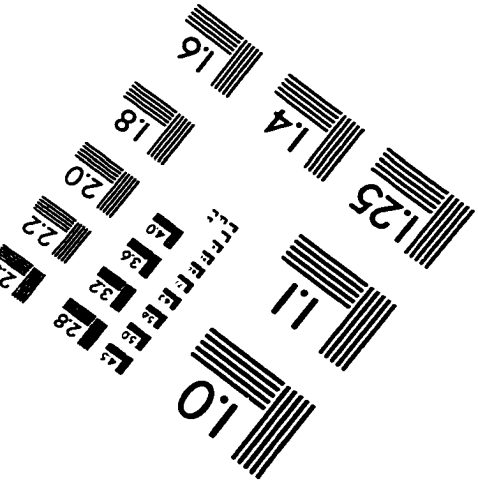
IMAGE EVALUATION TEST TARGET (QA-3)











APPLIED IMAGE, Inc
1653 East Main Street
Rochester, NY 14609 USA
Phone: 716/482-0300
Fax: 716/288-5989