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AN EVALUATION OF PROFESSIONAL STANDARDS
REVIEW ORGANIZATIONS

DISSERTATION

Presented in Partial Fulfillment of the
Requirements for the Degree Doctor of Philosophy in
the Graduate School of The Ohio State University

by

Robert Peter Stone, B.S., M.S., M.S.

* * * * * *

The Ohio State University

1980

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LIST OF ABBREVIATIONS

AAPSRO - American Association of Professional Standards Review Organizations
AC - Admission Certification
ALOS - Average Length of Stay
AMA - American Medical Association
ART - American Registered Technician
ASH - Assistant Secretary for Health
BHI - Bureau of Health Insurance
BQA - Bureau of Quality Assurance
CBO - Congressional Budget Office
CHAMP - Commonwealth Health Agencies Monitoring Program
CHAP - Certified Hospital Administration Program
CPHA - Commission on Professional and Hospital Activities
CME - Continuing Medical Education
CQA - Concurrent Quality Assurance
CSR - Continued Stay Review
DOC - Days of Care Per Thousand Eligible
DRG - Diagnostic Related Groups
EMCRO - Experimental Medical Care Review Organization
FAE - Fraud, Abuse and Error
FI - Fiscal Intermediary
FOIA - Freedom of Information Act
GAO - General Accounting Office
LIST OF ABBREVIATIONS (Continued)

HASP - (Illinois) Hospital Administrative Surveillance Program

HCFA - Health Care Financing Administration

HCHCP - Hartford County Health Care Plan

HCPSRO - Hartford County Professional Standards Review Organization

HEW - Health, Education and Welfare

HHS - Health and Human Services, formerly HEW (Health, Education and Welfare)

HMO - Mealth Maintenance Organization

HR 1 - House Resolution 1

HSA - Health Systems Agency

HSQB - Health Standards and Quality Bureau

ICF - Intermediate Care Facility

IOM - Institute of Medicine

IPA - Individual Practice Association

JCAH - Joint Commission of Accreditation of Hospitals

LOC - Level of Care

LOS - Length of Stay

LTC - Long Term Care

MAI - Medical Advances Institute

MBO - Management by Objective

MCE - Medical Care Evaluation Study

NHI - National Health Insurance
LIST OF ABBREVIATIONS (Continued)

NHS - National Health System
OPPR - Office of Policy Planning and Research
OPSR - Office of Professional Standards Review
OURS - Oklahoma Utilization Review System
PA - Physician Advisor
PAC - Profile Analysis Committee
PC - Physician Consultant
PCE - Patient Care Evaluation Study
PHDDS - PSRO Hospital Discharge Data Set
PDUR - Predischarge UR Program
POP - Patterns of Practice
PSRO - Professional Standards Review Organization
RC - Review Coordinator
RFP - Request for Proposal
SNF - Skilled Nursing Facility
SSA - Social Security Administration
UHDDS - Uniform Hospital Discharge Data Set
U&MCAP - Utilization and Medical Care Assessment Program
UR - Utilization Review
CHAPTER I

INTRODUCTION

General

On October 30, 1972, President Richard Nixon signed into law the Social Security Amendments of 1972 (Public Law 92-603).¹ Sixteen of the law's 165 pages mandated the creation of Professional Standards Review Organizations (PSROs). This section (Title XI) was also known as the "Bennett Amendment" after Wallace Bennett, the Republican Senator from Utah.

The stated general purpose of the PSRO was to assure that medical services provided under Medicare (Title XVIII), Medicaid (Title XIX) and a specific Maternal and Child Health Program (Title V, Crippled Children) were medically necessary, met professionally recognized standards and were provided in the most appropriate setting.

The mandate of assuring the medical necessity and the quality of care of health services was a challenge. Complicating the task has been the lack of any universally accepted definitions of "quality" or "medically necessary."

In order to gain a feeling for this complexity, it is relevant to sample some authors' definitions and
thoughts about "quality" as related to medical care. Donabedian notes: "that quality may be almost anything one wishes it to be, it ordinarily being a reflection of values and goals current in the medical care system and in the larger society of which it is a part."²

Another observes that it is elusive, difficult to define conceptually or operationally, and may not be one thing but a bundle of things.³ The official Congressional definition for quality is: "The nature, kind, or character of someone or something; hence the degree or grade of excellence possessed by the person or thing."⁴

It is also interesting that the term "medical necessity" has not been defined by the PSRO law, Congress or the Department of Health and Human Services (HHS). The only attempt this author has seen is the one approved by the Columbus, Ohio PSRO Board of Trustees:

A medically necessary service, procedure, or level of care is one which is absolutely essential and indispensable for assuring the health and safety of the patient.

This lack of generally accepted definitions will be discussed later in more detail.

It may be more beneficial to the reader to consider the actual language of the law as it defines PSRO, its purpose and functions.
According to the legal definition, a specific PSRO is:

An organization which is a nonprofit professional association . . . composed of licensed doctors of medicine or osteopathy engaged in the practice of medicine or surgery in such area . . . willing to perform and capable of performing, in an effective, timely, and objective manner and at reasonable cost, the duties, functions and activities . . . required. . . .

Further, the declared purpose of PSRO was stated in Section 1151 of the law:

In order to promote the effective, efficient and economical delivery of health care services of proper quality for which payment may be made (in whole or in part) under this Act and in recognition of the interests of patients, the public, practitioners, and providers in improved health care services, it is the purpose of this part to assure, through the application of suitable procedures of professional standards review, that the services for which payment may be made under the Social Security Act will conform to appropriate professional standards for the provision of health care and that payment for such services will be made: (1) only when and to the extent medically necessary, as determined in the exercise of reasonable limits of professional discretion; and (2) in the case of services provided by a hospital or other health care facility on an inpatient basis, only when and for such period as such services cannot, consistent with professionally recognized health care standards, effectively be provided on an inpatient health care facility of a different type, as determined in the exercise of reasonable limits of professional discretion.\(^1\)

Even more specific are the words relative to professional peer review in Section 1155 of the Bennett Amendment:
... it be the duty and function of each Professional Standards Review Organization for any area to assume, at the earliest date practicable, responsibility for the review of the professional activities in such area of physicians and other health care practitioners and institutional and noninstitutional providers of health care services in the provision of health care services and items for which payment may be made (in whole or in part) under this Act for the purpose of determining whether—(A) such services and items are or were medically necessary; (B) the quality of such services meets professionally recognized standards of health care; and (C) in case such services and items are proposed to be provided in a hospital or other health care facility on an inpatient basis, such services and items could, consistent with the provision of appropriate medical care, be effectively provided on an outpatient basis or more economically in an inpatient health care facility of a different type.

These legal definitions and mandates are to be kept in reference as this study is developed. The intent of the legislation is crucial to any evaluation and as a basis for understanding the concept of peer review.

The Concept of Medical Peer Review

Ertel and Aldridge⁵ have provided one of the most comprehensive definitions of medical peer review in the literature:

The investigational, managerial, and educational process for systematically monitoring health care in which the judgments regarding provider performance and recommendations regarding corrective actions are based on a review of appropriate case data and are made by qualified professional peers who practice in the same community and who communicate the results of their efforts to the public.
This definition is even usable for the time when some historians like to view what may be the origin of peer review—the time of Hammurabi in 2250 B.C. The medical profession of Babylon was even then regulated by law: "If the doctor caused the patient to lose his life or his eye, he had his hands cut off." That was the review of medical care—weighing of the subjective and objective by an ultimate authority. A good outcome was rewarded; a failure, harshly penalized.

One of the earliest noted concerns for quality of medical care in the United States was in the Massachusetts Colony in 1649. A law was passed to regulate various individuals involved with the health of the body. From then on, there was fluctuating interest in the licensure and minimum standards required of the medical profession.

In the early 1900's, the American Medical Association (AMA) took the lead in demanding professional reform. Primarily, due to their efforts, Abraham Flexner performed his study of medical schools. The resulting "Flexner Report" caused a storm of controversy but eventually resulted in American medicine achieving a worldwide standard of excellence. The report was also the catalyst to cause the American College of Surgeons and the AMA to request the Carnegie Foundation to
conducted a survey of hospitals and surgical care. Fewer than 15 percent of the hospitals surveyed could meet the standards.  

In 1952, the Joint Commission on Accreditation of Hospitals (JCAH) was formed. Its accreditation is gener­ally accepted as an overall measure of the total quality of an institution. However, a hospital could just superfi­cially comply with the standards and get a good rating. Therefore, the JCAH method does not provide an in-depth and uniform measure of quality. Furthermore, the assumption was that if the facility was assessed as being good and care was delivered by a licensed practitioner (licensing had also been emphasized by then with the theory it would upgrade quality), then the quality of care would be high. Such weak logic became evident and led to government mandates for review of more than inputs.  

Subsequently, the American College of Surgeons started a program of quality with various committees (tissue, infec­tion, and the like). These were self-monitoring peer review mechanisms. Up until the 1950's, the approach to quality control was by managing structural elements, such as, licensure, inspection, physician qualifications and good physician education. Indeed, peer review was an acceptable element of physi­cian history. However, PSRO's creation put a more organized and formal peer review process into operation.
The PSRO Peer Review Process

Goran and the PSRO Program Manual detail the generic PSRO Review System. Basically, it requires concurrent medical review of services, medical care evaluation studies (MCEs) which are now called PCEs, Patient Care Evaluation Studies) and development of institutional, practitioner and patient profiles. Profiles are aggregated data in formats that display patterns of health care services over a specified period of time.

The process involves a certification of medical necessity of health services and admission within a specified time of admission (Admission Certification or AC) and a Continued Stay Review (CSR) during the facility stay according to established checkpoints. Norms, locally approved medical criteria, and standards are used. The components are summarized in Figure 1 and a generic peer review process flow diagram depicted in Figure 2.

The process itself asks physicians to make four decisions about the patients: 1) Who is sick enough to be in a hospital?; 2) How long do they need to stay?; 3) Are they receiving care at the appropriate level of care?; 4) Is the care they receive of a professionally acceptable quality?
I. CONCURRENT REVIEW

A. Admission Certification (AC)\textsuperscript{a,b}
   1. Certifies Necessity of Admission
   2. Assigns Checkpoint for Continued Stay Review (CSR)

B. Continued Stay Review (CSR)\textsuperscript{a,b}
   1. Reviews Need for Continued Hospital Care
   2. Provides Concurrent Quality Assurance

II. MEDICAL CARE EVALUATION STUDIES (MCE)\textsuperscript{b}

III. PROFILE AND PATTERN ANALYSIS

\textsuperscript{a}Each type of review requires use of established norms, criteria, and standards.

\textsuperscript{b}PSRO may delegate all or part of review to willing and able hospitals.

Figure 1. Components of a PSRO Hospital Review System
Figure 2. A Generic Peer Review Process Flow Chart
The peer review method evolved from a combination of the experience of foundations of medical care in the West which had been doing various types of review. Further experience came from Experimental Medical Care Organizations (EMCROs) and from key physicians involved early in peer review as researchers and clinicians. The work of many at that time is compiled in a volume by Decker and Bonner.11

Consideration of the Problem

Many reasons exist to study the PSRO program. One is that this law created a whole new industry and brought the concept of medical peer review and quality concerns more directly to the medical profession, the health industry, Congress, and the public. PSRO also caused reactions from enthusiastic support to confusion and diatribes within the health industry and still does.

PSRO has been considered as an experiment to regulate, organize and improve the health care delivery system in the United States. No Western nation has ever undertaken a project of such extent and scope, according to Dr. Helen Smits, Director of the Office of Professional Standards Review Organizations. Welch12 in 1973, felt PSRO formed the basis for greater changes in the practice of medicine than had been provided by any health legislation in the history of this country.
PSRO relationships also make it interesting to study, PSRO affects so many dollars, people and organizations that make up the health care delivery system (Appendix A). Affected are $66 billion in federal and state health expenditures, physicians, nurses, clinical psychologists, health technologists, medical and health related societies and organizations, health systems agencies (HSAs), hospitals, nursing homes, state and federal agencies, private industry and the like.

Furthermore, the question of "What good is it?" has been raised both by the Congress and the medical profession. The cost of the program's development has risen from $31.5 million in fiscal year 1974 to $144.4 million in fiscal year 1980. The increasing competition for scarce health program dollars results in this questioning of its value. In addition, this is more and more an age of public accountability. The public has the right to know what value is returned for the dollars expended.

Others feel the main issue is whether the expenditure of such funds will increase health levels by improving the quality of care provided. Or, whether it will decrease health levels because money that would provide new medical services are diverted to such quality assurance efforts.\textsuperscript{13}
The PSRO program is at a crucial point. The Department of Health and Human Services, Congress, the health industry and the medical profession must look at the value and future of the PSRO program.

Objective of the Study

1. To evaluate the PSRO program by creating and applying an evaluation framework.

Summary

This chapter briefly reviewed the origin, legislated purpose and intent of the PSRO program. It noted some definitions of quality and medical necessity and what the concept of medical peer review was. The early history and evolution of peer review, the concern for quality of care and the PSRO review process were described. Reasons for studying this program were given. The objective of the study emphasized the focus of evaluating the PSRO program.
CHAPTER II

PSRO DEVELOPMENT & ORGANIZATION

Incidents Prior to PSRO

During the 1960's and up to when the Bennett Amendment was passed in 1972, various sociological, medical and political occurrences may have influenced the need for such a law.

These are noted chronologically in Appendix B. However, some of these events are highlighted for special consideration. The first incident was in 1962 when Payne developed the idea of using medical "criteria" to examine medical performance. This concept was a key building block to more organized peer review. The passage of Public Law 89-97, the Social Security Amendments of 1965, established the Medicare and Medicaid Programs. These two "Mediplans" initiated massive federal involvement in medicine. Furthermore, within the same law, Utilization Review (UR) was required in response for some monitoring of federal health services.

In 1970, the National Center for Health Services Research and Development began an experimental grant program. It was called the Experimental Medical Care
Review Organization (EMCRO) program. Its purpose was to develop working models with which to test the feasibility of conducting systematic and ongoing review of medical care under auspices acceptable to the several professional communities, to the public, to the government and to third parties. The EMCRO is acknowledged as contributing much to the model upon which the PSRO program was built. It should be noted that the PSRO amendment was enacted before the EMCROs were fully operating.

During the following decade (1965-1975), the Federal Government experienced an enormous expansion of its expenditures in the Mediplans.

The Senate Finance Committee had its staff do extensive investigation into the effectiveness of utilization review. This included an audit questionnaire to every governor, medical society, hospital association, and fiscal intermediaries, as well as receiving testimony. The conclusions were published in 1970:

... the detailed information ... indicates clearly that the utilization review requirements have, generally speaking, been of a token nature and ineffective as a curb to unnecessary use of institutional care and services. Utilization review in medicare can be characterized as more form than substance. The present situation has been aptly described by a State medical society in these words: "Where hospital beds are in short supply, utilization review is fully effective. Where there is no pressure on the hospital beds, utilization review is less intense and often token."
This widespread failure to effectively apply utilization review results from several factors (each discussed in greater detail below):

(a) The regulations which have been issued on institutional utilization review requirements are not in accordance with the terms and intent of the statute;

(b) Certification of hospitals and extended care facilities for participation in the program have been continued by the State health agencies and the Department of Health, Education, and Welfare, despite the fact that basic statutory requirements have not been met by those institutions;

(c) Many intermediaries under the program have either ignored or been negligent in assuring that institutions have functioning and effective utilization review mechanisms;

(d) The Social Security Administration has made little effort to verify that contracting agents (State health agencies and intermediaries) carried out the terms of their contracts on this point.17

Public testimony also showed a significant amount of health services were felt to be unnecessary.

Fulchiero et. al. cited what they felt were reasons for the failure of UR: 1) Lack of coordination between the review activities of Medicare and Medicaid; 2) Absence of professionally developed norms of care; 3) Unacceptability of claims reviews as a utilization control; 4) Absence of support from hospital administrators and physicians.18 In addition, during the 1960's, the economy was dominated by inflation, there was an increasing number of medical negligence and malpractice suits awarded to the plaintiffs, widening of the close patient-physician relationship and the dependence of the health professions and their schools upon tax and other third-party monies.6
The lay leaders of health care institutions experienced the pressure of performing quality review, in addition to utilization review, as a result of judgments in the Darling case in Illinois in 1966. In this decision, the hospital administration was held responsible for the assurance of quality care review within the institution. In addition, the Joint Commission on Accreditation of Hospitals (JCAH) applied new standards that encouraged the initiation of quality review efforts in hospitals. Then there were the more sociological issues: 1) A greater social concern for health; 2) Consumer expectations of good quality care; 3) A more sophisticated, question-asking society; 4) Media interest in health issues; 5) Public interest in being involved more in the management of health institutions.

There was also a concern that health was becoming a monopoly. Further, the spending of increased dollars for health by the federal government was accompanied by demands from the public for accountability from the medical profession.

Insurance coverage was weighted toward hospitalizing patients rather than giving them outpatient care and the overabundance of beds encouraged overutilization. An ecosystem of sorts existed. Where hospital beds were in short supply, UR was active. Where there was an abundance of hospital beds, UR was less intense and often token. The future thinkers were considering the need for such a
mechanism under a national health insurance system. Even then, Senator Kennedy had a review system in his national health bill consisting of bureaucratic reviewers. Demand for services soared with Medicare and Medicaid's creation and the federal government and its agents were not capable of properly administering the programs. It was alleged that excessive medications had been encouraged by the cost reimbursement and fee-for-services system, UR didn't review the noninstitutional services, retroactive denials of claims were made by carriers with little professional participation and, therefore, with little professional acceptance and interpersonal relations of physicians in hospitals biased the review.

Another key event was a scandal at the Cook County Hospital in Chicago, Illinois. Physicians on salary were using Medicare funds for parties, meetings, and the like. The Chairman of the powerful Senate Finance Committee, Senator Russel B. Long had the Medicare people testify on this. This got the Committee and Senator Wallace F. Bennett interested.

Early in 1970, both Congress and the Department of Health, Education, and Welfare, concerned about the adequacy of UR, asked Congress for authority to establish state "program review teams." These would be teams of consumers and professionals who would evaluate cost and
utilization of services locally with the principal aim of identifying abusers. As a counter proposal and in response to the Cook County Hospital situation, the AMA proposed "Peer Review Organizations," run by state medical organizations and the AMA, to monitor and review the quality of medical care.

Legislative Development

Senator Bennett felt the idea of a peer reviewing a peer was good but that it was not proper for the AMA to have that much power to review itself. Therefore, with the help of Mr. Jay Constantine, a key staff member for the Senate Finance Committee, he developed the first PSRO legislation. The effect was to put the powers of the federal government behind local physician groups who would review the work of their colleagues and the quality of care they were giving.

There was much reaction to the proposed legislation. Sentiments at that time were mixed. Great opposition came from the AMA and the American Hospital Association and yet there was some support by the American College of Physicians.22,23,24

There was also great stimulus, verging on panic, in hospitals. Mr. Constantine hypothesized that there was a direct correlation then between Senator Bennett's legislative activities and a trend of decreasing hospitalization.
He stated that the proposed law "... stimulated religion in a lot of people who were not believers. Some of the hospital UR Committees even started functioning."

The PSRO Amendment was introduced in August, 1970. It died in the waning moments of Congress that year because it didn't get to a conference of both houses. Also, there was no proponent like Senator Bennett in the House. Otherwise, it probably would have passed in 1970. Since the Senate Finance Committee's chief responsibility was taxes, and there were many priorities in that area, it was almost one and a half years before PSRO was reintroduced.

Senator Bennett did reintroduce it as an amendment in the Finance Committee to the massive Social Security Act of 1972, House Resolution 1 (H.R. 1). Some feel that the sheer size of H.R. 1 (almost 1000 pages), enabled the Bennett amendment to go through almost unnoticed. Further, it was the welfare reform parts that attracted legislative and media attention while PSRO moved quietly through the Senate debate without a single amendment being offered from the floor.

In a House/Senate conference committee, Senator Bennett had to compromise on two items. One was agreeing to put off for two years (until January 1, 1976) the date on which nonphysician organizations could become PSROs. The other was to allow for delegation of the PSRO's
legal responsibilities to hospitals. Their importance will be discussed later. Both the House and the Senate approved Professional Standards Review Organizations with little fanfare on October 17, 1972.

According to Mr. Constantine, it was Senator Bennett's believability and Congress' trust in him that got PSRO through. It is a political fact of life that no Member of Congress can be an authority on every bill he or she votes on. Therefore, unless it's a bill having tremendous public impact and interest, like the Salt Treaty, many Members pick out a Representative they think should know what the bill is about and one whom they trust, and vote the same way. Senator Bennett was trusted and perceived as an expert on PSRO. In addition, he was a known conservative. This convinced many Congressmen that the Bennett Amendment was acceptable.

The passage of the law was in 1972. However, the first PSRO contracts were not awarded until June, 1974. This delay was but one developmental problem for PSROs.

**Program Development**

There were many problems during the development of the PSRO program. A report by the General Accounting Office (GAO) summarized them: 1) A disorganized and scattered Federal bureaucracy had been instrumental in impeding the development of professional standards
review organizations; 2) Organizational shortcomings, inadequate authority, and fragmented responsibility; 3) Scattered authority among several Federal agencies, which resulted in no Federal agency having clear responsibility and oversight for the program during its early years. For example, in April 1973, nine Federal agencies had some type of authority over the program; 4) The overall weaknesses in the Federal administration of the PSRO program had in some cases prevented PSROs from establishing working relationship with state Medicaid programs, from expanding into long-term care review, and from working out problems with individual hospitals; 5) Conflicts between the separate administrations overseeing the Medicaid and Medicare program, led to delays in awarding contracts to the PSROs; 6) Inadequate funding and staffing at HHS, which led to a restriction on the number of PSRO contracts awarded; 7) In 1974 and 1975 inadequate financing for administration of the PSRO program prevented HHS staffers from giving technical assistance to fledgling PSROs; 8) HHS had failed to initiate PSROs in areas where doctors had been reluctant to do so.

In one form or another, the noted problems existed through the early PSRO years and even today to some extent.
PSRO Today

Much can be learned from history. Many of the issues that appeared to influence the PSRO creation still exist. There is an even more intense awareness and demand for public accountability of federal dollars. Inflation continues to rise and the availability of health care dollars is less. Therefore, the interest in cost effectiveness of programs has grown, according to Mr. Leonard Shaeffer, past Administrator of the Health Care Financing Administration (HCFA).

PSROs have been told to do more tasks with the same amount of money. All new hospital review has been halted indefinitely. This means no "specialty facility" (mental health, mental retardation, and the like) or further acute care hospitals could begin PSRO review.

The PSROs have been given arbitrary ceilings on their unit costs. The unit cost is the amount of money given in a PSRO budget per federal admission reviewed. A lower unit cost has caused PSROs to lay off personnel and change their review systems drastically in order to cut costs. Many PSROs have had to change to a retroactive claims review. This is almost what existed before PSRO. This affects efforts to evaluate PSRO performance since little is stable. The program has been under constant change, with requirements periodically added or deleted.
Further, the management and operations of the PSROs have been intensely examined and modified.

**PSRO Management**

The management of PSROs came under heavy scrutiny during 1977 and 1978, both by HHS and the GAO. Review was in the form of formal Washington and HHS Regional Office program evaluations as well as HHS and GAO financial audits.

Such audits resulted in terminations of some PSROs due to fiscal mis-management and poor performance as well as recommendations for combining areas. More terminations are expected. The emphasis is now on PSROs to show evidence of performance and meet objectives.

A management by objectives (MBO) approach was started when Dr. Helen Smits became the Director of the PSRO program in 1978. HHS issuances directed PSROs how to set objectives and to assess themselves. Examples of PSRO objectives are:

1. Implement a comprehensive Board of Trustee policy and procedural protocol for correcting substantive quality and utilization deficiencies by January 1, 1981.

2. Achieve an areawide elective surgical pre-op ALOS of four days or less by October 1, 1981. (ALOS = Average Length of Stay.)

3. Achieve an areawide adjusted MCE restudy correction rate of 70% or more by October 1, 1981.
4. Reduce by 5% the number of used certified days of hospital care/1,000 Medicare enrollees by October 1, 1981.

5. Conduct an MCE study of preventable deaths in public mental health and mental retardation institutions during the 1980-81 grant year.

The PSRO expertise in developing meaningful and measurable objectives has been slow and varies across the country. However, PSROs are now being asked to relate their localized objectives to "national priorities" that have been approved by the National PSRO Council. In a sense, these are actually national goals.

Another issue today revolves around the confidentiality of the PSRO data. The PSRO Amendment empowered the Secretary of HHS to develop confidentiality policies sensitive to individual privacy. Blum et al. explores this area in detail. However, confidentiality regulations have not been finalized. In the meantime, Mr. Ralph Nader's organization has sued the Washington D.C. PSRO for release of certain data and has won its court case, stating PSROs are federal agencies and, therefore, subject to their data being released to the public under the Freedom of Information Act (FOIA). The decision is under appeal, and the Judge has essentially left it to Congress to resolve the issue by amending the law and
exempting PSROs from the FOIA. According to Sen. Bennett "It was never my intent that there be release of raw, uninterpreted data that would identify physicians and patients." A PSRO National Council member feels that few physicians would participate in peer review if such raw data were released because of misinterpretation dangers.

However, PSRO aggregate data and profiles can and do provide information that can be helpful to many data users. A familiarization of the PSRO data system is useful when considering evaluation and cost effectiveness of PSRO.

**The PSRO Data System**

Policies guiding PSROs' data collection, processing and dissemination are contained in several HEW guidelines, called transmittals: 1) Transmittals 20 and 26 detail the data elements to be collected, policies for PSRO data routing and processing, and preparation of the Federal Reports Manual of the PSRO Management Information System (PMIS)\(^{33,34}\); 2) Transmittal\(^{39}\) clarifies the policies concerning the established cost ceiling for PSRO data activity\(^{35}\); 3) Transmittal 45 clarifies policies concerning PSRO data routing and processing integration with existing data systems\(^{36}\); 4) Transmittal 47 clarifies the process for review and approval of PSRO requests for proposals for a data processor and PSRO subcontractors.\(^{37}\)
Section 19 of P.L. 95-142 (The Medicare-Medicaid Fraud and Abuse Amendments of 1977) requires that HHS establish uniform reporting systems for providers participating in Medicare or Medicaid. The systems are to provide various types of data, two of which are (1) discharge data and (2) billing data. Under the law, HHS was to have issued final regulations under Section 19 by October 1, 1978. The regulations are not yet finalized.

The current PHDDS (PSRO Hospital Discharge Data Set) consists of 24 data elements that are collected on each federal patient. The first fifteen data elements came from the Uniform Hospital Discharge Data Set (UHDDS) and the last nine are considered the PSRO Elements (P Elements). These "P Elements" are now optional.

The history of PSRO data development was slow. PSROs experienced delays of data processor subcontract approvals by HHS of up to a year. PSRO data staff, in general, were not experienced enough to properly evaluate processors and run such data systems, according to various executive directors. Further, processors had to develop new programs and then "debug" them since the PSRO specifications were different than what was in existence. Therefore, data output was often in a fixed format, that might be useful or not, depending on the local needs and expertise. Examples of standard reports are seen in Appendices D & E.
The data abstract format (see sample in Appendix F) and collection process in a PSRO area were often mixed.

Most PSROs would batch and send abstracts to their selected processor. Some would input directly through terminals linked to the data processor. Often, hospitals were on different abstracting service, had their own abstract, or had an inhouse computer system to produce tapes. This type of data system picture would cause many retrieval, political and method problems.

Because of Politics, HHS had mandated that PSROs must build on existing data systems for a start. PSROs were, therefore, forced to experience lengthy delays while they had to get another subcontract approval for collection with the company providing the abstracting service. Then they had to let the abstracting company perform for a "reasonable time", generally 6 - 12 months. Some abstracting services were unable to meet HHS' tape specifications and had to be terminated. Only recently have the performance pressures for PSROs outweighed the abstracting service's political clout. Subcontracts with documented nonperformers are not being approved by HHS.

HHS has a requirement that the data on each federal patient be submitted by 60 days after the end of the calendar quarter within which the discharge occurs. Hospitals and PSROs have had difficulty in meeting this
deadline. Further, there are problems of patient data from different calendar quarters going in on the same tape. This makes the validity and reliability of the data output questionable.

PSROs are allowed to supplement their data bases with whatever they considered as quality elements. A sample of some generic quality indicators is shown in Appendix G. These are used in conjunction with special MCEs. However, most PSROs did not have the expertise or knowledge to develop such or do not now have the money to continue processing these extra elements. Most have been dropped.

It is ironic to note that Charles Edwards, M.D., HEW's Assistant Secretary for Health in 1973, said then that "the benefits of PSRO to patients and physicians will probably not be immediate, but will depend in great measure upon the quality of the statistical data collected. . . ."

To date, the data quality has generally been good. It has been less than 2% error free since HHS will not accept the PSRO tape unless it is. However, the reliability and validity of the data are generally untested except by sporadic monitoring. There is little available about how reliable the process of abstracting is, or how valid it is when compared with a more expert reading of the chart. There is also question of the reliability of abstracted medical record information.
It is felt that the primary quality data of the PSRO program comes from the MCE studies. These could become epidemiologic research tools when designed and used properly. Some useful information may come out of this method. This will be noted in the discussion chapter. There is also good potential for the identification of weaknesses and needs in medical education as a result of the performance of MCEs.

**National PSRO Data Output**

The data tapes that are sent quarterly to HHS by PSROs with operational data systems are merged into the "PHDDS Output Reports." These reports compare national, regional, and individual PSRO-level performance over specified time periods.

"Performance," however, is based solely on utilization as measured by average lengths of stay (ALOS) or lengths of stay (LOS). The LOS has been a standard process measure used by the many hospitals using the abstracting system of the Commission on Professional and Hospital Activities (CPHA). The information in the CPHA length-of-stay books are used as the standards with which to compare PSRO data.

The initial set of national PHDDS Output Reports was produced in July, 1978, and contained reports from 42 PSROs and 1,104,477 Medicare and Medicaid discharges. The most
recent set (September, 1979) contains data from almost five million discharges and 77 PSROs during calendar year 1978. The following examples illustrate the types of information available from these reports. Table 1 provides a regional comparison of summary length-of-stay statistics. Overall length of stay, the percentage of 1- and 2-day stays, and the percentage of stays over 30 days are shown for Medicare and Medicaid. The table indicates a continuation of the well-known marked geographic variation in length of stay. Length of stay in the Northeastern region of the country exceeds the West by about 42 percent for Medicare and almost 36 percent for Medicaid. The reason for such variation is unknown.

Tables 2 and 3 illustrate the use of the PHDDS data to produce profiles highlighting those PSROs 20 percent above and below the U.S. average. This report leads to problem identification and possible exemption of concurrent review.

Table 4 illustrates the use of diagnosis-related groups (DRGs) to display diagnostic data. These are used in "profile analysis" which will be discussed. DRGs are medically meaningful groups with consistent and stable patterns of length of stay. In Table 4, DRGs are used to highlight regional differences in length of stay of similar patient groups. The table indicates that for selected DRGs, as
TABLE 1
SUMMARY OF LOS (DAYS) BY CENSUS REGION
January - December 1978
(77 PSROs)

<table>
<thead>
<tr>
<th>MEDICARE</th>
<th>% Pts. Staying 1-2 Days*</th>
<th>% Pts. Staying 30+ Days*</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S.</td>
<td>10.9</td>
<td>11</td>
</tr>
<tr>
<td>N.E.</td>
<td>12.9</td>
<td>8</td>
</tr>
<tr>
<td>So.</td>
<td>10.2</td>
<td>9</td>
</tr>
<tr>
<td>N.C.</td>
<td>11.1</td>
<td>10</td>
</tr>
<tr>
<td>W.</td>
<td>8.4</td>
<td>17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MEDICAID</th>
<th>% Pts. Staying 1-2 Days*</th>
<th>% Pts. Staying 30+ Days*</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S.</td>
<td>6.7</td>
<td>28</td>
</tr>
<tr>
<td>N.E.</td>
<td>7.2</td>
<td>24</td>
</tr>
<tr>
<td>So.</td>
<td>6.5</td>
<td>26</td>
</tr>
<tr>
<td>N.C.</td>
<td>7.2</td>
<td>24</td>
</tr>
<tr>
<td>W.</td>
<td>5.3</td>
<td>41</td>
</tr>
</tbody>
</table>

*Excludes deaths.
TABLE 2
SUMMARY OF MEDICARE LOS (DAYS) BY PSROs
20% ABOVE AND BELOW U.S. AVERAGE (10.9)

January - December 1978
(77 PSROs)

20% Above U.S. LOS (13.1)

<table>
<thead>
<tr>
<th>PSRO</th>
<th>LOS</th>
<th>% Patients Staying 1-2 Days*</th>
<th>% Patients Staying 30+ Days*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronx</td>
<td>16.9</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>NYCHSRO</td>
<td>15.8</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Queens</td>
<td>15.0</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

20% Below U.S. LOS (8.7)

<table>
<thead>
<tr>
<th>PSRO</th>
<th>LOS</th>
<th>% Patients Staying 1-2 Days*</th>
<th>% Patients Staying 30+ Days*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redwood</td>
<td>7.3</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>ID</td>
<td>7.5</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>Monterey Bay</td>
<td>7.7</td>
<td>17</td>
<td>2</td>
</tr>
</tbody>
</table>

* Excludes deaths
### TABLE 3

**SUMMARY OF MEDICAID LOS (DAYS) BY PSROs**

*20% ABOVE AND BELOW U.S. AVERAGE (6.7)*

January - December 1978

(77 PSROs)

#### 20% Above U.S. LOS (8.0)

<table>
<thead>
<tr>
<th>PSRO</th>
<th>LOS</th>
<th>% Patients Staying 1 - 2 Days*</th>
<th>% Patients Staying 30+ Days*</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYCHSRO</td>
<td>9.3</td>
<td>21</td>
<td>5</td>
</tr>
<tr>
<td>Nassau</td>
<td>9.2</td>
<td>32</td>
<td>5</td>
</tr>
<tr>
<td>Queens</td>
<td>8.5</td>
<td>22</td>
<td>4</td>
</tr>
</tbody>
</table>

#### 20% Below U.S. LOS (5.4)

<table>
<thead>
<tr>
<th>PSRO</th>
<th>LOS</th>
<th>% Patients Staying 1-2 Days*</th>
<th>% Patients Staying 30+ Days*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kern Co.</td>
<td>4.3</td>
<td>52</td>
<td>1</td>
</tr>
<tr>
<td>Greater OR</td>
<td>4.3</td>
<td>47</td>
<td>1</td>
</tr>
<tr>
<td>Redwood</td>
<td>4.4</td>
<td>47</td>
<td>1</td>
</tr>
</tbody>
</table>

* Excludes deaths
### TABLE 4

**LOS (DAYS) FOR SELECTED DIAGNOSES BY REGION***

**January - December 1978**

(77 PSROs)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>U.S.</th>
<th>N.E.</th>
<th>S.</th>
<th>N.C.</th>
<th>W.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes, Age &gt;35, w/o OP, w/o 2nd Dx</td>
<td>8.4</td>
<td>9.5</td>
<td>8.3</td>
<td>8.7</td>
<td>6.5</td>
</tr>
<tr>
<td>Neuroses, Personality Disorder</td>
<td>12.6</td>
<td>13.3</td>
<td>12.0</td>
<td>14.4</td>
<td>9.0</td>
</tr>
<tr>
<td>Dis of Eye With Extraction of Lens</td>
<td>4.2</td>
<td>4.4</td>
<td>4.2</td>
<td>4.7</td>
<td>3.4</td>
</tr>
<tr>
<td>Acute Myocardial Infarction</td>
<td>15.0</td>
<td>16.9</td>
<td>13.6</td>
<td>15.9</td>
<td>12.0</td>
</tr>
<tr>
<td>Ischemic Heart Dis., w/o OP, w/o 2nd Dx</td>
<td>5.9</td>
<td>6.7</td>
<td>6.1</td>
<td>6.0</td>
<td>4.3</td>
</tr>
<tr>
<td>Cereb. Thrombo-Emb. w/o OP, w/o 2nd Dx</td>
<td>8.9</td>
<td>10.0</td>
<td>8.9</td>
<td>9.4</td>
<td>7.1</td>
</tr>
<tr>
<td>Hyperthyropy of T &amp; A</td>
<td>1.9</td>
<td>1.8</td>
<td>2.1</td>
<td>2.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Acute Up. Resp. Inf. &amp; Infl., Age &gt; 44</td>
<td>7.3</td>
<td>8.2</td>
<td>7.5</td>
<td>7.4</td>
<td>5.6</td>
</tr>
<tr>
<td>Pneumonia, Age &lt; 31</td>
<td>5.6</td>
<td>6.0</td>
<td>5.4</td>
<td>5.9</td>
<td>4.7</td>
</tr>
<tr>
<td>Pneumonia, Age &gt; 30 w/o OP, w/o 2nd Dx</td>
<td>8.0</td>
<td>8.8</td>
<td>8.4</td>
<td>8.1</td>
<td>6.9</td>
</tr>
<tr>
<td>Gastric and Peptic Ulcer, w/o OP, w/o 2nd Dx</td>
<td>5.9</td>
<td>6.9</td>
<td>5.8</td>
<td>6.0</td>
<td>5.2</td>
</tr>
<tr>
<td>Hernia of Abd. Cav., Age &gt; 64</td>
<td>6.8</td>
<td>7.2</td>
<td>7.2</td>
<td>7.5</td>
<td>5.1</td>
</tr>
<tr>
<td>Dis of Gb and Bile Duct, With OP, w/o 2nd Dx</td>
<td>10.5</td>
<td>10.9</td>
<td>10.9</td>
<td>11.0</td>
<td>9.0</td>
</tr>
<tr>
<td>Dis Prostate, With Trans. Pros, w/o 2nd Dx</td>
<td>8.0</td>
<td>8.9</td>
<td>8.6</td>
<td>8.6</td>
<td>6.1</td>
</tr>
<tr>
<td>Dis. of Female Genit. with Hysterec.</td>
<td>8.3</td>
<td>8.6</td>
<td>8.7</td>
<td>9.0</td>
<td>6.9</td>
</tr>
<tr>
<td>Normal Delivery, w/o OP, or Minor OP</td>
<td>3.1</td>
<td>3.5</td>
<td>2.9</td>
<td>3.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Arthritis with Rep. &amp; Plas. OP Laminectomy</td>
<td>19.2</td>
<td>21.3</td>
<td>20.1</td>
<td>20.6</td>
<td>15.3</td>
</tr>
<tr>
<td>Fracture of Femur, Pelvis, Mult. w/o OP</td>
<td>14.3</td>
<td>16.3</td>
<td>14.1</td>
<td>14.7</td>
<td>11.6</td>
</tr>
</tbody>
</table>

* Excludes deaths and long stays.
with the summary data, length of stay in the Northeast and the Northcentral region of the country consistently exceeds the West. Again, the reason for this variation is not known.

Table 5 shows the PSROs 20 percent above and below the U.S. average for selected DRGs. This report, like Tables 2 and 3, are used to initiate problem identification in the "20 percent above" group. Consideration of exemption from concurrent review in the "20 percent below" group would also be feasible.

Table 6 illustrates the use of the PHDDS for comparing regional differences in preoperative stay for selected procedures. Again, the Northeast consistently exceeds the West.

Table 7 shows PSROs 20 percent above and below the U.S. average for preoperative stay for selected procedures.

These national data sets are useful for gross overviews. However, it has been found that the DRGs merge several different but related diagnoses into the same DRG, thereby creating erroneous final data. Furthermore, there are no tags to alert one to what is statistically significant. This is a major shortcoming of the national data base. As gross indicators that some problems may exist, or for questions that are raised, these reports are useful.
TABLE 5

LENGTH OF STAY (DAYS) BY SELECTED DIAGNOSTIC RELATED GROUPS
PSROs 20% ABOVE AND BELOW U.S. AVERAGE*

January - December 1978
(77 PSROs)

Diabetes, Age 35 w/o OP w/o 2nd Dx
(U.S. Average 8.4)

<table>
<thead>
<tr>
<th></th>
<th>20% Above (10.1)</th>
<th>20% Below (6.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queens</td>
<td>11.2</td>
<td>NM</td>
</tr>
<tr>
<td>Balto. City.</td>
<td>11.2</td>
<td>Kern Co.</td>
</tr>
<tr>
<td>Area I, NJ</td>
<td>11.1</td>
<td>MT</td>
</tr>
</tbody>
</table>

Neuroses, Personality Disorders
(U.S. Average 12.6)

<table>
<thead>
<tr>
<th></th>
<th>20% Above (15.1)</th>
<th>20% Below (10.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queens</td>
<td>26.8</td>
<td>AK</td>
</tr>
<tr>
<td>Physicians PRO</td>
<td>22.1</td>
<td>ID</td>
</tr>
<tr>
<td>DC</td>
<td>19.9</td>
<td>Ventura</td>
</tr>
</tbody>
</table>

* Excludes deaths and long stays.
TABLE 6

AVERAGE PRE-OP STAY (DAYS) FOR SELECTED PROCEDURES BY REGION*

January - December 1978
(77 PSROs)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>U.S.</th>
<th>N.E.</th>
<th>S.</th>
<th>N.C.</th>
<th>W.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholecystectomy</td>
<td>3.8</td>
<td>4.2</td>
<td>4.0</td>
<td>4.1</td>
<td>2.5</td>
</tr>
<tr>
<td>Hemorrhoidectomy</td>
<td>2.0</td>
<td>2.0</td>
<td>2.2</td>
<td>2.3</td>
<td>1.3</td>
</tr>
<tr>
<td>Inguinofenoral Hernior.</td>
<td>1.5</td>
<td>1.6</td>
<td>1.7</td>
<td>1.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Hysterectomy</td>
<td>2.1</td>
<td>2.3</td>
<td>2.2</td>
<td>2.3</td>
<td>1.3</td>
</tr>
<tr>
<td>Transurethral Prostat.</td>
<td>3.4</td>
<td>4.2</td>
<td>3.7</td>
<td>3.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Suprapubic Prostat.</td>
<td>4.5</td>
<td>4.6</td>
<td>5.8</td>
<td>5.0</td>
<td>2.2</td>
</tr>
<tr>
<td>Tonsil and/or Adenoid.</td>
<td>0.9</td>
<td>0.8</td>
<td>1.1</td>
<td>1.1</td>
<td>0.7</td>
</tr>
<tr>
<td>Intracap. Lens Extrac.</td>
<td>1.2</td>
<td>1.3</td>
<td>1.2</td>
<td>1.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Complete/Radical Mastec.</td>
<td>2.3</td>
<td>2.5</td>
<td>2.4</td>
<td>2.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Arthroplas./Hip Rep.</td>
<td>2.7</td>
<td>3.2</td>
<td>2.6</td>
<td>2.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Cesarean Section</td>
<td>1.0</td>
<td>1.0</td>
<td>0.8</td>
<td>1.3</td>
<td>0.7</td>
</tr>
</tbody>
</table>

*Calculated for cases with specified diagnoses in PHDDS report set; excludes miscellaneous unspecified diagnoses.
TABLE 7

AVERAGE PRE-OP STAY (DAYS) FOR SELECTED PROCEDURES*  
PSROS 20% ABOVE AND BELOW U.S. AVERAGE

January - December 1978  
(77 PSROS)

Cholecystectomy (U.S. Average 3.8)

<table>
<thead>
<tr>
<th>20% Above (4.6)</th>
<th>20% Below (3.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quéens</td>
<td>5.5</td>
</tr>
<tr>
<td>Essex</td>
<td>5.3</td>
</tr>
<tr>
<td>Chicago</td>
<td>5.3</td>
</tr>
<tr>
<td>Sacramento</td>
<td>1.7</td>
</tr>
<tr>
<td>Monterey Bay</td>
<td>2.0</td>
</tr>
<tr>
<td>Riverside</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Hemorrhoidectomy (U.S. Average 2.0)

<table>
<thead>
<tr>
<th>20% Above (2.4)</th>
<th>20% Below (1.6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-Mo</td>
<td>3.0</td>
</tr>
<tr>
<td>Physician PRO</td>
<td>2.9</td>
</tr>
<tr>
<td>Chicago</td>
<td>2.8</td>
</tr>
<tr>
<td>Redwood</td>
<td>0.9</td>
</tr>
<tr>
<td>Riverside</td>
<td>0.9</td>
</tr>
<tr>
<td>Sacramento</td>
<td>1.0</td>
</tr>
</tbody>
</table>

*Calculated for cases with specified diagnoses in PHDDS report set; excludes miscellaneous unspecified diagnoses.
Local PSRO Data & Profile Analysis

The types of PSRO data systems range from ones that are manual to total automation. Many PSROs that must rely on "fixed reports" from their data processor or HHS, are just at the point of getting enough data to properly do what is called "profile analysis".

Profile analysis is a form of retrospective review of the data reports in which aggregated patient care data are subject to examination of patterns and trends. This is where patterns of care of similar providers are compared now and with previous patterns to identify natural tendencies, trends and exceptional patterns. Goran describes profile analysis in much more detail. \(^{45}\) Physician judgment is generally considered essential in profile analysis in order to obtain proper medical interpretations.

It is felt the emphasis has changed from such data being looked at as a reflection of the majority so as to serve as a basis for broadly directed education programs to one of identifying the "outlier" physician whose profiles appear to indicate overutilization. \(^{46}\)

Profile analysis is just at that point in many PSROs where some very meaningful problems can be seen. Action can then be taken to correct the problem or concern. There are some considerations when using profiles. The use of such aggregated data describes groups of patients.
This conceals the identity and characteristics of the individual patient and, therefore, imposes certain limitations.

These limitations include: 1) Only comparative measurements are displayed; absolute judgments cannot be made; 2) Patterns are displayed, not specifics—conclusions cannot be drawn about care of an individual patient; 3) A profile, as an overview, requires analysis and interpretation—the raw data can often be misleading. This data may just point out there is a difference from the average. It does not necessarily mean there is a problem.

It is also useful to have local analysis of profiles. The limitations of PSRO profiles can be overcome and profiles used to their fullest advantage if analysis takes place as close as possible to the "point of service." This means in the place where care is provided.

Though profiles may be generated at a distance, useful examination, including developing additional information and providing explanations, can best be done by those who understand how local factors influence the data displayed in the profile.

An example of this is an apparent abuse of acute care beds for Medicare patients with hip fractures could be due to a shortage of long-term care beds in the area. Only someone with an understanding of local problems could offer that explanation.
Fixed reports are not in themselves very useful. It is what can be drawn from them and displayed that is useful. Too few PSROs have the talent or experience to do profile analysis well. An example of profile analysis is seen in Figure 3. This shows the performance of a hospital's ALOS for patients in two years compared to the nation, the HHS Region and PSRO Region. Displays like this give physicians and PSROs the information they need for correction. Profiling is best done in this manner if physician time in making medical judgments and interpretations about the data is to be used most efficiently and effectively.

Data Today

More PSROs are moving to interactive system capability, either in-house or on a time sharing basis with other PSROs. Some data consortiums have been set up on a state or regional basis.

It was predicted that PSRO data systems would need to be automated to note exceptions efficiently and to use a uniform hospital discharge data abstract. Ohio had had such a sophisticated peer review system, for both psychiatric and acute care hospitals. The Oklahoma PSRO is now operating a similar one. More PSROs are moving to such automated systems. States are experimenting with a uniform billing form for all patients. This would enhance the billing data comparability that is lacking today.
Figure 3. Sample Display Created From Fixed Reports for Profile Analysis. Shows Hospital ALOS for Medicare Patients in 1977 and 1978 as Compared to the Nation, HHS Region and PSRO Region.
Impact Emphasis

There is increased debate over the impact of PSRO review, as well as over what direction federal health policy should take toward cost control, insurance, and reimbursement mechanisms. An earlier PSRO goal of quality assurance has become, in the eyes of some key officials, now only vaguely alluded to as a byproduct of efforts toward cutting utilization of medical services. The idea of PSRO impact has begun to emphasize cost effectiveness. Leonard D. Shaeffer, past Director of the Health Care Financing Administration (HCFA) of HHS, has stated that "... PSROs must demonstrate their impact on overutilization."51

Summary

This chapter reviewed the development of the PSRO concept, legislation, and the organizational and operational aspects of the PSRO program from the past to the present. A major portion of the chapter consisted of what data PSROs collect and how it is displayed and used. The issue of impact of the PSRO program was broached.
CHAPTER III

EVALUATION CONSIDERATIONS

Introduction

The impact of the PSRO program is questioned today because of the national budget constraints in health and political pressures. The question of impact cannot be addressed without the realization that it does involve the necessity of a program evaluation of PSRO. An evaluation of PSRO is a challenge in that any such social program presents many issues to consider. What, then, is evaluation and what are the considerations relevant to PSRO?

Evaluation Defined and Considerations

Evaluation takes into account the value of something. Program evaluation is a highly complex and subjective process.52

Weiss,53 recognizes evaluation as "an elastic word that stretches to cover judgments of many kinds...the notion of judging merit." The American Public Health Association defines it as "...the process of determining value or amount of success in achievement of a predetermined objective."54 Deniston55 states:

...evaluation, by definition, is value laden, requiring the selection of certain qualities, attributes or conditions; measurement of these qualities; and comparison of results with the underlying value system.
Another looks at evaluation a little differently:

the procedure of ascertaining the degree to which a program of activity or a therapeutic regimen fulfills its purpose is termed evaluation.56

More definitions and authors could be noted. However, confusion begins to prevail. It may be safe to say evaluation has in common some type of value judgment and measurement of the process or results. Perhaps, it is even better to do as Fleck57 suggests and accept the term of "evaluation" as a "given" and concentrate on the search for knowledge and purpose of the program in question.

The Purpose of the Program

The kind of evaluative framework applied to a program depends partly on what the purpose of the program is. Generally, programs have one of the following basic purposes: 1) Research; 2) Demonstration; 3) Operational.

Basically, research programs focus on obtaining new knowledge and/or testing what exists. Demonstration programs examine theories about some idea. Operational programs provide services to some target population.

Five purposes of a health demonstration program have been noted52:

1) To measure the impact of new activities on the specific social problem;

2) To show their impact on other programs and activities of the service agency;

3) To test their acceptance to the public;
4) To serve as a framework for further research;
5) To help the development of future programs.

Suchman also observed that:

...a demonstration program is appropriate when skepticism or antagonism toward a program existed...the required resources are available...and the evaluation should indicate the extent to which the demonstration is practical and can serve as a model for similar programs on a broader scale.\(^2\)

In evaluating a demonstration program, some authors feel that "process criteria" are to be emphasized. Blum and Leonard\(^{58}\) state:

...the key to its (the program) adoption or usefulness elsewhere may not be so much in the proof of effectiveness as in the knowledge of the steps that resulted in its development and secured participation and acceptance.

Herzog\(^{59}\) approaches the demonstration program pragmatically. She recognizes that, at times, only a statement can be made:

...that this happened and we cannot really estimate its effect ...and that...even if it (the program) fails to establish causality but shows that specific activities are accompanied or followed by specified results under specified conditions, it is still research.

Further, she notes that:

It is a gross error to lavish time and expense on a fancy setup and elaborate techniques if the data available and the criteria by which results will be judged cannot conceivably be precise.

The evaluative framework chosen is also influenced by the model and measurements that are relevant and/or
feasible under the existing situation.

Some Evaluation Models

In the evaluation of programs, there are two commonly used models: 1) The goal achievement model; 2) The systems model. The goal model is concerned with seeing whether the predetermined goals of a program are met or not. The systems model recognizes that organizations pursue other functions besides the achievement of official goals. They have to acquire resources, coordinate sub-units, and adapt to the environment.\textsuperscript{53} Further, authors observe the systems model should be built on the evaluator's understanding of the organization, its organizational maintenance, goal achievement pursuits and resources.\textsuperscript{60, 61}

Further, the goal attainment model depends on using, as its basis, the predetermined goals of a program.\textsuperscript{60} It also disregards changes necessary in the operating environment for survival over time. One author\textsuperscript{61} notes the goal model evaluation will result in findings of low program effectiveness because of the inability to compare and account for cultural and social systems and operational realities.

The systems model of evaluation recognizes organizations must pursue not only goals but resource obtainment, adaptation to its environment, and coordination of its
components. Schulberg and Baker have done considerable work with this approach as has Etzioni. The latter emphasizes, when looking at effectiveness, that it is not the goal seeking and achievement that is important but rather: "...Under the given conditions, how close does the organizational allocation of resources approach an optimum distribution?"

James' feedback evaluation model also can apply to PSRO in that it recognizes the dynamics of a program and the need for adjustments and enhancements.

**Measurements**

The following discussion relates to the measurement of health programs. Evaluation methods, when speaking particularly of health programs, are characterized as being related to the variables of structure, process and outcome. Structure measurements are concerned with descriptive, innate characteristics of facilities or providers. Process measures are those that evaluate what a provider does to and for a patient and how well he is moved through the medical care system. Outcomes reflect what happened to the patient in terms of treatment, cure, restoration to function, rehabilitation, or survival. These definitions are not sufficiently precise for reliable measurement, but it is useful to remember they measure different things:
the resources to solve a problem; the way the problem was solved; the results of the problem solving.\textsuperscript{13}

Donabedian\textsuperscript{63} feels that structure, process and outcome measures are not mutually exclusive but rather mutually reinforcing approaches. Any practical system of evaluation should perhaps include all these measures. The total knowledge gained about the program could expectedly be greater than that obtained from the application of only one or two types of measures.

Other authors have developed different types of measurement criteria such as James' effort, performance, adequacy of performance and efficiency.\textsuperscript{62} Others have advocated mix of criteria, such as, effectiveness, impact, cost effectiveness, process, advocacy, viability, activities, community benefits, results, resources, attitudes, costs, health status outcomes, quality of services and the like.\textsuperscript{52, 54, 63, 64}

These "measurement criteria" are appealing but something still must be used to measure them. For example how is the "quality of services" measured? This determination of useable measurements is part of the challenge in evaluating the PSRO program.

Greenberg\textsuperscript{56} uses more structural and process criteria of organizational structure, staffing and their qualifications, plans, effort, service statistics and the like.
Evaluation Design

It can be difficult to choose which method or research design to apply to an evaluation problem. The choice depends on the thoughts already raised as well as the purpose of the evaluation. Is the purpose to justify the program, determine the effects of the program, to compare the effects of one program with another, and the like?

If the program's purpose is research, Campbell and Stanley\textsuperscript{65} detail different designs that can be used. These designs include true experimental, quasi-experimental and ex post facto methods. However, the non-experimental design and non empirical approaches, particularly, are more pragmatic when a social program such as PSRO is to be evaluated.

Weiss\textsuperscript{53} suggests that the design should be dictated by the results desired, be it goal achievement, acceptance, implementation, management information and the like.

Hilleboe and Schaffer\textsuperscript{64} note that an evaluation design can be rigorous and scientific or descriptive and observational. The latter is felt by them to be particularly relevant in social action programs.

One author presents a case for a design for social experimentation evaluation and retrospective evaluation of pilot and demonstration projects.\textsuperscript{66} She relates this to the PSRO prototype, the EMCRO program, and presents a possible design model and the limitations.
Deniston et al. presents a model that is dependent on a specific description of the program and measurement of each program variable: 1) Resources; 2) Activities; 3) Objectives.

**PSRO Evaluation Considerations**

Certain points are relevant to the evaluation of the impact of the PSRO program. Several have been mentioned earlier - the lack of universally accepted definitions of the quality of medical care or medical necessity of services, what the legal mandates of the program are and the reality of the dynamic nature of PSRO and the different "actors in its arena" of operation. The PSRO legislation lacked clearly defined, concise or measureable objectives. The law set the purpose but not the practical objectives. All of these considerations may affect the results of such an evaluation.

If a primary intent of PSRO is to assure quality of care, questions arise. A question of evaluability itself is relevant - Can the quality of medical care be measured? Donabedian stated:

...the quality concept has not been clearly defined or too narrowly in terms of technical performance alone as well as translating the definition into measureable operational equivalents.

He also noted that:

...assessment of quality must rest on a conceptual
and operationalized definition. The criteria of quality are value judgments that are applied to several aspects, properties, ingredients or dimensions of a process called medical care.

Lee and Jones' definition of the quality of medical care based on eight "articles of faith", remains a classic: 1) Scientific basis for medical practice; 2) Prevention; 3) Consumer-provider cooperation; 4) Treatment of the whole individual; 5) Close and continuing patient-physician relationship; 6) Comprehensive and coordinated medical services; 7) Coordination between medical care and social services; 8) Accessibility of care for all people.

The belief that quality may be measured is noted in a government document:

Quality may be measured with respect to individual medical services, the various services received by individuals or groups of patients, individual or groups of providers, or health programs or facilities; in terms of technical competence, humanity, need, acceptability, appropriateness, inputs, structure, process, or outcomes; using standards, criteria, norms, or direct quantitative or qualitative measures. To avoid the frequent vagueness of the term, it is thus necessary to specify who or what is being considered, what aspect of it is being measured, and how it is being assessed.

How this measurement may be done is not discussed nor are the critical terms defined.

For purposes of this study, the operational definition of the "quality of care" will be:

Whether the medical practices meet the current medical criteria or consensus of what is done in light of present standards as recognized by the experts and modified to fit local conditions.

It is emphasized that the law mandates that each PSRO
must use medical criteria and standards that are localized to that PSRO. The principle also affects any evaluation of PSRO in that the medical criteria that are used to assess the quality of care are not uniform across the country.

Another consideration is that the PSRO program began after some peer review method was already in existence in the form of "utilization review". The utilization review regulations in November, 1974\(^69\) changed UR to closely conform to PSRO review. This essentially eliminated any "control" area since all hospitals were required to follow these UR regulations. Further, when no baseline data exists, some feel any evaluation would be invalid.\(^55\)

One of the assumptions upon which the PSRO program was modeled, that UR and peer review as seen in the EMCRO demonstrations was worthwhile had never been tested. In other words, neither program (UR or peer review) had ever been evaluated before PSRO was created and put into operation. Borgatta,\(^70\) commented that: "... in a demonstration program ... emphasis is placed in exemplary application of a service that's assumed already to be effective". According to the early PSRO policy makers, this was the feeling about the PSRO program - that peer review was effective and, therefore, could be fully expanded into an operational program.

If an intent of the PSRO legislation was cost containment (translated today into cost effectiveness) then
Enthoven's concept of "cost effective analysis" may be applied in an evaluation of PSRO, according to Goran. Goran details this application.

The issues that have been discussed above relate to the PSRO program. These issues were raised to keep in mind as the methods are described in the next chapter.

**Summary**

This chapter discussed some different definitions of evaluation and the difficulty of a generally accepted definition. The chapter described three basic purposes of programs as being research, demonstration or operational and also noted different evaluation models and their characteristics. It further discussed measurements of structure, process and outcome, evaluation design and considerations relevant to the PSRO program.
CHAPTER IV

METHODS

Conceptual Summary and Introduction

The study will synthesize the data to record how and in what way PSROs are performing. The data will consist of the pertinent literature and the expert opinions of key individuals. Using this information, inferences will be drawn as to the value of the Professional Standards Review Organization program.

Key thoughts from the relevant quality assurance and PSRO related literature, case histories and interviews with the people who conceived, shaped and studied PSRO and peer review will be converged. Case histories and other impact information will be presented. These vignettes, thoughts and expert opinions of those who developed, directed and study PSRO today, may be influential and helpful in the decisions to be made on the future and policies relating to any peer review program.

It has been challenging to determine what conceptual framework could apply to the PSRO program. PSRO is not clearly a research, demonstration or operational program. Rather, the author feels PSRO is a hybrid of all three
program types and weighted more toward the demonstration and operational types.

Therefore, no one standard evaluative framework was applied. This author had to consider all characteristics of the PSRO program and what possible measurements might be applicable in such a study. Weiss so appropriately noted this challenge when she stated: "...this development of measures...is a demanding phase of the evaluation."53

Basic Assumptions

This evaluation is based on an overview of the national status of PSRO activities, and what the literature shows and what expert opinion states. There are certain assumptions that are considered "givens":

1) The PSRO program is still somewhat in a demonstration phase as meeting the criteria of such as noted by several authors.31,59,66,70
2) The program is also in an operational phase in that the mandated activities result in about 10 million patients per year being reviewed and the existence of approximately 195 PSROs performing various functions;
3) Further, it has its research aspects since new knowledge is being sought.
4) The data available and used, as well as the measures used to judge the results cannot be precise due to the nature of the study and therefore, are "soft data", i.e., mostly non-empirical.

Description of the Data

The type of data to be used are:

I. Literature and Legislative Documents from pre-PSRO to
the present. This includes published articles and Congressional reports, unpublished essays and papers, the laws and regulations, newsletters and HHS issu­ances;

II. Interviews with the key shapers of the PSRO program, in both the public and private areas, as well as those experts knowledgeable about PSRO today.

Methods of Data Collection

Using the author's experience, that of others, and the literature on PSRO and quality assurance, a list of author­ities on PSRO, peer review and quality assurance was prepared. This was based on their having been involved in certain pre-PSRO activities, such as, being one of the early recognized figures in PSRO, either in the private or public sector, or having published various works on quality and peer review. Requests were made for inter­views. The availability and willingness varied. Some would agree only with the assurance they would not be quoted. Most interviews were done in person and ranged from 10 to 180 minutes in length. Most interviews were taped and transcribed. Notes were taken for those few who refused to be taped.

The basic set of questions asked is seen as Appendix H. This was modified depending on the role of the
interviewee in the PSRO program. The resulting data helped form the inferences and conclusions about the past, present, future and impact of PSRO on health care, as well as whether or not PSRO was meeting or had met the legislative and program policy intents.

The data from the literature was used to support or contradict the objective. The literature consisted of all articles known to the author and what was obtainable through several computerized literature searches, course reading lists, published bibliographies on evaluation, quality assurance, PSRO or peer review, current journals, government studies and the like.

All of this reference material had to be sorted for inclusion. The decision to include a piece of literature was based on the following nonprioritized criteria:

1) How available and current it was.
2) The auspices and reputation of the author.
3) The auspices and credibility of the publication itself.
4) Subjective choices based on the relevance to the framework and intent of the study, and therefore, would contribute the most to this particular discussion.
5) Whether the article related more specifically to program evaluation and value and/or the future of health or PSRO programs versus one that was descriptive or less substantive.
6) Attention to minimizing duplication of thought and approach.

For these reasons, not all literature, be they classics or little known, were necessarily included.
**Basic Program Goals of PSRO**

As Deniston and others\(^72\) stated: "In general, questions concerning effectiveness (of a program) are directed toward assessing the extent to which a planned or intended objective has been attained as a result of program activity."

In studying the PSRO program, one becomes aware that one of the many complexities and challenges in its evaluation is the disagreement of many as to the basic goals or intents of the PSRO legislation. Freidson felt the immediate object of PSRO was to control claims for reimbursements for services out of Medicare and Medicaid funds. Costs would be lower and technical quality of services higher on the average.\(^47\) Dr. Henry Simmons, the first head of the Office of PSRO, noted in 1974:

...the cost savings was not the prime concern of the program. What was, was to see that locally developed standards were set, that the quality of care met them, and care given in the appropriate setting. (He went on to state)...there was the hope that PSRO would hold costs down, but the greater hope was to improve the quality of care. In some cases, this would save money, in others it would cost more. The program would eliminate costs arising from unnecessary care. He claimed he didn't know how to put an actual figure on cost savings or how one costed out the value of a life saved or human suffering eased.\(^48\)

Saward\(^73\) stated the purpose of the act was to improve the quality of medical care. However, he did believe
that the law was also concerned with cost, in that the language used was: "To promote effective, efficient, and economical delivery of health services of proper quality . . . ."¹

Others feel the program was purposely sold to physicians as a quality assurance method since it would not work without them, while it was really utilization control of hospital days of care and services. Langsley felt the hospital administrator looked at peer review as a way to control expenditures and, although it embraces quality control and utilization review, utilization was easier to assess than quality.²⁴

Goran³ stated the founding assumptions, none of which emphasized cost:

1) Peer review is the most effective means of assuring the public of accountability for the health services provided under third-party financing programs;

2) Effective quality assurance requires the establishment of a full-time system of review encompassing all facets of the health care delivery system;

3) Local, community-based organizations are required to operate effective systems of peer review;

4) Sponsorship of peer review organizations must be external to institutions in order to maintain objectivity. (He also stated) ... that PSROs were not responsible for judging the appropriateness of charges, for determining patient eligibility and program coverage or for establishing their own formal continuing education programs.
On the other hand, Donabedian has stated that in relation to PSRO, "The ostensible purpose is 'quality assurance', though this is perhaps too ambitious a goal since 'assistance' or 'enhancement' is the most that can be hoped for."\(^7\)

The Department of Health and Human Services (HHS) Forward Plan for Health for 1978-82\(^7\) showed the same dichotomy existed in the early PSRO period. The Plan noted:

...although the PSRO program was designed and implemented primarily as a mechanism to assure the appropriateness and quality of health services utilization, it does have the potential for cost containment and that it is the principal effort for utilization control. (Later, however, it stated that) ...PSRO is designed to meet the need for an operational system of quality assurance, helping to assure that the highest quality of care is delivered for the federal dollar. It would do this by identifying deficiencies in health care practice and correcting them through continuing education and administrative change.

Sanazaro feels that PSRO has three major functions: utilization control, quality assurance, and public accountability. He advocates that PSROs take the primary responsibility of the legal mandate of assuring all services are consistent with professionally recognized and accepted patterns of care.\(^7\)

A court in Illinois ruled that: "In order to avoid overutilization of health care services and to
achieve more effective control over the costs of those services, Congress has enacted the PSRO legislation."  

Goran acknowledges that, since the beginning, there has been confusion regarding PSRO's responsibility and influence on cost. He interprets the law that PSROs are to "affect" both cost and quality, which could mean anything. He does recommend trying to have both - maintaining or improving quality while decreasing inappropriate and/or unnecessary services.

Perhaps, the decision of which role the PSRO was intended to follow should be made after noting the comments of the two primary authors of the law, Jay Constantine and Senator Wallace Bennett. Mr. Constantine stated:

PSRO is not a UR program, it is a cost effectiveness program and it is a quality program. It was enacted to moderate the costs of the Federal program. . . .

Senator Bennett interpreted the intent of the Bennett Amendment in 1975:

...PSRO was not enacted as a cost-cutting program. I challenge anyone to find anything in the legislative history of PSRO in which any intent is indicated, directly or indirectly, that appropriate care in the appropriate setting should be bypassed in any way in order to save money.  

He went on to comment on over-utilization and the hope that PSROs could correct that, but his main intent appeared to focus on quality.
In a personal conversation with the author, in November 1979, Senator Bennett stated:

My motivation was to make a combination of government and the local practicing physician that would improve the quality of medical care given to patients the Federal government was paying for. I was not interested in controlling the practice of medicine or any of the other things that had been attributed to me. My interest was to preserve as much as I could the freedom and responsibility of the local practicing physicians to be responsible for the quality of the care given in their community with the understanding that the Federal government, since it was paying the bill, had to have some relationship in determining the standards so the local physicians still have the right to develop the standards to be submitted for appropriate approval. My intention originally was that it would certainly be quality and the cost containment would be collateral. But as a secondary intention. I was concerned with quality and originally that's the only thing that was discussed. Then the cost containment thing was injected into it by some of the physicians who opposed it who said the hidden motive was to reduce their income and used by the bureaucrats when under the pressure of the rising hospital costs, said in effect 'Well, here's PSRO we can use that to help contain the cost' and stuck it in. But I never had any thought originally and up through the time the bill was passed, I was not concerned with cost containment.

It was obvious from this statement and the examples he gave this author in confidence, that Senator Bennett had been sensitized to the quality issue. As the author, he claimed he never intended for PSRO to become a cost containment mechanism. In reply to Mr. Constantine's earlier remark, Senator Bennett felt:
...that Mr. Constantine's continuous exposure to emphasis on national cost effectiveness, in general, had changed his (Mr. Constantine's) proper recollection of the original intent.

So, the question arises: "Should PSRO be evaluated with the intended goal being interpreted relative to quality of care or to cost effectiveness?" On the other hand, should both intents be accepted? This author feels that, in the light of the reality of scarce health dollars and the concern for program effectiveness and impact, that both intents should be considered in any program evaluation.

Further, as the evaluation method develops, the reader may wish to reference appendixes I through K. These are, respectively, the PSRO's legislated activities, the PSRO's goals and functions as stated by the National PSRO Council and the PSRO Administration and the goals originally contracted for a PSRO.

Evaluation Framework

In Chapter Three, various programs, models and measurements were discussed, as well as, special considerations relative to the PSRO program. The author has realized that the PSRO program does not fit into any one niche. It is really a mixture of all mentioned in Chapter Three.

It is a research program in that new knowledge is being sought about various health areas and comparisons being made. It is also a demonstration project in that
new roles and theories about the delivery of health services are being tested and program justification sought. And it is an operational program, providing peer review services on an ongoing basis to specific populations and seeking to determine the program's effects.

In addition, it fits the goal and systems models of evaluation. There are various and changing original and current goals that have been and are being set. Further, there are the adaptation; maintenance, acquisition of resources, and so forth, that characterize the systems model.

**PSRO Measurements**

Many different criteria may be used in measurement of the program - structure, process, outcome, viability, and the like. These measures have been and are being applied to the PSRO program in national, regional and research evaluations. Samples of such measures can be seen in extracts from documents, such as, HHS Transmittal on "Full Designation Criteria" and HHS' "PSRO Performance Monitoring Report Set", (Appendixes L and M.)

The primary measurements used by HHS in assessing
PSROs are: (1) Days of care per thousand enrollees (DOC); (2) Discharges per thousand enrollees; (3) Average length of Stay (ALOS); (4) Length of Stay (LOS). These Utilization Measures are used to gauge the outcome of medical care. The denominator for the rates is usually Medicare beneficiaries. There is little comparable state Medicaid data since the numbers of Medicaid eligibles is highly unstable.

Application of the Evaluation Framework

The proposed framework will be applied to the data that were gathered. The framework is a method for organizing and collecting the literature, publications, interview responses, and the like. Due to the complex nature of the PSRO program, there will be several combinations of program, models and measurements. The author will attempt to fit the data into the most suitable category.

Summary

A conceptual summary of the study was done and the data described. Basic assumptions were stated, the methods of data collection and the basic program goals of PSRO. The intent of the legislation was discussed in detail. The make-up of the evaluation framework was considered and the rationale for its "mixed" choice. PSRO measurements were noted as well as how the evaluation framework would be applied.
CHAPTER V

THE DETAILED EVALUATION FRAMEWORK AND

THE RESULTS OF THE PSRO PROGRAM

Purpose

The purposes of this chapter are: 1) To give greater detail about the evaluation framework to be applied to the PSRO program and to then fit the data into it; 2) To show the results of the PSRO program.

This study is an attempt to evaluate a national program using a different approach. This is unlike earlier evaluations that have looked at the PSRO program either on a micro or macro scale. Himler, a physician who has been involved in pre-PSRO days and a board member of the American Association of PSROS (AAPSRO), goes so far as to say:

... the PSRO program is one that cannot be evaluated. There was little agreement on measurement criteria, no geographical areas to use as controls, that the program goals were nonspecific, the assumptions of peer review never tested, and so forth.81

However, the author feels that the following evaluation framework may be a practical way to evaluate PSRO in this type of study for reasons to be noted later.
Enhancement of the Evaluative Framework

The evaluative literature, the PSRO law and PSRO program evaluations and documents state many different types of frameworks and measures to use in evaluating programs. As discussed in Chapter 4, this study's evaluative framework will be a mix of them.

The "tracer method," described in a study by the Institute of Medicine (IOM) of the National Academy of Sciences, was adapted for this PSRO program evaluation. The IOM "tracer method" used certain diseases and conditions as indicators to assess personal health services. The IOM study method was developed because:

No single method, however, is sufficient for a practical evaluation of the eclectic and complex organizations that provide personal health services.

This author feels this is also true of the PSRO program. It is a complex program in a complex field - health. Therefore, this tracer method was adapted for this study. The first step was to determine the tracer categories.

Tracer Criteria and Rationale

The following are characteristics for selecting categories to be used as tracers for evaluation of the PSRO program:

1. Has reasonable expectation of being acceptable to policy-makers and
decision makers. Rationale: Measures that have little or no acceptance or credence are meaningless.

2. Are representative of results that have been replicated. Rationale: If the result occurs rarely, it could likely have happened by chance alone.

3. Have been mentioned or used in evaluations of health programs. Rationale: The measures need to be recognized as having been useful in determining the value of health programs.

Using the above criteria, the following general tracer categories were selected: 1) Structure; 2) Process; 3) Outcome; 4) Other. These categories were then subdivided into grouped measures as seen in Figure 4. The structural tracer category has many measures as noted in Appendixes L & M, the process category has two groups of measures, the outcome category has four groups of measures, and the other category has three groupings.

These groupings allow for the data to be organized under at least some main classifications. As discussed in Chapter IV, the data will be fitted into the framework.

**STRUCTURAL TRACER CATEGORY**

The structural tracer category involves organization and resources of the PSRO. In order for PSROs to reach the last stage of their development, the "full designation" status, they must be found "... capable of fulfilling, in a satisfactory manner, the obligations and requirements for a PSRO ...".
<table>
<thead>
<tr>
<th>Tracer Categories</th>
<th>Structure</th>
<th>Process</th>
<th>Outcome</th>
<th>Other</th>
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<td></td>
<td>2. Legislated, Program, or Contract Requirements</td>
<td>2. Cost Related</td>
<td>2. Relationships</td>
<td></td>
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<td></td>
<td></td>
<td>3. Utilization Related</td>
<td>3. New Roles and Functions</td>
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<td></td>
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<td>4. Perceived Performance</td>
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Figure 4. PSRO Evaluation Framework.
To do this, PSROs must be evaluated by HHS using the full designation criteria\textsuperscript{79} and the PSRO monitoring report set.\textsuperscript{80} Both these documents contain primarily structural and process criteria, such as being incorporated as a nonprofit organization, holding committee meetings, sending on reports, performing review, and the like. (See Appendixes L and M).

One can also review the requirements proposed by the HHS program staff (Appendix J) for further structural items.

PSROs must meet these "measures" in order to remain in business and be refunded each year.

**PROCESS TRACER CATEGORY**

The process tracer category involves the activities and dynamics of the organization relative to its use of its resources.

The PSRO activities that are legislated are seen in Appendix I. There is a mix of process and outcome items. All twenty of the PSRO legislatively-mandated activities as outlined in Appendix I have been generally met by most PSROs if the organizations exist. In other words, to continue to be funded, those process tasks must be performed.

Most are self evident, e.g., to submit a formal plan, meet the criteria to be a qualified organization, to collect
data to apply professionally developed norms of care, diagnosis and treatment, to develop and execute admission and continued stay certification, to arrange for and review profiles of care, by patient, by provider, by practitioner and the like.

These are fundamental requirements in the legislated purpose of PSRO. A program evaluation must consider them.

Also focusing on process functions were the "deliverables" (the goods and services) expected by HHS in return for the PSRO contract. These are seen in Appendix K. The first phase of a PSRO is called "planning" and the second phase, "conditional". By definition, the PSRO could not reach the conditional contract unless the planning contractual tasks and responsibilities were accomplished.

The PSRO's scope of responsibility is large. PSROs must train or provide information to many diverse disciplines. Thousands of physicians, nurses, medical record specialists, administrators, and so forth, have been educated yearly.

The primary processes that a PSRO must perform are those of peer review: this includes such activities as acute care peer review, long term review, monitoring those facilities that are delegated, ancillary review, and the like. The number of Medicare and Medicaid patients reviewed in 1979 approached eleven million.
Another type of review being done on a demonstration or voluntary basis is ambulatory review. An example of this review and other process activities occurs in the Colorado Foundation for Medical Care. It does statewide review of Medicaid ambulatory claims. The Foundation became the PSRO for the State of Colorado in July, 1974. Since that time, the Colorado Foundation has reviewed approximately 500,000 federal admissions in 96 Colorado hospitals. It has implemented a statewide MCE study program which has reviewed 510 MCE studies in 76 hospitals delegated for MCE studies, and has performed seven area-wide and sub-area-wide studies. In 1976, the Foundation initiated a review project in Long Term Care, and has started concurrent review in 25 LTC facilities on a demonstration basis.

PSROs have other process activities, such as the training of hospital personnel, PSRO board members, committees, staff, students, and so forth. This is done by onsite visits, presentations and publications. Committee functions result in actions, such as using a letter to a hospital to question quality or utilization concerns and requesting action within 30 days. Examples of such process tasks and the hospital's resultant actions are seen in Appendixes N and O. Changes have occurred in response
such as, creating an investigating committee, retrospective audits, individual case review, indepth review of the cases of particular physicians, counseling, and disciplinary action. These kinds of actions are repeated throughout PSROs in the United States.

The related program management process activities are financial management, personnel, and data systems, the coordination of committees, correspondence to area facilities, physicians, administrators, and the like. Millions of individuals and patients are affected each year by PSRO process activities. The number of reviews done and the number of "denial letters" issued would be over 11 million in 1979. The "denial letters" are notifications to the patient, physician, facility administrator, and fiscal intermediary (FI). They state that after a certain date, medical services would no longer be paid for by the particular Mediplan because the services were considered no longer medically necessary, or could be provided at another level of care (LOC), such as, a skilled nursing home (SNF).

The process categories can be expanded by many other activities, publications, and so forth. However, this becomes redundant. The annual PSRO program reports, the regional HHS offices, and the main coordinating bureau of PSRO, the Health Standards and Quality Bureau (HSQB), have those process totals.
OUTCOME TRACER CATEGORY

Outcome measurement remains a challenge of definition, study design, and so forth. Some of these issues have already been mentioned. This section will not go into a great enumeration of case histories and success stories. One of the basic assumptions here is that an example of a case history represents many more which can be found in source documents. Otherwise, one can just be overwhelmed by the sheer numbers of case histories. This may cause a loss of meaning and focus of the point being made.

An attempt was made to organize this section so that the data could fit into the four main measurements of: 1) Cost; 2) Quality; 3) Utilization; 4) Perceived Performance. At times, there was an overlap, because it was too unwieldy to break out the same reference in four separate places. Therefore, the decision as into which measurement section the item went was based on the author's judgment and flow of the material. However, this did show the flexibility of the framework.

Cost Related Measures

There have been several national evaluations of the PSRO program. These have been by different bodies of the government: HHS, HCFA, the Congressional Budget Office (CBO) and the GAO. Such extensive evaluation, especially
of cost-benefit, is unusual. This is documented in a personal communication from Mr. Gregory Ahart, Director of the GAO to a question from Congressman George O'Brien of Illinois:

**Question:** In addition to the PSRO program, identify any other health programs administered by HHS which have been subject to cost-benefit analysis?

**Answer:** We are not aware of any other health programs administered by HHS which have been subjected to an extensive cost-benefit analysis.

The first national PSRO study, done by the Office of Planning, Evaluation and Legislation (OPEL), concluded PSRO was ineffective and more costly than the UR it replaced.

The first study was done for the year 1977, and, in aggregate, found no statistically significant overall PSRO effect on days of care per 1,000 Medicare enrollees. GAO attempted to evaluate the claims by nine PSROs of savings of $21.4 million dollars and 67,049 DOC. They recomputed these to be $4.7 million and 33,126 DOC.

The second national evaluation of the PSRO program was done by a different entity, the Office of Policy Planning and Research (OPPR). Its major findings were the opposite of the first evaluation and are summarized here:
A total of 81 of 96 PSROs studied demonstrated a savings of Medicare DOC in hospital compared to 93 non-PSRO areas. This finding contrasted with the previous year's OPEL determination that PSROs through 1976 had not had any impact on Medicare hospital utilization; (2) The overall impact of PSRO review in 1977 on Medicare hospital utilization was a decline of 1.5 percent compared to utilization in non-PSRO areas. Regionally, the results varied from highs in the Northeast and West of 2.7 and 2.6 percent, respectively, to the North Central figure 0.5 percent and a finding of no impact in the South; (3) In absolute figures, the data indicated that PSRO review was responsible for saving 784,653 days of Medicare hospital care equaling $50 million. The cost of that review was $45 million, yielding a net cost savings of $5 million, exclusive of other patient care changes through peer review. Fueling the overall figures was the performance of 29 of the PSROs studied, where hospital utilization savings proved high enough compared to their costs of review to enable the program as a whole to demonstrate a benefit/cost ratio slightly greater than one (1:1.12). "That figure," study director Allen Dobson told the National PSRO Council, "was a respectable one. Moreover, considered together with other cost containment programs, PSROs have a definite role to play in reducing Medicare expenditures."; (4) Analysis of the data indicated that PSROs improved their performance as they matured, but there was a hint of a leveling off of review impact after two or three years of a PSRO's existence, although that was not
a conclusive finding. The quality component of PSRO, the medical care evaluation studies, showed a mixture of many more initial audits but a troubling low number of reaudits. Between the second quarter of 1975 and June 1978, a total of 22,000 MCEs was reported, evenly distributed between medical and surgical topics with approximately 20 topic categories accounting for almost half the studies done. However, during the same period only about 1,200 reaudits were reported, "a much smaller number than should have occurred," according to the study, "given that 70 percent of initial audits reported findings which required reaudits." A more positive note to the quality of care side of the evaluation was the preliminary finding from a test of the impact of MCEs on the medical care process. Results tentatively suggested that "there was a reduction in the extent to which post-MCE medical care practices departed from established criteria of care."

However, another study, this time from the Congressional Budget Office (CBO), challenged the benefit/cost ratio. It did state, however, that "the HCFA Medicare rate study provides reasonably firm evidence that PSRO review decreased utilization among Medicare enrollees." However, the CBO report continued, "the HCFA evaluation defines a savings as a reduction in hospital costs . . . . It seems clear that the federal government should not be investing substantial resources merely to shift costs onto the private sector. A reduction in resources used in hospitals is a more appropriate measure of
savings to be compared with PSRO review costs. Using this more appropriate definition . . . reduces estimated savings substantially . . . savings that appear to fall far short of their costs." Moreover, the report continued, looked at in terms of the overall dimensions of the federal share of the costs of medical care -- the multi-billion dollar outlays -- even HCFA's estimate of a 0.08 percent savings of relevant reimbursements indicates that "the PSRO program at its present level of effectiveness cannot be expected to cause a substantial reduction in Medicare expenditures."

Goldstein et al. 86 critiqued both national studies and found design flaws. Further, the GAO was asked by the Sub-Committee on Oversight to evaluate the cost savings attributed to PSROs in the two national evaluations. The GAO study concluded that the HCFA cost figures were highly questionable because of deficiencies in study methods. However, there was agreement that there were actual cost savings, but not as great as originally reported. 87

The 1979 national PSRO evaluation concluded that the cost savings ratio due to PSRO concurrent review of hospitalized Medicare patients was 1.27:1.88 This would be a savings of an estimated $21 million dollars over administrative costs. The report also stated the impact of MCE studies showed a statistically significant trend indicating
measured improvements in the quality of care. The calculated number of Medicare days saved for 1978 was stated as 948,430 days, representing an average of 1.7 percent days saved in geographical areas where PSROs were operational. The respective percent change in Medicare days by geographical region was noted as: 1) Northeast U.S., -4.8%; 2) North Central U.S., -2.1%; 3) Southern U.S., +3.7%; 4) Western U.S., -1.4%.

However, the CBO did a study on the 1979 HCFA evaluation and concluded that there was:

... no net savings in Medicare days and ... that the best estimate is that the savings generated by the program are about 30 percent less than the program costs. Both the CBO and HCFA estimates, however, rest on controversial assumptions and are open to considerable error.

Brook noted that the New Mexico EMCRO, over a four year study period, produced no net savings nor had a demonstrable effect on hospital use. He concluded PSROs may influence the quality of care, but will play little role in containing medical care costs.

However, the first year data analyzed from four new conditional PSROs (South Carolina, Idaho, Hartford County, Greater Oregon) showed a 20% decrease in hospital LOS. This represented a savings of several hundred dollars per patient per hospitalization.
The Hartford County Health Care Plan (HCHCP) reported on its utilization experience and cost-effectiveness of the first year of private patient peer review and the three years of federal review done as the Hartford County PSRO Program (HCPSRO) 91:

Each program was determined to have had cost savings greater than the program expenditures, or $1,039,843 and $1,350,517, respectively. The four hospitals involved in the HCHCP plan demonstrated cost-effectiveness ratios during the first year of 1.09 to 4.79 with an average of 2.86. The HCPSRO program for three years ranged from 1.81 to 5.27, and had an average of 4.53. The ratio indicated that the costs of patient days exceeded what was expected. The ratio was figured by dividing the "review savings" by the "review costs." "Review savings" were calculated by comparing expected days to actual patient days. The costs of a patient day saved was 40% of the actual cost.

These results must not be interpreted as showing the peer review system itself was responsible. The study design was weak in that there were no comparison hospitals available without review programs. There were, however, serious attempts to control for other factors that would affect utilization, such as, patient, medical staff and hospital characteristics, availability of non-hospital substitutes and other review programs.

One cost effectiveness study concluded that the potential savings resulting from the reduction of inappropriate hospitalization were unlikely to offset the costs
of the review process. Further, it noted that ALOS reductions may occur in reaction to the existence of any review program rather than a more complex and costly review procedure as PSRO. It also noted that monies would be more effectively spent in the profile analysis and MCE phases. The assumptions and methods of this study are questionable. It was based on an empirical model that was not tested. However, it does provide some thoughtful considerations.

In May, 1978, eight of the original PSROs testified about their activities and impact to members of Congress, Congressional Committee staffs, and HEW officials. Such testimony occurred again in September, 1979, by thirteen PSROs to Senator Herman Talmadge's Senate Finance Health Subcommittee. The testimony brought together diverse experiences varying from serious research attempts to descriptive narrative incidents and perceptions of how PSROs were affecting health care and carrying out the intent of the law and original program policies.

In several instances, the PSRO representative testified that not all the reductions in length of stay or days of care could be attributed solely or directly to PSRO intervention, but that decreased utilization did occur after the start of PSRO review. Several of the witnesses also mentioned the unmeasurable effects and small incremental achievements in changing the behavior of individual physicians. Some examples of these effects and achieve-
ments were: Healthy tonsils not removed; Unneeded X-rays not repeated; Cholecystectomy patient discharged after five days instead of seven days. These examples represented dollar savings as well as improvements in quality of care in their judgment.

Even more extensive impact and anecdotes were reported by 42 PSROs to the Ad Hoc Task Force on Impact of the American Association of PSROs. This report was finalized for public presentation to Congress, HEW, and the Carter Administration.

All three source documents cited examples of positive impacts too numerous to note here.

However, at the September, 1979 hearings, not all testimony was positive. New York and California Medicaid agencies stated their misgivings about PSROs. Richard Berman, from New York's office of Health Systems Management, said:

... the continuing lack of consistent, reliable data and lack of rigorous analysis of PSROs and alternative review mechanisms makes it difficult to evaluate the program. A demonstration project jointly sponsored by the state and PSROs would compare the efficacy of the state's on-site reviewers and PSRO review. The project had been temporarily halted by litigation initiated by some of the affected hospitals. The state and PSROs agree on a number of points: The integration of PSRO data systems with the HCFA-funded statewide data collection system, ways of addressing the problem of long term patients in acute care beds, and the need for a single set of criteria
for monitoring the PSROs and more
federal support for developing al-
ternative methods of performing
medical review.

Beverlee Myers, director of the California State
Department of Health Services, the state agency for Title
XIX, testified that PSRO performance in her state had
been "less than optimal." She criticized HHS' emphasis
on focusing review, saying the move was premature. She
felt there was not enough baseline data to support
focusing by diagnosis or procedure, and HHS lacked a
comprehensive plan for evaluating the impact of focused
review. The state's PSRO monitoring program showed sig-
nificant problems with inappropriate hospital admissions
and the review of psychiatric services. So far, five
PSROs have passed the initial monitoring cycle, but
four have failed. She estimated that inappropriate
review decisions by PSROs have cost the state from
$6 million to $23 million dollars.

The intent and value of the PSRO law is perceived
in many ways. Goessel96 expressed that:

Cost containment was never a PSRO
mandate, nor is it possible for
the PSRO system to affect cost
containment because that system
(PSRO) controls none of the factors
that contribute to the escalating
costs of medical care, i.e., gen-
eralized inflation, labor costs,
and new technological developments . . .
She does observe that as a "data gathering system" it has been helpful. The PSRO data output documents the profile of alcoholics in their New York County area, and that the average time a hospitalized patient waits for a long term care bed was 36 days. Such data "will help in finding solutions to these fundamental concerns."

On the other hand, Dr. Himler, President of Peer Review Network, Inc., a firm doing peer review on private patients, has stated:

As a result (of the national PSRO evaluations) Congressional pressure was applied to HHS which, in response, changed its signals to PSROs. The PSROs were (now) to . . . demonstrate their impact . . . with the emphasis on cost . . . . PSROs are demonstrating that they can meet public goals in quality assurance and cost containment . . . .

Demkovich feels the PSRO mandate is "explicit . . . to cut back costs." She notes congressional pressure is on to evaluate performance by cost effectiveness. Dr. Helen Smits, Director of HSQB, stated " . . . the cost of (UR) is at least as much and very likely more than PSRO . . . and this isn't recognized." Utilization Review was the system that PSRO replaced.

Dr. Daniel Koretz, an analyst in CBO, stated:

There seems to be an impact on utilization (by PSRO) but not enough to pay for the program. Utilization review of any kind
may not be the most effective way to cut back on overutilization because institutions must make up the . . . loss in revenue . . . somewhere . . . and UR doesn't tap the root of the problem. (fixed costs)

HSQB official Allen Dobson disagrees, noting that:
"As hospital use drops and beds are either closed or converted, fixed costs will drop and the overall costs effectiveness seen."

Jay Constantine said "Congress set up the peer review network to ensure that the government wasn't paying for poor quality and inappropriate price." Other PSRO executive directors feel the emphasis of Congress is too preoccupied with cost while the PSROs are committee to assuring the patient the best possible care in the time deemed medically necessary.

Dr. Donald Burt, Medical Director of a New Jersey PSRO, claimed their PSRO "may have produced net savings of nearly one million dollars in its first six months of review." Although they had no valid study design, they "are convinced that something is happening and it looks like cost-savings" to the.

Summary of Cost Related Measures

The three national PSRO program evaluation results were reviewed. Other studies and congressional
testimony from PSROs on their claimed impacts on health care and studies citing lack of effectiveness were also presented.

**Quality Related Measures**

MCEs (which are also referred to as PCEs, Patient Care Evaluations), are considered to be the quality assurance component of the PSRO Program. As stated in the PSRO Program Manual, the purpose of MCEs are:

1) To improve quality of health care, its organization and administration; 2) To correct deficiencies through education and administrative change; 3) To reassess performance to assure improvement has been maintained (reaudit).

Brook and various colleagues have published much about the results of the New Mexico EMCRO program and about research in quality assurance.

Brook et al. noted that most efforts in affecting quality had concentrated on assuring a high level of the technical aspects of care delivery. However, they felt it might be more fruitful to concentrate on the "art-of-care" aspects of quality, such as, behavior and personality modification, motivation manipulation and improving physician ability to relate to patients.

They felt PSROs can affect physician behavior and create better relationships with the patients when they understand and appreciate the quality assurance activities.
Better physician practice habits can be developed through feedback and constant follow-up and monitoring of the system with maximum involvement of peers. However, according to Dr. Kenneth Platt, a past National PSRO Council member, "PSRO is the most likely mechanism for impacting on physician behavior since individual physician practice patterns can be shown to them." When one physician's pattern of practice is compared with other physicians, the behavior of the physician concerned usually changes for the better.

Brook and Williams studied the appropriateness of injections in the New Mexico Medicaid program. They found that many injections were unnecessary. Appropriateness criteria were developed, an educational program given, and submitted bills were reviewed over a period of two years. Due to this intervention of a review system, use of injections decreased by more than 60%. Outlier and heavy utilizing physicians even changed their behavior substantially. This is one of the few early studies on how a PSRO-like review could affect quality.

Brook further described the results of another study:

"... through mechanisms likely to be adopted by PSROs ... some progress was seen in determining how much quality or improvements in health status can be obtained for a given amount of money (and that it is) ... probably an impossible task of using peer review as a mechanism both to improve the quality of care and to reduce the costs of care."
Brook and others later attempted to assess the effect of peer review on use, cost and quality of medical services over a four year period in the New Mexico EMCRO. Their conclusions were: 1) UR had no demonstrable impact on hospital use; 2) Peer review produced no net savings; 3) Peer review improved the quality of ambulatory care through large reductions (75%) in medically unnecessary injections. They suggested the goal of the PSRO program, to control costs by curtailing utilization, might be difficult to achieve and the quality of care goal should become the focus. This recommendation was again offered as a result of one of their other studies with the observation that PSROs "may influence the quality of care." Further they noted that PSROs, although the proof of accomplishment is little, are the best potential mechanisms to protect the medical interests of all patients and have a positive influence on entire communities by raising the results of care to acceptable levels. That alone might justify its (PSRO's) continued existence.

In a recent study on the EMCRO program relative to the use of antibiotics for common infectious diseases, the conclusion was that local peer review by physicians substantially improved the level of quality of care provided to persons in that population.
Areawide MCEs can provide information that individual hospital studies cannot. Further, only the PSRO has the mandate and is capable of coordinating and seeing that areawide studies are performed.

Two areawide MCEs are presented as examples of how a PSRO, acting through its mandates, can affect quality, health care, and cost.

One study was to determine whether area hospital lengths of stay were any longer due to the days used by patients awaiting placement into long term care facilities. Out of a sample of 529 cases in 16 acute care hospitals, placement problems were identified in 121 cases, or 23% of the total. Forty-three of these cases waited 334 additional hospital days, or an average of 7.8 days per problem case. (See Figure 5). Total placement days made up 1.2% of the total hospital days, or 4,144 days.$^{102}$

When considering the cost implications of an average of almost eight hospital days awaiting placement per patient, the cost considerations become meaningful. The study confirmed that the problem existed and resulted in recommendations for action. These suggestions went to the local Health Systems Agency (HSA), the Medicare and Medicaid fiscal intermediaries, and area hospitals.
Total SNF/ICF Placement Days - 4144; Total Hospital Days Used = 335,715; Placement Days As % Of Total Hospital Days = 1.2%.

Figure 5. Results of Areawide MCE. Number of Hospital Days Patients Await LTC Placement. (July - December 1978)
Another areawide study involved twelve hospitals and the prophylactic use of parenteral cephalosporins in surgical patients. Physician experts set criteria that: "There should always be a preoperative dose of parenteral cephalosporins given within four hours of surgery if one was following appropriate quality medical procedures."

The results (Figure 6) showed that only five hospitals met the quality criteria. The remaining seven hospitals ranged from 3% to 85% compliance with the criteria. This surprising information resulted in an areawide education seminar being done as well as corrective actions occurring in the hospitals.

Sanazaro feels that PSROs alone have the abilities and mandate to organize such areawide MCEs or be entrusted with the resulting data. This would help "level up" the results of care in area hospitals. This quality maintenance activity has become, in some areas, the most effective single instrument of continuing education. Peer review needs to be linked closely to medical education, making it more relevant to practicing physicians.

According to a hospital director of medical education:

At continuing medical education (CME) programs, too often the topic is one the instructor has an interest in or was mandated to teach. Physicians come to gain the CME credits needed for licensure or because he/she is interested in the topic. Frequently,
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Figure 6. Data Display from Areawide MCE Study on the Prophylactic use of Parenteral Cephalosporins in Surgical Patients. Percentage Variation to Criteria of Pre-operative Dose Given Within Four Hours of Surgery Where 100% Compliance is Considered Appropriate Quality of Care
the physicians who need education in the concern identified by peer review MCEs do not attend.

The value of a PSRO-identified educational topic is that it is one that is documented as a problem with that particular hospital or area. Therefore, a practical learning situation exists and health care delivery can possibly be affected.

An advantage of MCEs is that they can combine two of the ways to measure quality. The outcome is measured through the retrospective audit (medical study) and they can also be done concurrently, measuring the process.

The 1977 PSRO Evaluation noted that MCEs, with a follow-up study, can effectively identify and correct problems. They appeared to be effective in doing this for administrative as well as clinical deficiencies. Adler and Dobson examined both the 1977 and 1978 national studies and concluded that the preliminary findings indicated that quality of care improved.

The use of MCEs to investigate a particular aspect of physician performance or focusing on diagnosis-oriented audit (medical study) is well advanced and beneficial in some PSROs. One such study collected data on an ancillary service, the measurement of arterial-blood gases over time.
for certain diagnoses. Such MCEs could result in much data that is useable in attempts for education and behavior change of physicians.

However, it has been mentioned that when a PSRO does not follow up on MCEs or aid a hospital in organizing and establishing a system for medical audit, the process of medical audit does not get very advanced. The use of continuing medical education programs using results from quality assurance programs and medical audits is recommended.

One of the basic assumptions upon which PSRO rests is its reliance on medical criteria to validate appropriate medical care. Payne has shown that percent compliance with criteria weighted by component items can be used as a summary measurement of the quality of care.

However, Donabedian feels the final judgment of the quality of care cannot rest on the compliance with explicit criteria alone. Rather, it must be based on a review of all known facts by experts who use the entire range of expert knowledge for their judgment. Many peer review clinicians feel this is ideal, but not practical since peer review is done on millions of patients each year. This year, over eleven million federal patients were reviewed. It would be impossible to review "all known facts" before peer review decisions are made.
Sanazaro, in order to test the feasibility and effects of incorporating concurrent quality assurance (CQA) into the concurrent utilization reviews required by PSROs, looked at adherence to essential criteria of medical care and attainment of expected immediate outcomes. This was prospectively monitored in 5,604 cases and seven diseases or conditions in 24 experimental and 26 control hospitals in five PSRO areas. CQA was not consistently associated with improved documentation in records, but was associated with slightly better adherence to treatment criteria in all five PSRO areas (P<0.03).

Sanazaro found adherence to pooled documentation or treatment criteria was unrelated to outcomes. However, failure to adhere to disease-specific scientifically validated treatment criteria was associated with unsatisfactory outcomes in bacterial pneumonia (P<0.01) and acute myocardial infarction (P<0.02). CQA was considered to be professionally acceptable, technically feasible, and compatible with PSRO reviews.

He concluded that, given adequate physician support, CQA can produce slightly greater adherence to treatment criteria. If the criteria are valid, adherence may lead to improved immediate outcomes in some diseases.

This type of work attempted to show the validity of a PSRO keystone, assessing quality based on whether or
not the documented care compares with the professionally
developed and approved medical criteria.

A hospital peer review director feels there is a
benefit to be gained from PSRO and medical peer review that
is almost totally overlooked:

It is one of education of one's self --
of the reviewer. Perhaps, the focus
has been on educating the wrong audience --
the groups of physicians, the medical
staffs. Is not lasting education the
result of personal discovery and under­
standing during insightful inquiry?
Anyone who has taught realizes they
learn more by teaching, by preparing
the examination.

In the same way, when one is exposed
and has access to all the medical
treatment, diagnostic and other review
information, and can converge them
and discriminate and challenge his
or her mental and medical capacities
to the limits in order to reach a
sound medical review judgment, then
one has truly learned. This experience
is a basic tool in developing the
physicians who truly have the gift of
providing high quality care. The physi­
cian advisor or reviewer function, there­
fore, is a benefit in itself, not only
to the individual (physicians) themselves,
but also to the patient.

Others feel that the participation alone in PSRO review
may be considered an educational process. Local peer
review activities also result in peer pressures which are
a strong force for behavioral change.\textsuperscript{112}

Palmer\textsuperscript{113} has noted many individual and institutional
variables may serve as indicators of quality of medical
care. PSROs cannot control all of them. However, by using the output from their data system, PSRO could use the information to affect certain quality-related variables. Such could be physician education, malpractice rates, medical staff organization and surgical and medical outcomes. Dr. William Jesse, a California PSRO medical director and once a HSQB physician, suggests that "when a medical staff is active in controlling the behavior of physicians through the actions and information gained from peer review, the quality of care increases."

"A difficulty in showing improvement in the quality of care or of the cost effectiveness of the PSRO program is the sheer volume of data and manual steps involved in data collection," according to Dr. Roy Miller, a PSRO medical director. A solution to this problem might be a computerized peer review system. There are few in existence. The author believes the first was created in 1973 by Medical Advances Institute (MAI), in conjunction with the Department of Preventive Medicine at Ohio State University. MAI anticipated PSRO and privately funded a program to review, not just federal, but all patients. MAI eventually had 27 facilities (acute care hospitals, mental hospitals, and nursing homes) linked by terminal to a central computer. The system used computerized medical criteria and automatically printed out exception reports and accountability
for any criteria variances. MAI was a forerunner of what many feel still needs to develop.

Some of the successes it claimed were:

(1) Physician progress notes on charts increased; (2) Reasons for delays in clinical services were better documented leading to changes in lab report handling; (3) Two hospitals that didn't require an admitting diagnosis to be recorded on admissions began doing so; (4) Physicians who had never recorded a diagnosis on any charts began doing so; (5) Potentially lethal situations were avoided. An example was when a chart was missing the penicillin allergy alert. A review coordinator that had seen it during her review stopped another nurse who was about to start a penicillin I.V. for that very patient. This prevented a serious situation; (6) The system cut patient stays and problems; (7) Educational opportunities about the weaknesses in the knowledge of practicing physicians were taken.

A variation of the MAI system was the Ohio Department of Mental Health and Mental Retardation's Utilization and Medical Care Assessment Program (U&MCAP). It eventually had all of Ohio's 21 state mental institutions on the system, and was nationally recognized for its advanced concepts.

A sample of the U&MCAP claimed impact was:

(1) Admission rates had gone down, especially through identification of inappropriate court or involuntary commitments; (2) Length of stay had been reduced; (3) Identified deficiencies of care have become infrequent; (4) The rights of patients were now not only recognized, but documented and guaranteed in writing for each patient; (5)
The quality of hospital records markedly improved. The records were shorter, more factual and less characterized by irrelevant explanations and diagnostic rhetoric; (6) More generally, the pace of diagnosis and treatment was more timely and meaningful; (7) Treatment plans were now followed (8) Planned and orderly transitions to aftercare programs were now done.

According to Mr. Howard Newman, Administrator of HCFA, long term care review has become a high priority. Approximately 54 PSROs are funded to do LTC review. This is a labor intensive type of review and accounts for 30 to 40% of a PSRO's budget.

However, little has been done to determine the cost effectiveness of Long Term Care review. One study looked at the effect of a peer review program on the quality of care. It used an assessment instrument of 43 questions administered according to specific quality criteria. The intervention study design included matching control and test facilities by geographic location, licensure status and bed size. The conclusion was that the quality assurance program seemed to have improved the quality of care given in facilities where LTC review occurred, and that quality declined in the control groups.

Summary of Quality Related Measures

This section emphasized and presented examples of the quality assurance aspect of the MCE. The results of studies that showed various quality-related aspects and/or
outcomes were described. Examples of areawide MCEs were presented.

It was mentioned that areawide MCEs aid in identifying quality problems that can result in linkage with medical education programs. The validity of using medical criteria to measure quality of care was discussed. It was stated that there is value in participation in a peer review program. The existence and impacts of computerized peer review systems were described as was the role of LTC peer review in quality assurance.

Utilization Related Measures

In general, the performance of peer review program is being measured in utilization units. The units used are:

1) Average length of stay in days (ALOS);
2) The length of stay in days (LOS);
3) Days of Care Rate (per 1000 Medicare enrollees) (DOC); Discharge Rate (Per 1000 Medicare enrollees).

Examples of these units have already been discussed and displayed. "These utilization measures are easy to work with and can be defined and measured more easily than the quality of care", stated a HHS data director.

In addition, the past national PSRO evaluations stress a utilization control mission for the PSRO program in the context of developing a national strategy to reduce the growth of health care expenditures. 51, 84, 88
An example of the use of these measures is seen in an analysis of variations in hospital use by Medicare patients in PSROs. The discharge rates increased, ALOS decreased, and DOC rates remained relatively constant.

According to Deacon:

The even trend of DOC implies that the large rise in Medicare hospital expenditures has not been due to an increase in the use of hospital days, but to input price increases and changes in the nature of hospital services. The rise in discharge rate and decline in ALOS are not explained by this study.

In 1977, in 21.8% of the PSRO areas, 20% or more of the hospitalized patients were from residences outside their PSRO area. This patient flow into a different PSRO area confounds comparability of the PSRO data.

Samples of utilization-related studies are presented in this section. Brian studied the Certified Hospital Admission Program (CHAP), a medical foundation pre-PSRO program. He concluded that, over an eight month period, the observed hospital days declined by almost 17%. The admissions declined over 11%, and the ALOS from 4.7 to 4.4 days, 6.4% below the expected number. This type of "success" built HHS' belief that peer review was effective. However, three years later, Syetta showed that Brian's conclusions were invalid.

The Institute of Medicine looked at 18 quality assurance and UR programs. It concluded "... evidence isn't available to conclude that hospital review programs are effective. The information isn't adequate to provide definitive assessment of the effectiveness of QA programs."
Figure 7: U.S. Discharge Rates, ALOS, and Days-Of-Care Rates for Beneficiaries Aged 65 and Over, 1967-77.
However, Brook and others sited design flaws that made the IOM results questionable, such as unrepresentative sampling.  

Nelson observed that their peer review system had shown a decrease in ALOS of 0.5 days and a slight decrease in admission rates as compared to a control group. Another study, on the Commonwealth Health Agencies Monitoring Program (CHAMP), found a decreasing LOS of Medicaid patients over 2-1/2 years. The ALOS decreased by 11.9% relative to the norm, whereas the non-Medicaid LOS decreased by only 6.6%. They inferred the peer review program was responsible, and as a precursor to PSRO, felt this suggested PSRO could be cost effective. 

Again, however, there were design questions in this study. The sample was biased in that all 57 hospitals selected were those that had data available. Nothing is known about those that did not have data available and, therefore, were not selected. Some significance testing was done at the .1 alpha level, not a conventionally accepted level at which to show significance. 

An evaluation was done by Lave and Leinhardt of the predischarge UR program (PDUR) for Medicaid patients in Pennsylvania. They found that the LOS decreased in hospitals using this concurrent UR program, versus those using a retrospective claims review program. However, the design was quasi-experimental and had some questionable data problems.
The Oklahoma Utilization Review System (OURS) is a statewide computerized peer review system. Officials cited actual savings in the first 12 months of $15.1 million by reducing the actual number of hospital claims and hospital days utilized per 1,000 possible Medicare and Medicaid beneficiaries. However, the ALOS went up 0.3 days and the average pre-operative LOS down 0.1 days during the 12 months. Therefore, by HHS' utilization measures of LOS & ALOS, the Oklahoma review system is not successful. And yet, using the State's measurement of hospital claims and days used, it is.

The Manhattan PSRO Executive Director, Dr. Eleanore Rothenberg, stated:

... that 14 of their area hospitals had increased their Medicare patient days 3 - 9% in the four years prior to the PSRO starting review in them. During the first year of PSRO review, the Medicare patient days declined by an average of three percent.

Further, in an anecdotal article, she claims many examples of PSRO impact in their PSRO area.

Davidson presented data from the Chicago Hospital Discharge Study that looked at hospital utilization in Medicaid patients. He concluded that there were no consistent differences found between the hospital utilization factors as compared to Blue Cross patients. He suggested that if PSRO review was successful in Medicaid patients, private pay patient groups might also benefit.
Various industries and insurance companies have decided to contract with PSROs to do peer review on their insurees. Some examples of the results reported were:

1) During one year Caterpillar Tractor Co. cut their hospital ALOS by one day; 2) Deere and Co. experienced a 9% reduction in its employee ALOS over 15 months; 3) Motorola Company's ALOS decreased 1.6 days over a year and they estimated it saved them $125,000 in nonpaid health benefits; 4) Blue Cross/Blue Shield of Michigan had a cost ratio of 6.33 to 1 and approximate savings of $2.3 million.\textsuperscript{123,126}

Over 150 different companies and insurance programs have contracted with 95 PSROs to do the same type of review because of the results of others, such as Deere and Co.

Most of the aforementioned studies have been somewhat positively biased. However, the author wishes to emphasize that many more less convincing and/or negative papers and opinions could have been noted. This would have been repetitious and is done comprehensively by Chassin in a Medical Care Supplement as of that publication date (1978).\textsuperscript{124} His conclusion also summarizes this section on utilization:

The available data addressing the question of the impact of UR on hospital utilization and costs are thus inconclusive. Some studies suggest that this technique may reduce hospitalization; others suggest it has no effect. None is sufficiently valid to enable any firm conclusions . . . Most UR programs have been associated with observed decreases in hospital utilization, however poorly substantiated . . . several studies suggest UR may . . . positively affect quality of care.
Perceived Performance Measures

Many of the PSRO impact studies and "proof" have been descriptive and/or anecdotal. What is perceived as "performance" and "impact" is fundamental to a study such as this. The decision makers in Congress and HHS form value opinions based more on these perceptions than on actual research, according to high level Carter Administration and Senate Finance Committee individuals.

Since it began, the most ardent opposer of PSRO has been Dr. Jose Oller, a neurosurgeon from Louisiana. His perception of PSRO was described "... as a system of medical care rationing and the ultimate invasion of patient privacy." He, along with Illinois Representative Philip Crane, have long sought the repeal of the PSRO law. This year, Mr. Crane again introduced an amendment for the repeal of PSRO. He perceives PSRO as "not worth the funds expended on them." Further, he stated, "... you can have laymen impinging their judgments on the best professional judgment of physicians."

Dr. Rollins Hanlon, Director of the American College of Surgeons, stated:

... there is distressingly little progress in fully functioning local PSROs or solid evidence of improved quality of medical care resulting from ... the law. Its overall effect on cost containment is also indeterminate.
Kessner asserted that the PSRO provides the potential for joining the skills of epidemiologists and health services researchers with the judgment of concerned clinicians in the development of quality assurance programs.⁰¹² Five "The PSRO could help eliminate the dearth of reliable epidemiologic and clinical data in the relation between process criteria and outcome," according to one academician.

The AMA, which vehemently opposed PSRO originally, has now firmly endorsed it. "This endorsement is a measure of success," stated Dr. David Cloud, the AMA's president-elect. He also observed:

. . . adequate additional funding is needed to properly perform (peer review) and . . . that peer review and medical audit (MCEs) have been instrumental in helping achieve the estimated $3.5 billion dollar savings of the Voluntary Effort Program. (VEP)

The VEP is a joint venture of the AMA, American Hospital Association and Federation of American Hospitals to contain hospital expenditures.

Another indicator of support for the PSRO program has been the overt national backing by the National League of Nursing and the strong coalition between the AMA & AAPSRO.

Dr. Timothy Mongan, the Associate Director for HHS of the Domestic Policy Staff of the White House, stated:

PSRO is necessary and by most studies has been shown to be effective, even from the narrow view of cost benefit analysis which does not even get into the quality aspects. Another
measure that the Administration & Congress believe it (PSRO) to be effective is that both have recommended its funding to be significantly increased, even in these austere budget times.

The PSRO fiscal year 1981 budget is not yet final. However, the Congress & Administration proposals are for a 20-35% increase above the $144 million dollars allocated in 1980. This is the only health program to receive such a significant increase recommendation.

Dr. Smits, the Director of the PSRO program, feels:

... the program has shown the many benefits it is capable of and is succeeding because of its flexibility and adaptiveness to change. One measurement of a strong program is the remarkably overt interest shown in PSRO by foreign countries. Usually they come to see how we practice health care. They are coming to see how we organize health care through the PSRO's roles of quality assurance and the professional model to better distribute scarce (health) resources. It (PSRO) works as a concept—that physicians are good monitors of professional performance. PSRO is a model for cooperation between the federal government and the profession and a mechanism with a remarkable ability to make needed changes in practice patterns.

Jay Constantine comments that:

PSROs are finding enormous numbers of patients in acute care beds that don't belong there and don't get credit for those days saved ... had there been an alternative for the patient to go to, e.g., home health care. The good PSROs are far exceed our (Congress') expectations ... that PSRO's would be a substitute for incompetent carrier and state review. We got far more. However, some PSROs are setting up their own bureaucracy and just trying to 'keep the Feds off our back' ... we are hopeful these PSROs are soon out of business. For the majority of PSROs, it's too early to tell.
PSRO review is also being perceived by private business as being cost effective or of some benefit. Support of this statement is the fact that almost 58% of the PSROs have some type of private review contract with various companies. It is assumed that companies will financially support programs they perceive as giving them a return on their investment. As the Director of Health Benefits of a large automobile manufacturing company stated: "We are not sure that PSRO works but we believe it can help us in being cost effective with our health dollars."

A Motorola executive said: "Industry wants peer review now and must work together with the PSROs. They can give us cost effective quality control."

Other businesses have begun hiring PSROs because they hold similar beliefs in the effectiveness of PSRO review.

However, Representative Samuel Gibbons, Chairman of the House Ways and Means Oversight Subcommittee, said: "The PSRO performance record is too weak for us to proceed with business as usual." Further, patients or their families testify they "...were ordered out of hospitals at severe hardship or risk." This latter perception is inaccurate. The PSRO denial letter states that payment from the federal program in question will stop after a certain date and that any further stay will be at the patient's expense. However, the wrong
belief that patients are "being kicked out of hospitals"
is serious because that complaint often causes extensivepolitical and public reactions.

The MCE, or medical audit, is considered by many as anindicator of the quality of care. According to one Directorof Medical Education: "Most hospital staffs can point tomedical audits that have successfully identified deficiencies in care. Few, however, can name instances in whichlasting changes . . . have resulted." Dr. Richard Pierson,Associate Professor of Clinical Medicine at Columbia Uni-versity College of Physicians and Surgeons, in lookingat the whole PSRO program, stated: "PSRO provides . . .the most promising method to raise and standardize thequality of medical care using the MCE study."

The Rand Corporation did two studies on the impact and performance of PSRO review in nursing homes.¹²⁷,¹²⁸These descriptive studies concluded that PSRO LTC re-view programs can be an important part of ensuring publicmoney is used to purchase better care. However, extensiveexamination of ten PSRO LTC demonstration projects wereinconclusive relative to the cost implications and theimpact of the PSRO review. The studies did state, how-ever, that:

. . . the regular monitoring by PSROpersonnel probably did improve thequality of care of some nursing home
patients. We suspect that in the quality domain, the PSRO's potential impact is greater for nursing home care than for hospital care.

Summary of Perceived Performance Measures

Perception of a program depends on many variables. Examples were given of the wide range and feelings that exist relative to the performance of PSROs.

OTHER TRACER CATEGORY

The measurements in this "Other Tracer Category" are:

1) Viability and Adaptability; 2) Relationships; 3) New Roles and Functions.

Viability and Adaptability Measures

Despite a difficult development period, the PSRO program still exists. There are now 195 PSROs performing their activities. This meets the initial program goal of putting a nationwide program into place. As Dr. Smits stated:

We have . . . survived. The PSRO program is still here and much stronger . . . because . . . there was a success story to tell and . . . the program is . . . its own best advocate. It is an effective, flexible structure which can respond to major changes in the way we organize health care and the way we deliver services.
In 1979, PSROs survived budget cuts of an average of 30% per PSRO. The cuts halted new facility review. PSROs adapted by changing their review process from concurrent to focused review (specific diagnostic or physician review), or retrospective review, or they went out of business.

The intensive study by CBO and GAO disillusioned some PSRO employees and physicians enough to resign. For others, the perceived attacks strengthened the PSRO according to a PSRO official.

Relationship Measurements

As depicted in Appendix A, PSROs have relationships with many different groups. The feelings toward PSRO by organized medicine, considered as the AMA, state and local medical societies, have generally changed from hostility to overt support.

PSROs, HSAs and End Stage Renal Disease (ESRD) Network have signed working agreements to share data and work toward the solution of common problems. State and county agencies and fiscal intermediaries have similar relationships with PSROs. Some PSROs have established good relations with such agencies and the health system is felt to work more smoothly in those areas, according to a HCFA official.
In addition, the almost 100 HHS issuances give one a better idea of the involvement PSRO has with others. A sample of "transmittal" topics are: Medicare, Medicaid and crippled children agency interaction, nonphysician input, HSA relationships, review in Indian Health Service Institutions, ancillary services review, dealing with data subcontractors, involvement of new physicians, civil rights, End Stage Renal Disease, long term care facilities, and so forth.

As a relationship example, the Baltimore City PSRO and other Maryland PSROs, have developed a data consortium consisting of PSROs, HSA, local and state agencies, and insurance companies. "This function of data brokering by PSROs is rare, but has produced useful information and linkages among various users", stated a PSRO officer.

In addition, new companies were created in response to the demand for peer review instruction, consulting, publishing, and the like. PSROs also developed relationships with companies having expertise in auditing, organizational development, and other such areas.

The consumer constituency is still a developing area for most PSROs. Only in the Statewide PSRO Council membership, which by law mandates four public members, is there definite consumer representation. Few PSROs have consumer board members.
According to Mr. Constantine, consumer involvement is needed for the development of greater understanding and support of this social program. Today there is increased demand for public accountability. Perhaps, by not including greater consumer representation, the PSRO is overlooking potentially strong and helpful support.

An approach to the roles of both the consumer and the private practitioner has been offered by the Private Initiative in PSRO, a Kellogg Foundation project:

1) DHHS has the legal responsibility to require an accounting by the practicing profession that services reimbursed by the government are of acceptable quality; 2) It remains the responsibility of the private sector (practicing physicians in concert with hospitals) to devise and refine methods of examining and improving the quality of care for all patients, including those whose services are paid for by the Federal Government; 3) The legal responsibility of DHHS to require public accounting can be satisfactorily discharged by specifying the types of data and documentation necessary to assure the public that the requirements of pertinent laws are being met; 4) The private sector has the obligation to collect and report data and provide documentation which demonstrate to all third parties that its quality assurance procedures are effective. By this means the quality assurance mechanisms are made accountable to all public and private third parties; 5) DHHS directly or through designated agents must periodically satisfy itself that the data and documentation provided by the private sector accurately represent procedures actually in use and their results.
Consumer interest in the process of health care delivery is increasing, as is public visibility and awareness of PSRO. Therefore, the public relationship is being developed in more and more PSROs.

**New Roles and Function Measures**

"A measure of growth of an organization or individual is the development of new roles or responsibilities," according to Dr. Richard Scott of Stanford University. Since their inception, PSROs have developed various roles or functions that were not legislated originally.

PSRO has become a national health information system with high quality data. Various epidemiologic and other health research programs are discovering this. The PSRO data base is comprehensive and the most complete on the Mediplan patients, according to a HCFA data official.

Various PSROs have gotten into fraud, abuse, and error-related investigations by request of various agencies. The law also gave stimulus to national, state, and local medical organizations in becoming involved in health care delivery system management. This new physician participation has resulted in many diverse benefits to a community, such as professional leadership and guidance in developing community health programs.

PSRO demonstration programs are resulting in more knowledge about the assessment and review of health
care. This knowledge is being applied to other areas, such as review of ancillary and physician services, long term care, ambulatory care settings and so forth.

Another developed role has been the "...emergence of PSRO as a liaison between the medical community and the federal government. This resulted in functions of interpretation and communication between the private and public sectors," states Dr. Kenneth Platt, the AAPSRO Speaker of the House.

FI's are the usual referral source of patients to physicians for HHS' nationwide "Second Opinion Surgery" program. Also, 30 PSROs have also been so designated. The value of second opinions are debatable. As of September, 1980, there had been 25,000 calls to the national hotline, and 18,000 were being referred to the physician list holder.

Some PSROs have begun to tie their concurrent review into "risk management." This linkage is felt by several authors to be a key in the avoidance of potentially costly legal suits and also to help increase patient safety and assure better care.

The PSRO program was the catalyst for the creation of a new industry, one of quality assurance and peer review. Mr. Constantine cites over "100,000 new jobs being created." This includes those positions in PSROs, hospitals, insurance companies, industries, state,
local and federal agencies, research contractors, data companies, and so forth.

Some PSROs have gotten into other aspects of health care, such as mass purchasing for area physicians' medical and surgical equipment and supplies, doing disability reviews, computer claims processing, answering services, prepaid medical plans, and private review. At least 95 PSROs are doing private review for almost 150 different industries and insurance companies.

Dr. Schoenrich, of Johns Hopkins University, advocates various roles for PSROs in preventive medicine. "Including . . . health promotion and prevention of disease in PSRO activities could . . . have rather immediate impact upon the quality of medical services."

Congress has recommended that PSROs review areas of frequent overutilization, such as, weekend admissions and excessive pre-operative stays and for hospitals to be reimbursed at a lower rate if the PSRO determined the level of care to be less than the acute care.

This legislation of new functions indicates stronger perceptions of the value of PSRO, according to a Congressman.

Other roles being identified for PSROs are: 1) Use of PSROs in national MCEs on controversial topics, such as the use of pelvimetry X-rays; 2) Use of PSRO expertise in determining the HSA appropriateness of review criteria for medical care assessment; 3) Preadmission screening;
4) As sources of data for physician certification;
5) In the evaluation of the quality of care given in emergency rooms, outpatient clinics, and HMOs.

Current proposed Medicare and Medicaid amendments recommend that the PSRO do hospital preadmission and pre-procedural review, review of routine hospital diagnostic testing and review in outpatient surgical centers and physician's offices.

The National Center for Health Care Technology, whose mandate is to conduct and support assessments, research, demonstrations and evaluations concerning health care technology, has used PSROs to provide the expertise in evaluating new and old health care technologies.

Facility certification bodies, such as state health agencies and the JCAH, have asked for and used PSRO data and expertise in carrying out their activities. Some states have also contracted with PSROs for data processing, research projects or peer review of special populations, such as the prison population in West Virginia. The state and local communities are recognizing PSROs as being a resource that can be used for experimentation in various community health settings.

Peer review of specialty hospitals has also been developed as a new role and function. Specialty hospitals include mental health and mental retardation facilities.
PSROs have also begun to be used in drug utilization studies.

**Summary of Other Tracer Category**

Examples were noted of PSRO performance as measured by PSRO viability and adaptability, relationships and new roles and functions.
CHAPTER VI
DISCUSSION AND CONCLUSIONS

Objective

The objective of the study was to evaluate the PSRO program by applying an evaluation framework. The primary reason for selecting this objective was that the value of the PSRO program's effectiveness is now in question. The results that are reported are based on the evaluative methods used and the data obtained in the present study.

Evaluation Strategy and Framework

The "tracer method" approach used by the Institute of Medicine\(^2\) formed the basis of the PSRO evaluation framework. Four general tracer categories were used:
1) Structure; 2) Process; 3) Outcome; 4) Other. These categories were then subdivided into grouped measures as seen in Figure 4 on Page 70.

These four general tracer categories are not to be considered as being of equal importance. The determination of importance may differ depending on the orientation of the evaluator. The weight given to each would, therefore, be subject to the value system of the evaluator or the reader.
It is important to emphasize that these categories do not stand alone. By their very nature they are interdependent, interacting with one another. This may not be apparent in the reading of the study results. It is difficult, therefore, to separate out the different category effects in the findings.

The author feels the outcome tracer category is the most important in this evaluation. This category is divided into measures related to quality, cost, utilization and perceived performance. Of these four, quality and cost measures are considered by the author to be more significant than the others. The reason for this is that the PSRO legislative intent has been interpreted to focus on quality and cost.

This is not to say that utilization, perceived performance nor any of the other tracer categories and measures are not relevant and/or without some consequence. However, they are not as substantial measures when compared to findings related to the quality of medical care and costs when faced with the realities of today's decreasing health care resources.

Many program and health facility evaluations use structure and process criteria to measure success or failure. The structure and process categories did the same. However, these criteria alone do not address how well a program is doing or how it is affecting the desired
outcome. But, depending on the politics, environment and the like, the results from structural and process measures may be acceptable. Such appears to be the case with the current program evaluation methods applied to many public programs, e.g., HSAs and Medicare fiscal intermediaries. Their performance is evaluated using process and structural measures.

The "other" tracer category, consisted of: 1) viability and adaptability; 2) relationships; 3) new roles and functions. These measures may also be useful in considering the total evaluation of the PSRO program. However, their significance in any decisions or policy formulation relative to the PSRO program could not be determined by this study.

The evaluative framework used in this study was chosen after consideration of the characteristics of the PSRO program relative to various evaluation approaches in existing programs.

It has been noted that the PSRO program was complex in itself and existed within a complex area—health care. The IOM method was chosen to evaluate complex organizations that provide health services. Further, the PSRO program has mixed purposes. It was stated earlier that PSRO had characteristics of research, demonstration and operational programs.
The approaches used by James, Fleck, Blum and Leonard and Herzog were considered in this study's framework since they focused on research and demonstration programs. Of particular interest were some of the models proposed in Suchman, such as his model for "social experiment", and the more empirical approaches of others.

However, many of these models commonly called for explicit measurements of goals, baseline and post-program data availability, control groups, and so forth. Since the PSRO program had no reliable baseline data and no pure control areas, these more rigorous study designs could not be supported by the data of this study. Nevertheless, these studies were useful in helping to understand what might be used in an evaluative framework.

The PSRO program was also considered to have attributes of the two commonly used evaluation models: 1) goal achievement; 2) systems. Many of the authors reviewed discussed the basic goal achievement model. A primary consideration in the use of the goal model requires the program goal to be predetermined and measurable. Since the PSRO program goals are legislated in broad terms with no specific measurements or definitions given, this model could not be used by itself.

Those authors who discussed the systems model approach, most notably Schulburg and Etzioni, limited the scope of evaluative properties to the adaptability, coordination of
subunits, and so forth. The author felt these characteristics alone did not adequately encompass the PSRO program.

Furthermore, the author observed the PSRO program had structural, process and outcome properties. And as Donabedian stated: "Any practical system of evaluation should perhaps include all these measures (of structure, process and outcome)." Deniston and Rosenstock and Greenberg also looked at activities (process) and administrative patterns (structure) in their models.

Others considered such things as efficiency, effectiveness, appropriateness, adequacy and performance. These approaches emphasized being able to measure such qualities. The author felt acceptable methods to do this measurement were lacking.

Hilleboe and Roos described social action models and how retrospective evaluation was not very well understood. Roos' work was relevant in that she discussed the PSRO precursor, the EMCRO program. Both these studies had ideas that were useful in creating this study's framework, such as the use of perception and viability.

The PSRO program did not appear to fit neatly into any one evaluative framework known to the author. Therefore, the present method was selected.

The author felt the framework presented several possibilities: 1) It allowed consideration of many characteristics of the PSRO program; 2) Empirical and nonempirical findings could be presented within this framework;
3) It presented relative ease of application, given the available data; 4) Offered a different application of the "tracer concept"; 5) It was a new way to evaluate the PSRO program on a national scale and still retained the flexibility of application to a single PSRO.

Some weaknesses of this PSRO evaluative framework are:
1) The framework tends to be artificial and various measures may fall into more than one tracer category;
2) It appears to give equal weight to the different tracer categories; 3) The measures are imprecise and somewhat arbitrary because of the lack of accepted definitions of key elements and the absence of procedures for measuring such elements;

The Data

The data came from two sources: 1) Relevant quality assurance and PSRO related literature, publications and case histories; 2) Interviews with individuals who conceived, shaped and studied PSRO and peer review as well as those knowledgeable about them today. These resulting data were applied to an evaluative framework chosen for this study.

The published data have the bias of author selection. As was noted, certain criteria were used to select which reports would be included and the author's criteria themselves were subjective. The author did attempt to use what might be representative of analytic studies as well as
reports that were simply descriptive in nature. Both governmental and private studies were included.

The interview data was subject to various biases. The selection of interviewees was not random and limited to those available and willing to be interviewed. The opinions and feelings expressed may have been a reflection of the interviewee's own value system. In addition, the author's bias of interpretation has to be considered. Further, the interviews were not conducted under controlled conditions. However, the author felt that essentially all of the forty-seven respondents made a distinct effort to present their experience and viewpoints relative to the interview questions. Many of the questions were designed to probe areas that had not been considered in prior national evaluations, such as perceptions and predictions of performance and roles, case histories, and so forth. The interview method included many open-ended, unstructured questions. This allowed the acquisition of more information, but complicated its analysis.

STRUCTURAL TRACER CATEGORY

It was found that PSROs were generally meeting the structural requirements in order to have their annual grants renewed, to reach the "full designation" classification and meet the requirements of the PSRO law.
PROCESS TRACER CATEGORY

Again, these measurements were generally being met in order to satisfy the legislated mandates of PSRO and/or to move from the planning status (initial phase) to the conditional status (next phase) or to the fully designated PSRO status (last phase).

OTHER TRACER CATEGORY

This category was divided into: 1) viability and adaptability; 2) relationships; 3) new roles and functions. Of an initial 203 PSROs, 190 have survived, adapting to changes mandated by federal agencies.

The number of and kinds of relationships that exist between PSROs and other organizations and programs were found to be many and diverse. Newer relationships with consumer and nonphysician health care professionals have begun to develop. New roles and functions were found to have emerged and/or are being legislated for PSROs.

From a systems model view, the measures in this category were indicative of some organizational success. Nonetheless, these values subsumed under this category were not considered to be of great significance relative to the total evaluation.

OUTCOME TRACER CATEGORY

This category was broken into four measurements: 1) perceived performance; 2) utilization; 3) quality; 4) cost.
In that the major intents of the PSRO legislation have been considered by many to focus on quality and cost of medical care delivered to certain patients covered by federal funds, these two measurements must be taken as the most important.

The following discussion deals with the four measures in the order presented above:

**Perceived Performance**

The perceptions and statements noted in the data ranged widely as to PSRO performance. The author recognized that "perceived performance measure" is subjective. These perceptions reflect the value assumptions of the interviewees in particular. As Weiss noted:

> Those who look to evaluation to take the politics out of decision making are bound to be disappointed. Within every organization, decisions are reached through negotiation and accommodation, through politics. This is the system we have for attaching value to facts. Different actors bring different values and priorities to the decision-making process. Evaluative facts have an impact on collective decisions only to the extent that program effectiveness is perceived as valuable. And program effectiveness -- inevitably and justifiably -- competes for influence on decisions with considerations of acceptability, feasibility, and ideology.

The decision to keep a program or not has been known to be made on this basis alone.
Utilization Related

Various studies, as well as the interviews conducted in the present study, indicated increases or decreases in the utilization measurements used in tracking the Medicare and Medicaid programs. Such conflicting data makes it difficult to unravel the relationships between PSRO activity and the levels of utilization, at least in the available studies in which the confounding variables are not sorted out. Consequently the use of length of stay indicators to measure performance is questionable in itself. The latest national PSRO evaluation observed that many factors affect length of stay. Therefore, differences remain ambiguous. Factors that may affect LOS include age, race, sex, readmission rates, and so forth.

The reality appears to be that evaluators and decision-makers are applying utilization data in different ways. One approach is the use of utilization as a proxy for savings. In general, a dollar figure is attached to the "days saved" as shown by utilization figures and translated to "dollars saved or not." Another approach uses LOS to identify the PSROs that exceed the national average length of stay, for a given disease or procedure, by twenty or more percent. The logic of using this or another percent criterion is dubious since some organizations will always be 20% above or below some national average however much utilization is decreased.
The last way in which utilization figures are used is to relate to the quality of the medical care being delivered. But they are not considered by the author as indicators of quality. When the utilization figures differ "enough" from the national average for a specific disease or procedure, questions are raised: "Why is there a difference? Is good medical care being delivered or not? Is overutilization or underutilization occurring and affecting the quality of care?" Actually there are no adequate studies that clearly show the relationships between the quality of care and utilization or cost. Further, few PSROs have staff with the competence to carry out appropriate statistical analyses of such data. Additionally, the basic data set itself was not considered by most interviewees as being indicative of the quality of care, reflecting only the level of utilization. However, several respondents believed that linkage with other data bases may be useful in future studies.

Cost Related

Various cost related studies were described and yielded conflicting results. The findings varied widely with respect to estimates of cost-ratios or savings. In that some type of cost containment is generally interpreted as a major purpose of the PSRO program, these conflicting results are clearly of concern.
The most serious attempts at cost-benefit analysis have been those of the national PSRO program evaluations. The first one in 1977 noted "... PSROs are not serving as a cost-containment mechanism and are not breaking even ...". In contrast, the 1978 evaluation showed that aggregate reduction in days of care was 1.5%. This translated to a savings of $5 million over the program cost, according to the study.

Some design problems of the first study were noted by Goldstein et al.: 1) The study was premature in that it evaluated the PSROs before any were fully operational; 2) There were no true "non-PSRO areas" available to serve as adequate controls. Utilization review was already in place in areas designated as "controls"; 3) The sample size was inadequate -- only 18 of 203 PSROs were studied; 4) The accounting systems were not uniform, thereby allowing different costs to be included.

The second national evaluation has already been mentioned. What was not noted earlier was the difference in how the national evaluations estimated the costs involved. The second study considered only operating costs of the PSROs and defined "savings" as a "reduction in Medicare reimbursements." One of the problems in determining what costs are actually relevant involves disagreement on the last point. The Congressional Budget Office (CBO) held that a reduction in the overall hospital costs was a more appropriate
measure. In other words, the disagreement was on how to calculate the value or actual reimbursement savings to the federal government of a "PSRO-defined" Medicare day-of-care. Estimates of how much of the cost saved is actually not spent, ranged from 40% to 60%. This depended on how adjustments were made in the Medicare hospital reimbursement formula.

The latest national evaluations by HCFA claimed a $21 million savings over the administration costs of the program. However, CBO differed again because of the varying methods of figuring costs. Until better studies are designed and until consensus is reached as to what to measure and/or count in estimating "cost-savings" of a PSRO program, any conclusion regarding cost-effectiveness remain open to many interpretations.

One of the problems in estimating cost has been discussed earlier. This was the fallacy of using length of stay as a proxy measure for cost. It is apparent that LOS is not a good indicator of cost. In addition, one cannot realistically consider the cost of care without considering its effect on the quality of care. They may be related in many subtle ways, but little is known of how one affects the other. Well-conceived studies using multivariate analyses would greatly enhance our understanding of these important relationships.
Another challenge in determining costs is that only Medicare patient data is used and there are no good baseline data available for either LOS or costs. The evaluations to date have had to be carried out without inclusion of the Medicaid patient data, because the states do not have useable systems of Medicaid data.

The basic validity assumption that "peer review would contain costs" had never been tested. The EMCRO program was started and then the PSRO program implemented with this assumption without prior testing. In addition, the containment of costs assumes that all other relevant factors are known and are held constant. For example, without controlling adequately for the effects of inflation, the cost of new technology, insurance costs, and many other factors, our ability to assess the influence of the PSRO program seriously is hampered.

Quality Related

The quality assurance intent of the PSRO legislation was clear. Has the quality of care improved since the PSRO program was started? And on what basis is the decision made whether there has been improvement or not? The studies or interview results addressing quality mainly involved the outcomes of the medical care evaluations (MCE). Various problems were identified as quality related and the corrective actions taken were described.
Case histories and studies showed that in some cases physician behavior has been changed for the better and that educational experiences were possible if peer review results were used as feedback into the medical educational process.

Areawide MCEs were described that identified hospital practices that added to the length of hospital stay. Some authors felt that PSROs might also affect quality but perhaps the best that could be expected would be that PSROs would raise the quality of care to some minimal standard.

Several studies considered the use of medical criteria as indicators associated with improved health outcomes. Many consider the "quality of care measurement" to reflect whether or not medical criteria were met. However, thus far study results of this phenomenon have been inconclusive. This is not too surprising in that the PSRO law also mandates that the medical care criteria used as guidelines in determining appropriate care be locally developed and modified. Therefore, no standardization of medical care criteria has been developed for the United States, as a whole, making comparability of regional studies difficult. The criteria vary not only from PSRO to PSRO but even within the same PSRO. Some feel that this is necessary since no two communities are identical and that flexibility must be retained to accommodate for differences in resources and in the methods by which care is delivered in different localities. There has
also been a lack of generally accepted definitions of key terms, such as "medically necessary" or "quality of care", further increasing the difficulty in obtaining reliable measures.

Nevertheless, the MCE is naturally considered the main tool with which to measure changes in the quality of care. More specifically, it is the "reaudit", or the replicated MCE, that is considered the primary indicator of any change in the quality of care. Usually, some intervention (e.g., peer counseling or education) occurs between the two MCE studies. However, the criteria for the MCE are developed by those doing or directing the study and are, thus, influenced by the level of expertise of the physicians or staff involved and the resources at their disposal. The criteria themselves may not appropriately reflect quality of care.

The selection of items for MCE are left to the discretion of the hospital or the PSRO. These choices are often based on what is the easiest to do, what is expected to give acceptable results, and on the availability of certain data. An improved policy would require topic selection to be based on "problems" identified from the PSRO data in the given locality.

Nonetheless, even this policy would be dependent primarily on the utilization measures that have already been noted as being of questionable validity. Therefore, the cost
of performing MCE might be avoided if the PSRO data on utilization and certain additional information were available in reliable and valid form. Nonetheless, a specified number of MCEs are conducted by the PSRO or by the delegated hospital. However, although reaudits are also required, whether this is done is dependent on the outcome of the original MCE and the decision of the hospital or PSRO. If the physician panel reviewing the results of the original MCE does not feel that a problem exists, then no reaudit is carried out. A problem may be felt to exist when too few of the MCE criteria were met or this may be an entirely subjective decision. Currently, few PSROs have followup mechanisms that examine whether the original MCE criteria were met or whether there were still other problems to resolve. This is a weak link in the quality assurance mechanism since, without follow-up, it is unknown whether change has occurred after intervention.

A further logical flaw is in the assumption that there is a relationship between the study criteria and patient outcome. This assumption is not always realistic. In addition, the dynamics and relationship between the quality of care and length of stay needs to be clarified.

Research Considerations

During the discussion the author had indicated some areas that need further study. One study that would help clarify the issue of the effects of the PSRO program would
be one examining the relationships among the quality of care, length of stay and health costs. Each of these variables could be affected by the others. For example, patients could be discharged before they are medically ready and then develop complications. Although the quality of care and outcome would suffer, the LOS could be short. Based on utilization measures, this could be a success by one definition but a failure for the quality of care given the patient.

In order to do such a study, all of the relevant variables except one must be held constant in order to examine the effect of that single variable. Perhaps, this could even be done on a more focused basis. For example, a particular disease could be used as a tracer indicator for the quality of care. Patients could be followed up on an interval basis once discharged from the hospital setting. A multivariate analysis procedure such as multiple regression or multiple logistic analysis could be usefully employed. Most PSROs themselves do not have the expertise to do such sophisticated studies and analyses. Nevertheless, HHS could and should develop and offer contracts for this kind of work. However, a critical requirement for any such studies would be to develop acceptable and valid indicators of quality care. This could be done for purposes of a specified study by standardizing medical criteria, believed to be valid, for the condition used.
It would also be helpful to have collected, on an ongoing basis, data that was more related to the quality of care rather than the current PSRO utilization data. Appendix G refers to a sample of such quality-related data. These data could be built into a concurrent data abstract form in the future.

Due to budget reductions, some PSROs have "focused out" hospitals. This action results in the requirement that those hospitals collect data retrospectively on every federal patient even though peer review will no longer be done. A well-designed study could examine whether there was a difference in the quality of care, costs, and/or LOS in hospitals with and without the PSRO program.
CONCLUSIONS

The PSRO program was evaluated by applying a tracer method evaluation framework to it. A general description of the model is that there were four general tracer categories: 1) Structure; 2) Process; 3) Outcome; 4) Other. The author felt that the results of the Outcome Category were the most important in concluding whether the PSRO program was of value. There were four measures within this Outcome Category: 1) Perceived Performance; 2) Utilization; 3) Cost; 4) Quality.

The author felt the measures of cost and quality were the most important measures in the evaluation because these are accepted and recognized as the main intents of the PSRO legislation. In other words, cost and quality-related accomplishments are considered crucial to the basic design of the PSRO program and must be heavily weighted in any evaluation.

The results of the data are equivocal in these two critical areas. Therefore, the author concluded that there was no scientifically valid evidence that the PSRO program is definitely causing an effect on the quality of care or health costs. The studies and data that are related to quality, cost, and even utilization were considered quite inconclusive.

The last measure in the "Outcome Category was "perceived performance." The data here suggested that the PSRO program might positively affect the quality and cost of medical care. However, again these were the subjective observations of the
interviewees and many of the purely descriptive studies and case histories. Those who perceived the PSRO program as being of value commonly cited reasons similar to Herzog's observation:

If a marked change follows a course of treatment or action . . . one may be unable to prove a causal relation and still be willing to accept the probability of it . . . One can test that probability by repeated trial runs, and finally either accept or reject it—still without hard proof. One may accept . . . consensus as presumptive evidence that something . . . is better. If it happens often enough in conjunction with certain methods, one may feel justified in developing those methods even though strict causality has not been established.\(^{59}\)

The author feels this consensus and presumptive ideas of evidence is commonly seen in the PSRO program. Most of the findings and impacts are not backed by evidence that the PSROs are associated with the change. However, the studies and case histories will show that specified activities (PSRO review, MCEs, and the like) are done and appear to be followed by some result. This "result" might be a lowered length of stay, a change in physician behavior, and so forth, but the effect of the PSRO program is not shown to be causally linked to these changes. This perception of performance was discussed because much of the data used to justify the PSRO program is related to this idea of a belief system and presumptive evidence.

The results also showed that the measurements in the "Structure" and "Process" tracer categories were generally met, as were those in the "Other Tracer Category." This
category included the three measures of: 1) Viability and Adaptability; 2) Relationships; 3) New Roles and Functions. The PSRO program has adapted and survived serious developmental and program changes and political challenges. PSRO has shown a "success" of sorts in these three categories.

One might feel that all of these categories should be considered to comprehensively examine the value of the PSRO program. Or, the reader might weight the categories and/or measures differently depending on his perspective. The author indicated earlier that "successful performance" in categories other than the "Outcome Category," and, specifically, that of assuring the quality of care and cost, were given less importance in the present evaluation. The PSRO program must show hard evidence of accomplishments in these two areas in order to be considered effective. Based on the data, it does not. Until this is done, the federal government will continue to make decisions regarding the PSRO program on the basis of equivocal, and often unsubstantiated studies, case history perceptions of performance based on the individual policymaker's value system and the current politics that exist. This situation may continue to prevail until an alternative to the present PSRO program is found.

The basic assumption of whether the PSRO program can affect the quality of medical care and cost must be tested. Furthermore, it must be done in an appropriate and scientifically acceptable manner. Otherwise, the only conclusion that can be
reached by this evaluation is that there is little evidence that the PSRO program has an effect on the quality of care or health costs.

As Deniston noted: "The purpose of evaluation is improvement." 67 The identification of program problems or the questioning of the effectiveness of a program, such as PSRO, is clearly of value. In this context, the present study demonstrates the application of an evaluation framework and the results obtained. It is hoped that this evaluation will serve to motivate policymakers to make decisions that will lead to more effective programs and encourage necessary research to answer the question of whether the PSRO is actually producing desired outcomes.
CHAPTER VII

SUMMARY

The objective of this study was to evaluate the Professional Standards Review Organization (PSRO) program by applying an evaluation framework.

During recent years, the PSRO program has been increasingly examined and evaluated by private and federal evaluators. Currently, the question of its value has been raised by Congress and other decision makers. This question, along with scarcer health care dollars and the demand for public accountability of federal monies, emphasizes the need for an additional program evaluations in PSRO.

Three basic purposes of programs were described: 1) Research; 2) Demonstration; 3) Operational. Also noted were the goal achievement and systems evaluation models and their characteristics. Also discussed were the categories and measurements of structure, process and outcome, evaluation design, considerations and evaluation limitations relevent to the PSRO program.
The data came from two sources: 1) Relevant quality assurance and PSRO related literature, publications and case histories; 2) Interviews with individuals who conceived, shaped and studied PSRO and peer review as well as those knowledgeable about these areas today. These data were applied to an evaluative framework created for this study.

A "tracer method" approach used by the Institute of Medicine formed the basis of the PSRO evaluation framework. Four general tracer categories were used: 1) structure; 2) process; 3) outcome; 4) other. The "structural tracer category" had many measures as noted in Appendixes K-M. The "process tracer category" had two groups: 1) program activities; 2) legislated, program or contract requirements. The "outcome tracer category" had four measures: 1) quality-related; 2) cost-related; 3) utilization-related; 4) perceived performance. The "other tracer category" had three measures: 1) viability and adaptability; 2) relationships; 3) new roles and functions.

The "outcome category" was considered the most important because the PSRO law focused on two of the category's measures—the quality of medical care and its costs. It was also noted that the categories can be weighted to reflect the value system of the evaluator.

The characteristics of other evaluation models were mentioned as well as the strengths and weaknesses of this study's evaluation framework and the biases of the data and interview process.
The conclusions were that PSROs were generally meeting the measurements in the "structure" and "process categories" in order to have their annual grant renewed, to reach the "full designation" classification and meet the requirements of the PSRO law. Further, it was found that from a systems model view, the results of the measurements in the "other tracer category" reflected organizational success.

However, in the most important category of outcome, the evaluation was mixed and inconclusive. The results of "perceived performance", one measure of outcome was felt to be determined by the value system of the individual, politics, and by presumptive evidence. The data related to quality, cost and utilization were also felt to be inconclusive, poorly substantiated, and insufficiently valid for firm conclusions.

There was discussion regarding the validity and use of utilization measures as indicators of performance and as a proxy for health costs. It was noted that the various ways in which costs are estimated affects the outcome of an evaluation. The questionable uses of the MCE and the reaudit as indicators of the quality care was also discussed, as were certain validity assumptions related to the MCE process, medical criteria and PSRO review in general.

Some research considerations were noted. The key concern was the immediate need to determine the relationships between quality of care, health costs, and utilization and how they act with each other. This can best be accomplished through carefully conceived and designed studies by professional
evaluators.

It was concluded that there was little evidence to support the claim that the PSRO program was favorably influencing the quality of care and health costs. It was further emphasized that the PSRO program must soon show reasonable evidence of accomplishment in those two legislated areas in order to assure the continuation of federal and community support.
APPENDIX A

A SAMPLE OF THE SCOPE OF PSRO RELATIONSHIPS

- About 46 Million Medicare and Medicaid Recipients
- About $66 Billion Dollars in Federal and State Expenditures for Medicare and Medicaid
- About 7,000 Short-Term Hospitals
- About 6,000 Skilled Nursing Facilities
- About 335,000 Practicing Physicians and Osteopaths
- About 100,000 Dentists
- About 500 Mental Hospitals
- Insurance Companies
- Congressional Representatives
- State and Local Medical Associations
- About 8,000 Intermediate Care Facilities
- About 7,000 Podiatrists
- About 18,300 Optometrists
- About 7,000 Clinical Psychologists
- About 15,000 Physician Therapists
- About 7,500 Occupational Therapists
- About 16,000 Chiropractors
- About $650,000 for Title V Maternal and Child Health Programs
- State Governments and All Health Related Departments
- About 200 Health Systems Agencies
- Various Industries
- National Health Associations

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APPENDIX B
INCIDENTS PRIOR TO PSRO

1. 1960's

A. Increase in Negligence Suits and Plaintiff Awards
B. Breaking Down of Physician Patient Relationship
C. More Dependence of Medical School and the Profession on Third-Party Payors
D. Ever Increasing Inflation
E. Massive Number of Consumer Complaints About Medicare and Medicaid Treatment
F. Insurance Coverage Being Weighted Toward Hospitalization
G. Overabundance of Hospital Beds
H. Future Planning of a Mechanism to Monitor a National Health System's Utilization and Quality of Care
I. Federal Government's Inability to Properly Administer and Manage the Mediplans
J. Overutilization of Drugs
K. No Utilization Review Being Done for Noninstitutional Services
L. Many Retroactive Denials of Payment Made by Decision of Nonphysicians
M. Built-in Bias of Hospitals and Physicians in the UR System
N. Increased Technology
O. Increased Demand for Access to Quality Medicine
P. New JCAH Standards Encouraging Quality Concerns
Q. Greater Social Concern for Health
R. Increasing Consumer Expectations for Good Quality Care
S. A More Sophisticated and Questioning Society
T. Increased Media Sensitivity to Health Issues
U. Increase Public Interest for More Control of Health Institutions
V. A Concern that Health was Becoming a Monopoly
W. Public Demand for Accountability for Federal Dollars

2. 1962 - B. Payne Developed Medical Criteria for Care Concept to examine performance

3. 1965 - Public Law 89-97 Passed, Creating Medicare, Medicaid and Utilization Review

4. 1966 - Darling case Holding Hospital Responsible for Quality

5. 1969 - Chicago Scandal

6. 1970's
   A. EMCRO Program Funded
   B. Request by Congress and HEW to Establish Program Review Teams
   C. Publication of "The Blue Book" Report by the Senate Finance Committee Staff on Medicare and Medicaid (Noting Failure of UR, Fraud, Abuse, etc.)
   D. AMA Proposed to Congress Establishment of Program Review Teams
E. Development and Introduction of the Initial PSRO Legislation

F. Increased Numbers of Poor Quality Occurrences and Continued Rise in Mediplan Expenditures

7. 1972 - Passage of Public Law 92-603, Which Included the Bennett Amendment
APPENDIX C

THE PSRO HOSPITAL DISCHARGE DATA SET

1. PSRO Identification (UHDDS Only)
2. Patient Identification
3. Hospital Identification
4. Date of birth
5. Sex
6. Race or ethnic group
7. Zip Code
8. Admission date
9. Discharge date
10. Attending physician
11. Operating physician
12. Diagnoses
13. Procedures
14. Disposition of patient
15. Expected principal source of payment
16. Total number of acute certified days used
17. Number of days assigned at admission
18. Admission certification process
19. Basis for assignment of initial LOS
20. Admission certification level of review
21. Total number of days certified
22. Total number of reviews referred to PA
23. Total number of extensions approved
24. Extension denial
APPENDIX D
EXAMPLE OF STANDARD PSRO DATA REPORTS

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PHYSICIAN UTILIZATION REPORT

FOR PERIOD: 01/01/79 TO 12/31/79  RUN DATE: 6/17/80

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BBBB - ****************************
CCCC - ****************************
DDDD - ****************************
EEEE - ****************************
FFFF - ****************************
GGGG - ****************************

EXCESS INDEX (DAYS OVER / DAYS UNDER)
APPENDIX E

EXAMPLE OF STANDARD PSRO DATA REPORTS

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ALL ADMISSIONS
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TOTAL FOR ALL HOSPITALS
CASES = 445 530 482 475 421 368 288
AV LOS  = 7.86 8.82 9.10 8.76 9.63 11.17 9.24
APPENDIX F

SAMPLE PSRO DATA ABSTRACT

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APPENDIX G
SAMPLE GENERIC CRITERIA INDICATORS OF QUALITY OF CARE

A. Hospital incurred trauma/injury requiring additional hospital days and/or transfer to a more acute level of care.

B. Surgical complication(s) requiring additional hospital days and/or transfer to more acute level of care.

C. Adverse drug reaction requiring additional hospital days and/or transfer to a more acute level of care.

D. Diagnostic and/or therapeutic procedure complication(s) requiring additional hospital days and/or transfer to a more acute level of care.

E. Polypharmacy tracer—two or more major tranquilizers (anti-psychotic drugs) ordered concurrently.

F. Medical record still incomplete thirty (30) days or more after discharge.

G. Selected elective surgical procedure performed without documented preoperative anesthesia evaluation.

H. Incident report filed/in medical record.

I. Unplanned/Unstaged return to operating room.


K. Primary discharge/final diagnosis not validated by available screening criteria.

L. Blood utilization tracer; selected elective surgical/procedure; type and cross-match for type and screen.

M. Selected Surgical Procedures:
   1. Internal Hemmorhoidectomy
   2. Cholecystectomy
   3. Inguinal Herniorrhaphy
   4. Abdominal/Vaginal Hysterectomy
   5. Transurethral Resection of Prostate (TUR)
APPENDIX H

STANDARD INTERVIEW QUESTIONS

1. What was the intent of the legislation?
   a. Do you feel there was a change in the intent locally or nationally? If so, how and what?

2. As you perceive them, what were the original goals of the PSRO program? Have they been met and how?

3. Does your data and analysis relate to and how, if so, to:
   a. The quality of care
   b. The cost of care?

4. What, in relation to the goals and intent you perceive for PSRO, are the shortcomings of PSRO? - in, e.g., the areas of administration, politics, health, economics, etc.?

5. Where is PSRO now? What is it doing?

6. Is PSRO a unique phenomenon in health care? If so, how?

7. What is the future, as you see it, on:
   a. The National level?
   b. The Local level?

8. In the best of all possible worlds, how could PSRO affect the health of the nation.

9. Tailored Questions
APPENDIX I

PSRO ACTIVITIES MANDATED BY THE
BENNETT AMENDMENT IN PUBLIC LAW 92-603

1. To Promote Effective, Efficient and Economical
   Delivery of Health Care Services of Proper Quality;
2. To Assure . . . That Services Will Conform to Appropriate Professional Standards . . . .
3. To Meet the Criteria to be a Qualified Organization;
4. To Assume Responsibility for the Review of Professional
   Activities for Determining Whether: (a) Services and Items are or were Medically Necessary; (b) The Quality of Such Services Meets Professionally Recognized Standards of Health Care; (c) In case such services . . . proposed to be provided in . . . an inpatient basis, . . . could, consistent with . . . appropriate medical care, be . . . provided on an outpatient basis or more economically in an inpatient . . . facility of a different type;
5. To Submit a Formal Plan for Being a PSRO;
6. To Have the Option to do Preadmission Review of Elective Admissions;
7. To Have the Option to Review Any Other Health Care Service Which will Consist of Extended or Costly Courses of Treatment;
8. To Publish the Types and Kinds of Cases it has Authority Over in Accordance With (Confidentiality) Regulations:
9. To Arrange for the Maintenance of and the Regular Review of Profiles of Care and Services Received and Provided, by Patient, Provider and Practitioner;

10. To Optionally Involve Nonphysician Health Care Practitioners in Such Activities;

11. To Encourage all Area Physicians to Participate as Reviewers;

12. To Provide Rotating Physician Membership of Review Committees;

13. Assure Review Committee Membership has Broadest Representation Feasible;

14. Utilize Medical Periodicals and Similar Publications to Publicize the Functions and Activities of PSROs;

15. To Utilize the Services of and Accept the Findings of Review Committees of Hospitals Who Have Satisfactorily Demonstrated Their Capacity to Do the Review Activities Effectively and Timely;

16. Perform Such Duties and Functions and Assume Such Responsibilities and Comply With Such Other Requirements by Regulation;

17. Collect and Maintain Relevant Data;

18. To Apply Professionally Developed Norms of Care, Diagnosis and Treatment;

19. To Develop and Execute Admission and Continued Stay Certification;
20. To Report Any Violation of "Obligations" to The Statewide PSRO Council Where Such Exists.
APPENDIX J

GOALS AND FUNCTIONS AS STATED BY THE NATIONAL PSRO COUNCIL AND OFFICE OF PSRO

National PSRO Council

1. To assure that the quality of care rendered at any point within the health care system is of uniformly acceptable quality;
2. To identify health care problems and work toward their improvement;
3. To improve health care through medical education;
4. To assure appropriate level, type and locations of services;
5. To affect improvements in physician practices (behavior) through use of the financing systems and sanctions, as appropriate;
6. To assure uniform and effective utilization review policy and practices.

Office of PSRO

1. Organizational Development
2. Development of Criteria, Standards and Norms
3. Implementation of Hospital Review (AC, CSR and MCE's)
4. Acquisition of Experience
5. Internal Administration
6. Professional Education and Training
7. Long Term Care Review
8. Ambulatory Care Review
APPENDIX K

INDIVIDUAL PSRO GOALS AS STATED IN CONTRACTS
FOR THE PLANNING AND CONDITIONAL PSRO

Planning PSRO

1. Develop An Organization Structure
2. Develop A Plan for Organizational Membership
3. Develop A Detailed Formal Plan for the Assumption and Implementation of Conditional PSRO Duties and Functions
4. Develop A Projection and Strategy For Obtaining Organizational Resources Required For Performance
5. Submit Periodic Progress Reports

Conditional PSRO

1. Apply Norms, Standards and Criteria To Admission and Continued Stay Review On All Titled Admissions
2. Perform Medical Care Evaluation Studies
3. Develop A Mechanism For Conducting Reconsiderations and Appeals
4. Perform Profile Analysis
5. Provide For Delegation of Review Activity To Short-Stay Hospitals As Approved
6. Develop and Implement Mechanisms to Integrate Review and MCE Findings With Exiting Programs for Continuing Health Education
7. Develop, Negotiate and/or Modify Memoranda of Understanding With Title V, XVIII, and XIX Agencies

8. Develop A Training Plan and Train All Personnel Necessary To Carry Out Their Duties

9. Provide Reports As Required

10. Develop and/or Implement Data and Confidentiality Plant

11. Develop, If Applicable, A Plan For the Establishment of An Advisory Group and Implement It

12. Develop A Formal Plan For the Subsequent Year

13. Develop or Modify A Plan For Monitoring Delegated Review
APPENDIX L

EXTRACTS OF HHS PSRO PERFORMANCE MEASURES

Guidelines for the Evaluation of
Minimum Standards of PSRO Performance and Compliance

1. Continued evidence of PSRO compliance in its structure and operations with Federal statutory and regulatory requirements. The general areas are:

   a. nonprofit professional association

   b. articles of incorporation and bylaws cover functions and requirements of PSRO and are consistent with statute and regulations.

   c. membership (priority PSROs only)
      (1) physician membership level of 25 percent or more of those eligible.
      (2) membership practices
         - open and voluntary
         - restricted to licensed physicians (M.D. or D.O.)
         - open eligibility for directorship or duty in PSRO
         - other membership conditions including mandatory payment of dues are prohibited.

   d. governing body (priority PSROs)
      (1) conduct
         - retains full authority and control over PSRO; frequent meetings with timely notification to members.
         - majority of physician directors required for quorum
         - voting on medical issues restricted to physician directors.
         - removal of directors for cause only by governing body membership or bylaws.
      (2) size which adequately represents members and allows for efficient operation
      (3) membership
         - no ex-officio members
         - positions reserved only to assure proportional ratio of MDs to DOs and/or geographic representation
<table>
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<tr>
<td>1. Acute Care Review Activities. (Total possible score 400)</td>
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<tr>
<td>a. binding review performed in 95 percent or more of area acute general hospitals or for 95 percent or more of area acute care hospital discharges*</td>
<td>150</td>
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<td>b. appropriate delegation and monitoring mechanisms</td>
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<td>(1) continued HSQB approved delegation criteria and procedures</td>
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<td>(2) documented evidence of remedial actions taken as result of periodic monitoring (i.e., follow-up monitoring report, revised hospital review plan)</td>
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<td>c. documented evidence of Regional Office approval of review of services in two of the following areas: (maximum score 100 points)</td>
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<td>(1) ancillary services (narrative report submitted to Regional Office)</td>
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<td>(2) physician services (narrative report or participation in a demonstration project)</td>
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*for each ten percent reduction, reduce weight by 25. e.g., 85 percent-125; 75 percent-100; 65 percent-75. Hospitals which are focused out remain under a PSRO's binding review authority. Delays in achieving full implementation due to insufficient funds do not apply.
APPENDIX M

EXTRACTS OF HHS PSRO PERFORMANCE MONITORING MEASURES

1.6.12 Percentage of board members who have attended board meetings (in person or via telephone meetings) in the past year. (POR 2M).
   a. less than 25 percent
   b. 26 to 50 percent
   c. 51 to 65 percent
   d. 66 to 80 percent
   e. greater than 80 percent

1.6.13 Simple majority of physician directors required for quorum' (i.e. 50% or greater).
   a. Yes
   b. No

1.6.14 Voting on medical issues restricted to physician directors
   a. Yes
   b. No

1.6.15 Removal of directors for cause only by governing body, membership or other bylaws provisions.
   a. Yes
   b. No

1.7 Do committees generally operate according to approved bylaws (Answer "yes" unless evidence to contrary)
   a. Yes
   b. No

1.8 Average number of committee and sub-committee meetings per committee in past 12 months in person or by telephone (exclude Executive Committee).
   a. more than 1 per committee
   b. more than 2 per committee
   c. more than 3 per committee
   d. more than 4 per committee
2.9 Submission of all required HCFA paper reports correctly completed for four most recent quarters. (Reports must be submitted on time with not more than one submitted within one month of the due date)

NOTE: Insert number of quarterly reports in the appropriate box in the appropriate column. Each row should total 4 (e.g., 1 HCFA 121 is due each quarterly reporting period or 4 HCFA 121's per year.)

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| 2.9.1 HCFA 111 Inpatient Review Implementation |   |   |   |   |
| 2.9.2 HCFA 112 Report of Status of Administrative Agreements |   |   |   |   |
| 2.9.3 HCFA 121 Hospital Review Summary |   |   |   |   |
| 2.9.4 HCFA 121-3 Denials Reconsiderations, and Appeals Report |   |   |   |   |
| 2.9.5 HCFA 122 LTC Review Summary (if applicable) |   |   |   |   |
| 2.9.6 HCFA 135 QRS Activity Report (if available) |   |   |   |   |
| 2.9.7 HCFA 141 Profile Analysis Summary |   |   |   |   |
| Sub Total |   |   |   |   |
| 2.9.8 % of Overall Total |   |   |   |   |

28 reports due, if reviewing LTC; 27 reports due if LTC is not being reviewed.

a. PSRO meets timely submission requirement by having over 50% of reports on time and the rest less than 1 month late.

b. PSRO does not meet timely submission requirement.
3.10 Demonstrated impact of PSRO Review as documented by PSRO data sources or profile analysis activity and reviewed by Regional Office as defined by objectives and as measured by:

(1) Number of review outcome objectives approved and tracked.
(2) Percent of review outcome objectives fully achieved or on schedule for achievement.

(NOTE: Above criteria applies to answering questions 3.10.1-3.10.5.)

3.10.1 Actual achievement of at least one prior year review outcome objectives which identified and corrected recognized PSRO utilization problems

A. Yes
B. No

a. one objective
b. two objectives
c. three objectives
d. four or more objectives

3.10.2 Correction of locally identified problems concerning hospital utilization taking into consideration national data sources

a. Yes
b. No

3.10.3 Correction of inappropriate incidence of surgical procedures identified by the PSRO taking into consideration national data sources

a. Yes
b. No

3.10.4 Correction of inappropriate and medically unnecessary utilization of ancillary services

a. Yes
b. No

3.10.5 Identifies and addresses the problem of substandard quality care

a. Yes
b. No
4. MEDICAL CARE EVALUATION (MCE) STUDIES

4.1 Percentage of required number of MCE studies performed

a. 25 percent or less
b. greater than 26-49 percent
c. greater than 50-84 percent
d. greater than 85-94 percent
e. 95-100 percent

4.2 Topics selected focus on known or suspected problem areas and usually result in corrective action. (Consider appropriateness of areawide and hospital specific topics selected; i.e., were topics related to major problem areas, frequent diagnoses or procedures and/or costly care or procedures?) (POR 30)

a. rarely demonstrates good topic selection
b. occasionally demonstrates good topic selection
c. usually demonstrates good topic selection
d. always demonstrates good topic selection

4.3 Evidence of PSRO follow-up to identified MCE study deficiencies (HCFA 135, i.e., reaudits)

Percentage of required reaudits performed in relation to initial MCEs

a. 25 percent or less
b. greater than 25-50 percent
c. greater than 50-75 percent
d. greater than 75-95 percent
e. 96-100 percent

4.4 PSRO monitoring of delegated review demonstrates the hospitals' ability and willingness to perform MCE studies

a. PSRO has no monitoring plan for MCEs
b. PSRO MCE monitoring plan is ineffective
c. PSRO MCE monitoring plan is effective in only some delegated hospitals
d. PSRO MCE monitoring plan is effective in most delegated hospitals
e. PSRO has an effective MCE monitoring plan
7.5 Evidence of areawide dissemination (i.e., profile results are shared with provider/practitioners) and follow up of profile analysis results (i.e., certain providers/practitioners requested to submit correction plan(s) with benchmark dates for corrections) (HCFA 141)

a. Never
b. Once per year
c. Twice per year
d. Three times per year
e. More than three times per year

7.6 Use of profiles to support focusing out or focusing in review activities (HCFA 141)

A. Yes
B. No

a. PSRO data system has identified significant problems
b. Remedies have been implemented in at least one instance
c. Problem correction has been documented

7.7 Current percentage of all focused-in review admissions which were selected on the basis of profile analysis

a. 0 percent
b. 0-20 percent
c. 21-40 percent
d. 41-75 percent
e. 76 or more percent

7.8 Profiles used to identify quality review study topics

a. None
b. One-Two
c. Three-Four
d. Five or more

7.9 Documentation of improvement in provider/practitioner performance in areas identified as deficient in earlier profile analysis

a. Too early to expect any impact
b. No impact found upon follow-up
c. Found impact on one problem in last 12 months
d. Found impact on 2 to 5 problems in last 12 months
e. Found impact on over 5 problems in last 12 months
8. EXTERNAL RELATIONS

8.1 Interactions with appropriate Health Systems Agency(s) (HSAs)

8.1.1 MOUs signed with contiguously located HSAs

a. No HSAs
b. Some of the HSAs
c. All HSAs

8.1.2 Interactions in past 18 months (circle as many answers as are applicable)

a. Limited or no interaction
b. HSA/PSRO have entered into a MOU to share data but not yet implemented
c. PSRO/HSA share special study data (i.e., utilization of alternative services to inpatient long term care; ratio of trained nurses to patients in long term care settings)
d. PSRO has provided HSA with hospital identified data within confidentiality restrictions
e. HSA/PSRO jointly implemented special initiative studies (i.e., discharge planning, CAT scanner utilization)
f. PSRO has generated statistically valid data to demonstrate PSRO/HSA impact through shared data activities

8.1.3 Special studies, other than routine data exchanges, in past 24 months (NOTE: Does not imply any special Federal funding)

a. Yes
b. No

8.2 The advisory group of HCPOTPs is representative of major practitioner groups and not provider groups

a. Yes
b. No
APPENDIX N

SAMPLE OF LETTER TO HOSPITAL REQUESTING ACTION AS A RESULT OF POP CLINIC

PROFESSIONAL STANDARDS REVIEW ORGANIZATION

October 6, 1980

To the Hospital Medical Staff and Administration

Dear Doctor:

On October 1, 1980, a Patterns of Practice Clinic presentation was given to your medical staff by representatives of our PSRO. We presented data profiles of utilization and quality of care at We Care Hospital.

Following are the concerns that were emphasized:

1. Total average length of stay for We Care Hospital is high compared to both Region and an average for a comparable patient mix, based on CPHA-PAS North Central Region norms.

2. Average preoperative length of stay for your hospital for all surgical procedures is high relative to the average preoperative length of stay for the area.

3. Principal Discharge Diagnoses of Chronic Ischemic Heart Disease and Unilateral Inguinal Hernia at We Care are associated with average lengths of stay that exceed Region norms and CPHA-PAS North Central Region norms by twenty percent or more.

4. The total average lengths of stay for 13 attending physicians exceeded averages expected for a comparable patient mix by twenty percent or more. The numbers of these physicians are attached as is the material.

Please analyze these points of concern and reply to us within 30 days from the date of this letter. Your reply should contain any explanatory information as well as any action. We request that your Utilization Review Committee perform a twenty chart microaudit for each of the identified physicians, focusing on the appropriateness of lengths of stay.
APPENDIX O
SAMPLE OF LETTER CITING ACTIONS TAKEN
BY THE HOSPITAL IN REPLY TO POP CLINIC AND DATA REQUEST

WE CARE HOSPITAL

October 25, 1980

Re: Patterns of Practice Clinic

Dear (PSRO Representative):

In response to your letter of October 6, 1980 including key concerns that were reported during the first Patterns of Practice Clinic for the We Care Hospital, we are moving ahead as follows:

Since items one through four relate to length of stay at We Care Hospital, it was decided to appoint a special committee at the Hospital to investigate each category in depth. This will include additional retrospective audits as well as individual case review. After an intense investigation, this committee has been commissioned to come to the Quality Evaluation Committee with recommendations to decrease the length of stay.

One recommendation previously in progress deals with the feasibility of a "On day of Admission Surgery Program" and this will specifically relate to the preoperative length of stay.

Regarding the average length of stay for specific physicians, we have initiated a plan to proceed with the microanalysis on a 20 case sample for each of the individual physicians. It was decided by the Medical Executive Committee that our internal procedure would be to first inform the physician involved that his length of stay exceeds the average and that some of his cases will be analyzed. The physician will be given the opportunity to personally sit in during the analysis. Of course, the next step will be counseling if appropriate and then monitoring and eventually disciplinary action if improvement is not evident.
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