

AD-A278 822**2**

1. AGENCY

August 1993

Final Report (07-92 to 07-93)

3. TITLE AND SUBTITLE

Defining the Role and Functions of the Utilization
Management Nurse Consultant at Keller Army Community
Hospital.

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7. PERFORMING ORGANIZATION

Keller Army Community Hospital
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26a-93

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

U.S. Army-Baylor University Graduate Program in
Health Care Administration
Academy of Health Sciences, U.S. Army (HSHA-MH)
Fort Sam Houston, TX 78234-6100

DTIC
ELECTE
MAY 03 1994
S G D

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION AVAILABILITY STATEMENT

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

Health care costs in the United States and, more specifically, in the Military Health Services System (MHSS) continue to rise at an unacceptable rate. In an effort to curb rising costs, military treatment facilities (MTFs) are implementing utilization management (UM) as part of their managed care programs. UM can be defined as a deliberate action taken by purchasers to manage health care costs and influence the hospital's and/or physician's decision-making process in order to increase the efficiency and appropriateness with which health care services are provided. At Keller Army Community Hospital (KACH), the UM nurse consultant is expected to be a key component of the UM program. This project develops the role and functions of the UM nurse consultant at KACH. By defining the most appropriate role and functions of the nurse consultant, KACH will move towards ensuring that appropriate, cost effective and high quality care is being rendered to all patients seeking treatment at KACH.

14. SUBJECT TERMS

Utilization management; utilization review; managed care;
nurse consultant.

15. NUMBER OF PAGES

52

16. PRICE CODE

17. SECURITY CLASSIFICATION
OF REPORT

N/A

18. SECURITY CLASSIFICATION
OF THIS PAGE

N/A

19. SECURITY CLASSIFICATION
OF ABSTRACT

N/A

20. LIMITATION OF ABSTRACT

UL

**Defining the Role and Functions of the
Utilization Management Nurse Consultant at
Keller Army Community Hospital**

A Graduate Management Project

**Submitted to the Faculty of
Baylor University**

**In Partial Fulfillment of the
Requirements for the Degree
of**

Master of Health Administration

by

Captain Christopher J. Hill, MS

May 1993

Accession For	
NTIS CRA&I	☒
DTIC TAB	☒
Unannounced	☐
Justification _____	
By _____	
Distribution /	
Availability Codes	
Dist	Avail and/or Special
A-1	

94-13130



94 5 02 013

ACKNOWLEDGEMENTS

This project could not have been completed without the contributions of many individuals. I would like to thank Lieutenant Colonel Ira F. Walton, III, for his mentorship, challenges, and complete support for me. Without his assistance this project would not have been possible. Secondly, many thanks are due to the numerous individuals who provided interviews, demonstrations, information, and anything else requested during the seven site visits that were a vital part of this research project. Finally, I thank my wife Catherine, whose love and support during the last year made the completion of this project possible.

Abstract

Health care costs in the United States and, more specifically, in the Military Health Services System (MHSS), continue to rise at an unacceptable rate. In an effort to curb rising costs, the Department of Defense has proposed implementation of the Coordinated Care Plan (Government Accounting Office [GAO], 1991). This plan operates under the same principles as civilian managed care plans like Health Maintenance Organizations. A key component of this plan is an effective Utilization Management (UM) program (Office of the Assistant Secretary of Defense, Health Affairs [OASD(HA)], 1992).

UM is defined as a deliberate action taken by purchasers to manage health care costs and influence the hospital's and/or physician's decision-making in order to increase the efficiency and appropriateness with which health care services are provided (Payne, 1987; Gray & Field, 1989). UM was introduced into the MHSS in 1988, when CHAMPUS expenditures and health care services came under the umbrella of programs being reviewed by the CHAMPUS Peer Review Organizations (N. Gidley, personal communication, October 1, 1992).

Current literature (Gray & Field, 1989; Baschon, 1990; Snyder, 1989) contains six generally accepted components of UM: preadmission review, admission review, concurrent/continued stay review, discharge planning, case management, and retrospective review. Research has shown that the application of these UM programs can result in a reduction of health care utilization and costs. (Feldstein, Wickizer, & Wheeler, 1988; Wheeler & Wickizer, 1989; Wickizer, Wheeler, & Feldstein, 1990)

This graduate management project develops the role and functions of the UM nurse consultant at Keller Army Community Hospital (KACH). By defining the most appropriate role and functions, KACH will ensure that appropriate, cost effective and high quality care is being rendered to all patients seeking treatment at KACH.

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CHAPTER I

Introduction

Conditions Which Prompted the Study

Health care costs in the United States continue to skyrocket at an unacceptable rate. Currently we spend \$23,000 a second, more than \$2 billion a day, and \$733 billion a year on medical care (Castro, 1991). The cost of medical care in the Military Health Services System (MHSS) has paralleled the spiraling costs in the civilian sector. According to Slackman (1991), in 1984, 2.8 percent of the defense budget—\$7.2 billion dollars—was spent to run this system. In 1990, the cost had risen to \$14.1 billion, or 4.8 percent of the defense budget.

As rising health care costs began to consume a larger percentage of the Department of Defense (DoD) budget, Congress became concerned and mandated that DoD pursue cost containment initiatives. Demonstration projects such as the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) Reform Initiative (CRI) and Catchment Area Management (CAM) were initiated (Gisin, 1990). After initial evaluations indicated some success in containing cost, the Office of the Assistant Secretary of Defense for Health Affairs (OASD[HA]) proposed a DoD-wide system called the Coordinated Care Program (CCP) in June of 1990 (Government Accounting Office [GAO], 1991). A major component of the demonstration projects and the CCP is an effective Utilization Management (UM) program.

Current CCP guidance from the OASD(HA) (1992) states that comprehensive UM programs must be established to ensure the appropriate

utilization of limited MHSS resources. Under Gateway To Care (GTC), the Army's coordinated care plan, utilization management is listed as one of the seven essential elements that must be included in every Medical Treatment Facility's (MTF) GTC plan (Beumler, 1992). Each MTF must develop and implement a plan which incorporates beneficiaries referred to CHAMPUS health care providers as well as those in the MTF direct care system. Suggested components of the plan include pre-certification, concurrent review, case management, discharge planning, and any other elements considered necessary for the UM process.

An additional requirement to perform UM functions is mandated by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO, 1992). The 1992 Accreditation Manual for Hospitals necessitates that "the hospital provides for and demonstrates appropriate allocation of its resources through an effective utilization review [management] program" (JCAHO, 1992).

Currently, UM is in its infancy at Keller Army Community Hospital (KACH). An aggressive UM program is required to ensure the appropriate and efficient use of the hospital's health care resources. The UM nurse will be a key component of the KACH UM program. A thorough review of the literature and an analysis of UM programs at both civilian and military facilities are needed to determine the role and functions of the UM nurse consultant as a component of the KACH's total UM program.

Statement of the Management Problem

Keller Army Community Hospital is challenged—by the OASD(HA), Health Services Command(HSC), and JCAHO—to establish a UM program that ensures

appropriate, cost effective and quality health care is provided for all eligible beneficiaries.

Literature Review

Definition of Utilization Management

The terms utilization management and utilization review (UR), often used interchangeably, render several different definitions when reviewing the literature. Payne (1987) states that UR is a review of a patient's record using defined criteria and/or expert opinion. Zusman (1990b) and Payne (1987) agree that UR focuses on the necessity, appropriateness, and efficiency with which care is provided. Baschon (1990) characterizes UR as a passive process which identifies but rarely resolves system inefficiencies.

Definitions of UM indicate that UM is the next evolutionary stage of UR, perhaps influenced by the goal of quality improvement espoused by Total Quality Management (TQM) and Continuous Quality Improvement (CQI). Baschon (1990) says that UM is a change in philosophy by the hospital staff, attempting to proactively improve the quality of care by ensuring its appropriateness and efficiency. The American Hospital Association (AHA) defines UM as "the planning, organizing, directing, and controlling of the health care product in a cost-effective manner while maintaining high quality care and contributing to the overall goals of the institution" (Zusman, 1990b). Payne's (1987) and Gray and Field's (1989) discussion of UM provides a synthesis of available UM definitions and philosophy: the deliberate action taken by payers/purchasers to manage health care costs and influence hospital's and/or

physician's decision-making to increase the efficiency and appropriateness with which health care services are provided.

For this project, the synthesis of Payne and Gray and Field will serve as the definition of UM. Since the literature suggests that UR activities are an integral part of UM (Payne, 1987; Zusman, 1990b; Baschon, 1990; Ermann, 1988), use of the term UM will encompass all UM and UR activities unless otherwise noted.

History of UM

Although UM has only recently come to the foreground as a tool for hospitals and third party payers (TPPs), its roots date back to World War II. Payne (1987) states that hospital committees formed during this period to monitor bed usage, an important concern due to the influx of wartime casualties. Other programs also began to develop, including several Blue Cross programs looking at admission appropriateness and length of stay (LOS). However, UM did not develop quickly until the federal government became a major payer for health care services, thus applying external pressure on the hospitals to control costs (Gray & Field, 1990; Payne, 1987; Ermann, 1988, Zusman, 1990b).

The Social Security Acts of 1965 created the Medicare and Medicaid programs, which provided Federal funding for the eligible elderly, disabled, and poor. With the rapid increase in federal expenditures for health care services also came pressure to contain costs. Public Law (PL) 92-603, the Social Security Amendments of 1972, directed the establishment of Professional Standards Review Organizations (PSROs), which monitored the

appropriateness and quality of care provided to Medicare and Medicaid patients (Gray & Field, 1990; Payne, 1987; Zusman, 1990b; Rowland & Rowland, 1984).

Although achieving some success, PSROs failed to contain spiralling costs and, in 1982, PL 97-248 created Peer Review Organizations (PROs) (Gray & Field, 1989; Ermann, 1988). PROs had the goal of ensuring that health care provided to Medicare and Medicaid beneficiaries was provided in the appropriate setting, medically necessary, and met professionally recognized quality standards (Gray & Field, 1989; Ermann, 1988).

In 1988, piggybacking on the Medicare PRO contracts, CHAMPUS expenditures and health care services came under the umbrella of programs being reviewed by the PROs (N. Gidley, personal communication, October 1, 1992). Medical services were reviewed on a state-by-state basis by the state PRO contractor. As part of the CCP, the DoD changed the PRO program to the MHSS Quality Management Program (QMP) (OASD[HA], 1992). The four regional contracts of the QMP (the regions mirror the current Fiscal Intermediary [FI] regions) provide the utilization management functions of preadmission certification, concurrent review, and retrospective review.

In recent times corporate America has become concerned with the cost of health care. The chief executive officer for Bethlehem Steel states that the steel industry's health care costs have doubled in the last decade and account for more than 15 percent of total employment costs. General Motors spent \$3.2 billion dollars, more than it spent on steel, on health care benefits in 1990 (Melville, 1992). As a result, many businesses currently utilize some form of managed care (HMO, PPO, etc.) or other internal health benefits program,

either of which provides a UM mechanisms to control costs (Gray & Field, 1989; Ermann, 1988).

The need for UM, as a mechanism to control costs in both the private and public sector, has gradually led to the development of a UM industry. Gray and Field (1989) state that in 1987 there were 158 private, independent UM companies. This number does not account for all of the UM departments located in managed care organizations such as HMOs, Preferred Provider Organizations, Independent Practice Associations and those departments internally run by commercial insurers similar to Blue Cross/Blue Shield. An example of the industry growth is the Mayo Clinic, which found that in a four year time frame it went from dealing with one UM program to working with 1,000 UM plans. Additionally, the AHA reports that hospitals may be required to deal with anywhere from 50 to 250 UM organizations on a regular basis (Gray & Field, 1989).

A final sign that UM has emerged as a major industry is regulation. Currently at least 15 states regulate UM activities and an additional 20 are considering similar measures (Burke, 1991). The American Managed Care and Review Association (AMCRA) has endorsed voluntary compliance with a set of standards developed by the Utilization Review Accreditation Commission (Burke, 1991).

Components of UM

After defining UM and briefly discussing its history, it is important to understand what are the generally accepted components of UM. Gray and Field (1989), Baschon (1990), and Snyder (1989) discuss the six components of

UM that are commonly addressed in the current literature. These components are preadmission review, admission review, concurrent/continued stay review, discharge planning, case management, and retrospective review. A synopsis of their discussions follows.

Preadmission Review (PAR)

Preadmission review assesses whether the proposed service/procedure is medically necessary and if the proposed site and level of hospitalization is necessary. A Registered Nurse (RN) usually reviews the facts of the case and applies them against a set of screening criteria. If the criteria are met, the admission is approved. When there is a question or criteria are not met, the case is referred to a Physician Reviewer (PR) who makes the final determination. PARs also offer the opportunity to ensure preadmission testing is accomplished, perform pre-op teaching, identify discharge planning needs and ensure any second surgical opinion or pre-procedure review requirements are satisfied. PAR is thought of as one of the most effective components of UM because it occurs prior to the hospitalization of the patient, thus reducing inappropriate, costly hospitalization and maximizing hospital productivity.

Admission Review

Admission review occurs after the patient is admitted, most commonly in cases where the admission was either emergent or urgent, with a requirement that review occurs within 24 - 72 hours of admission. Admission review may also be the first step of UM in hospitals that do not have PAR programs. The purpose of admission review is to determine the medical necessity and appropriateness of the hospital admission. These programs are often used in

conjunction with PARs, verifying the information provided during the preauthorization process. Even though admission review increases efficiency through evaluation of delays in service or treatment, identification of improperly scheduled procedures, and notation of discharge planning needs, the chance to prevent inappropriate admissions is lost because admission review occurs after the patient has been admitted.

Concurrent/Continued Stay Review

Concurrent review and continued stay reviews (CSR) are interchangeable terms that describe a process which reviews the length of stay for both urgent and nonurgent admissions. Inpatient hospitalization is reviewed to ensure that the hospitalization is still medically necessary and that the appropriate treatment is being administered to the patient. A common time frame for review cycles is three to five days. Cycles are flexible because of the variance in diagnoses and/or procedures performed.

Discharge Planning

Discharge planning is an ongoing function that occurs during PAR, admission review, CSR, and case management. The purpose of discharge planning is to assess the patient's needs for appropriate medical treatment after discharge from the hospital and facilitate a timely and appropriate discharge. Planning starts during the preadmission/admission process. The hospital staff, in conjunction with the family and any other required agencies or personnel, identifies special needs that the patient may require after discharge. Then, the hospital discharge planning personnel work to identify and facilitate appropriate

alternatives to inpatient care when such care is no longer medically necessary or appropriate.

Case Management

Case management attempts to identify the small group of beneficiaries who potentially incur large medical expenditures due to prolonged illness, lengths of stay, complicated procedures or other circumstances. Once cases are identified, the patients' needs are assessed and all attempts are made to coordinate medically appropriate care in the most cost effective manner. The focus of case management normally centers on moving patients from an inpatient acute care hospital setting to less costly alternative setting such as their homes. Case managers often have flexibility in terms of modifying the benefits package when managing high cost patients, especially when they can arrange medically appropriate but less expensive care.

Retrospective Review

The retrospective review function of UM is what has been historically known as utilization review. Retrospective review assesses the information provided during PAR, admission review, CSR, and all other aspects of the medical care provided for the patient to determine whether the services provided were medically necessary and provided at the appropriate site or level. An additional use of retrospective review is to analyze practice patterns of physicians and hospitals. This information can be used as an educational tool for providers or hospitals and when hospitals are making decisions regarding privileging or contracting with physicians.

Who Does UM?

The UM functions required for conducting PAR, admission review, CSR, discharge planning, case management and retrospective review are conducted by a variety of professionals. These include medical records professionals, nurses and physicians. However, current literature suggests that UM functions are predominantly executed by nursing personnel.

Howe (1992), Zusman (1990b), and Paranjpe, Strumwasser, Ronis, Bartzack, and Zech (1989) discuss the nurse as the primary person associated with the UM process. Baschon (1990) states that the UM staff characteristically is composed of nurses or medical records professionals. She states that nurses bring clinical skills and knowledge of patient care protocols to the UM staff at a lower price than physician reviewers. AmeriPRO, a CHAMPUS regional UM contractor, utilizes five registered nurses (RN) for the preadmission/preprocedure review and retrospective review processes (AmeriPRO, 1992). AmeriPRO also employs one medical records professional as a subject matter expert on Diagnosis Related Group (DRG) coding. Physician advisors (PA) are used on a consultant basis to review all adverse determinations.

A recent article by Fiscus (1993), reporting on a GAO study of 79 UM organizations, emphasized the dominant role of nurses in the UM profession. The GAO report states that RNs conduct the majority of first-level reviews, with physicians primarily involved in adverse determinations and the appeals process. In the area of case management, 80% of the surveyed organizations gave RNs staff authority in the areas of negotiating lengths of stay, place of

service, type of service, choice of provider and developing treatment plans. Additionally, staff authority was given to RNs involved in the preadmission review process. Ninety-seven percent of the organizations allowed RNs to authorize requests without modification, 81% allowed authorization of shorter lengths of stay, and 70% allowed the RNs to convert from an inpatient to outpatient setting.

Health Services Command (HSC) has recognized the potential for RNs to conduct UM in the Gateway To Care (GTC) program, detailing non-traditional RN roles that may be appropriate for MTF facilities to consider implementing as part of their coordinated care plan (HSC, 1992). These roles include the previously discussed UM roles of case manager, precertification nurse, and utilization review nurse (this position includes the functions of concurrent stay and retrospective review). A framework for Army nursing to pursue case management was further discussed in the April 1993 HSC Commander's notes (HSC, 1993a). This framework includes RNs: (1) interacting with providers and clients for the purpose of assessing, educating, planning, coordinating and delivering appropriate care; (2) targeting patient populations that are a high risk for problems associated with complex health care needs, and (3) maximizing continuity of care, spanning the outpatient and inpatient needs.

Screening Criteria

Payne (1987) identifies screening criteria as a system or instrument used to identify inappropriate utilization. Baschon (1990) states that screening criteria describe a set of clinical data elements, providing "an objective means to identify cases where there may be a question about the medical necessity or

appropriateness of hospitalization, or a question about the quality of care given." While not historically identified as a component of UM, screening criteria have become the basis on which most RN first-level UM review decisions are made (Payne, 1987; AmeriPRO, 1992; Zusman, 1990b; K. Aubrey, personal communication, September 29, 1992).

Three of the most commonly used screening criteria are the Appropriateness Evaluation Protocols (AEP), Standardized Medreview Instrument (SMI), and Intensity of Service/Severity of Illness/Discharge Screens-Appropriateness (ISD-A) systems (Strumwasser, Paranjpe, Ronis, Share, & Sell, 1990; Paranjpe et al., 1989; Zusman, 1990b; Payne, 1987; Goldfield, Pine, & Pine, 1991; Baschon, 1990). These are characterized as explicit review methods, meaning they provide specific criteria for the reviewer and have a detailed process for the review (Payne, 1987). A study conducted by Strumwasser et al. (1990) found the AEP and ISD-A moderately reliable and valid for judging medical admissions and days of care, while the SMI's low scores indicated it was not sufficiently reliable for judging individual medical cases.

UM Effects on Cost and Utilization

Until recently, no scientific research quantified the effects that UM can have on health care utilization and costs. A research effort conducted by Feldstein, Wickizer, and Wheeler is cited in the current UM literature (Ermann, 1988; Strumwasser, Paranjpe, Ronis, Nastas, Livingston, & Share, 1989; Zusman, 1990b) as being the most complete empirical analysis of the utilization and cost effects of UM (Feldstein, Wickizer, & Wheeler, 1988; Wickizer,

Wheeler, & Feldstein, 1989; Wheeler & Wickizer, 1990). A summarization of the study and their articles follows.

In their first article, Feldstein, Wickizer, and Wheeler (1988) analyzed claims data from 222 groups of employees over a two year period to determine the effect UM programs had on health care utilization and costs. The UM programs in place during the research were preadmission certification, on-site review, and concurrent review. The on-site review was an admission review performed at the hospital.

The researchers used regression analysis to determine the effects of UM, allowing them to control for other variables which may have influenced the utilization of health care services. UM had statistically significant negative effects on all categories except Length Of Stay (LOS). This resulted in a 12.3 percent ($p < .001$) reduction in hospital admissions per 1000 insured persons and 8.0 percent ($p < .05$) fewer inpatient days. Additionally, routine hospital expenditures were reduced 8.9 percent ($p < .05$) and ancillary services were 14.8 percent ($p < .01$) lower. The overall result was an 8.3 percent reduction of medical expenditures per insured person (Feldstein, Wickizer, & Wheeler, 1988).

Feldstein et al.'s study suggests that UM activities could have a significant effect on hospital use and medical expenditures. In monetary terms, the estimated savings to cost ratio that could be expected when implementing the UM programs studied would be 8.5:1 for an average group of beneficiaries and 28.3:1 for beneficiaries who have a high baseline rate of use. A final significant

finding of the authors is that the effect of UM appears to be a one-time effect of savings that continues, but does not increase or decrease, over time.

In a follow-up study, Wickizer, Wheeler, and Feldstein (1989) tested an empirical linear model to compare utilization and expenditure rates of groups operating under UM and groups that did not. The same claims data as used in the previous article, updated with a third year, were utilized for the testing of this model.

Using weighted least squares regression analysis, Wickizer et al.'s model accounted for approximately 50 to 60 percent of the variance in utilization (R^2 values ranged from .5 to .6 for the three equations). A regression coefficient of -3.7 indicated that groups operating under UM had almost four fewer admissions per 1000 insured persons per quarter than groups not operating under UM. The UM effect on admissions appeared to have reduced hospital inpatient utilization by 20 days per 1000 insured persons per quarter. Under UM programs, total medical expenditures per insured person were reduced by approximately \$56 per year. The authors reiterate the point that the effects of UM appear to be a one-time savings and does not affect the rate of hospital expenditures or usage over time.

In a third article, Wheeler and Wickizer (1990) attempted to relate health care market characteristics to the effectiveness of UM programs. Their analysis of the data (data was from the same source as previous two articles) supported the conclusion that the presence of certain external factors would influence the effectiveness of UM. The authors found that UM was more effective in reducing inappropriate admissions, inpatient days, inpatient expenditures, and total

health care expenditures in health care markets that were characterized by low hospital occupancy, low HMO enrollment, and high hospital admissions per capita.

UM Effects on Quality of Care

As UM becomes a common tool for attempting to control rising health care costs, there is concern that UM could have a negative impact on the quality of health care provided to patients (Zusman, 1990a; Ermann, 1988; Hurst, Keenan, & Minnick, 1992; Gray & Field, 1989). Conversely, an opposing argument can be made that UM will increase the quality of health care that is delivered.

Payne (1987) and Strumwasser et al. (1989) state that high quality of care is more likely assured when the duration, frequency, intensity, level and location of care is appropriate. Baschon (1990) states that when improvement occurs in the appropriateness of care, quality improves. Ensuring the appropriateness of health care services is the basis of UM programs. A good example is AmeriPRO, a regional CHAMPUS UM program. Cases are reviewed for admission necessity, invasive procedure necessity, discharge stability, appropriateness of setting, medical necessity, and appropriate standard of care (AmeriPRO, 1992).

Payne (1987) and Strumwasser et al. (1989) extend the argument that UM increases quality of care by stating that UM will decrease the chances of patients acquiring nosocomial infections or iatrogenic illnesses. This reduction occurs because only medically necessary procedures and tests are performed.

Additionally, these procedures and tests are performed in the appropriate setting due to UM monitoring.

Zusman (1990a) also states that quality of care can't be compromised by UM. Quality is not compromised because the health care system has countervailing forces built into the system which protect quality. These forces are the traditional quality assurance system, the ethical obligations that every health care professional has to their patient, and fear of malpractice suits.

Purpose

The purpose of this project was to develop the function and roles of the UM nurse consultant at Keller Army Community Hospital by a review of the literature and an analysis of UM programs currently used by civilian and military hospitals.

CHAPTER II

Method and Procedures

A thorough review of the literature was conducted to trace the history of UM, various components of UM programs, and identification of those components that have been cited as being effective in containing health care costs.

Site visits were conducted to the following organizations: (1) AmeriPRO, the CHAMPUS regional UM office; (2) the Medical and Utilization Management Programs (MUMPS) office; (3) Castle Point VA Hospital; (4) St. Luke's Community Hospital; (5) Evans Army Community Hospital at Ft. Carson, Colorado; (6) Blanchfield Army Community Hospital at Ft. Campbell, Kentucky, and; (7) Martin Army Community Hospital at Ft. Benning, Georgia. Research was conducted through interviews with key individuals, data collection, and observations of personnel directly involved in UM programs. Analysis of all the information collected during these visits was used to identify those methods that have been successful in containing costs and determining if and how they could be implemented at KACH.

Current guidance and information was sought from Health Services Command and OASD(HA). This information was obtained by researching policy guidelines, personal communications and attendance at the Coordinated Care Conference.

Interviews and data collection were also conducted at KACH. To tailor the UM program to meet the needs of the hospital, key individuals were interviewed to provide their input. These individuals included the Commander, Deputy

Commander for Clinical Services (DCCS), Deputy Commander for Administration (DCA), Chief Nurse, Quality Improvement Coordinator (QIC) and the Chief of Coordinated Care (C, CCD)

Appropriate utilization and cost data were collected and analyzed to determine where the UM program needs to focus. Sources of this data included U.S. Army Patient Administration Systems and Biostatistics Activity (PASBA) II reports, Tri-Service CHAMPUS Statistical Database Project (TCSDP) reports, the CHAMPUS Health Care Summary Report, catchment area reports generated by the MUMPS office, and KACH workload data generated by the Resource Management Division (RMD).

CHAPTER III

RESULTS

External Review Organizations

AmeriPRO

AmeriPRO is the CHAMPUS UM contractor for the northeast region. Research at AmeriPRO consisted of several briefings with the AmeriPRO CHAMPUS director and direct observation and interviews with personnel who perform the UM functions of preadmission/precertification, retrospective, generic quality and physician advisor review. All reviews at AmeriPRO, with the exception of the physician advisor reviews, are conducted using an automated InterQual system that is on-line directly to the CHAMPUS Records Center.

Preadmission/precertification review is performed for 11 specific diagnoses and procedures that are delineated by CHAMPUS. These diagnoses and procedures were selected by CHAMPUS because they were either high cost (e.g., neonates and coronary artery bypass graft) or had a history of inappropriate admissions or utilization (e.g., simple pneumonia and c-section/removal of fetus). Case selection for retrospective review is primarily directed by the MUMPS office. CHAMPUS generic quality screens, part of the automated screening process, are applied to all cases. Any adverse determinations during the preadmission/precertification, quality or retrospective review processes require physician advisor review and approval. The primary result of this visit was an understanding of how a civilian UM organization applies the UM techniques of

preadmission/precertification, retrospective, and generic quality reviews to the CHAMPUS-funded area of the MHSS.

MUMPS Office

The MUMPS office is responsible for oversight of the CHAMPUS Regional Review System, Regional Records Centers (CRRS), and Records Center (CRC). Research consisted of briefing with the Director of the MUMPS office and several conversations with the assistant director. The assistant director furnished and explained several different CHAMPUS UM reports that the MUMPS office provides to MTFs upon request. Further discussion centered on the possibility of providing access to the automated system used by the CRRSs to MTFs for internal UM. Personnel at the MUMPS office provided a large amount of information concerning how the automated UM system currently used to monitor CHAMPUS-funded health care can be utilized by MTFs to monitor care provided to beneficiaries both internally in the MTF and in civilian hospitals.

Other Than DoD Hospitals

Castle Point Veteran's Administration (VA) Hospital

The Castle Point VA hospital is located just south of Poughkeepsie, New York, on the banks of the Hudson River. This hospital is similar to a DoD facility in the sense that it is federally funded and has the mission to provide health care for a defined beneficiary population.

UM is at an infancy stage at Castle Point. In the past, UM was important only as it related to the VA Medical Care Cost Recovery (MCCR) program. This program is similar to the DoD Third Party Collection (TPC) program, where the hospital is able to bill patients' third party insurance companies for care

rendered in the VA facility (B. Shane, personal communication, February 23, 1993). UM is only used to perform preadmission certification and concurrent review, ensuring that collections from third party payers are maximized.

A recent pilot study by the VA on the use of the InterQual ISD-A system (Veteran's Administration [VA], 1992) provides an impetus for VA facilities to implement internal UM. The study, which found the ISD-A criteria both valid and reliable in determining appropriateness of admissions, indicates that 40% of patients admitted to acute care beds could have been cared for at less acute and expensive levels. In a time of reduced resources, the VA study provides evidence that considerable savings can be realized by utilizing the ISD-A criteria to monitor the appropriateness of acute admissions.

St. Luke's Community Hospital

St. Luke's is in the city of Newburgh, New York, twenty miles north of West Point. The hospital is located in a poor, downtown section of the city and has a large Medicare/Medicaid payor population (A. Brown, personal communication, February 3, 1993).

UM is not a high priority at St. Luke's. UM and Quality Assurance (QA) are combined in the same office, with the director more concerned about QA than UM. Two nurses perform the functions of obtaining preadmission certifications and conducting concurrent stay reviews, but the management effort does not emphasize or encourage an aggressive approach to UM.

Army Hospitals

Three Army hospitals, Blanchfield Army Community Hospital (BACH) at Ft. Campbell, Evans Army Community Hospital (EACH) at Ft. Carson, and Martin

Army Community Hospital (MACH), were chosen for site visits. Selection of these sites was based on guidance from the HSC Quality Management Office (D. Flannery, personal communication, August 1992) that suggested these facilities had three of the best programs in HSC.

Blanchfield Army Community Hospital (BACH)

Research conducted at BACH included interviews with the DCCS, DCA, QI Coordinator, CCD Chief, precertification nurse and case manager. A division of UM duties has occurred, with QI having primary responsibility for conducting UM internally in the MTF and the case manager having UM responsibility concerning patients admitted to civilian health care facilities (Potter, Morris, & B. Smith, personal communication, November 2, 1992). The case manager works for the CCD, while the precertification nurse and other personnel concerned with internal UM work for the QI coordinator.

Quantification of cost savings and improvement in quality of care was difficult to find. While the internal program concurrently reviews all admissions and lengths of stay, no cost savings have ever been computed. Case managers have just begun specifically tracking cost avoidance/savings generated by case management. The CCD estimates that, through case management, BACH has achieved cost avoidance/savings of approximately \$1.1 million dollars since the inception of the program in January 1992.

Evans Army Community Hospital (EACH)

Research at EACH consisted of interviews with the DCA, psychiatric case manager, administrator for the Department of Psychiatry, UM coordinator, outpatient oncology coordinator, home oxygen coordinator and targeted health

care management coordinator. In the initial interview, the DCA stated that senior hospital management thinks UM is the most important program in the hospital and good UM will be essential for the hospital to stay financially viable (W. Inazu, personal communication, March 22, 1993). Specifically, he noted that case management is important for both cost savings and improvement of quality of care.

The targeted health care management coordinator (THCMC), who has a nursing background, is the key individual in the EACH UM program (W. Inazu, T. Jordan, & G. Trantow, personal communication, March 23, 1993). This individual is essential in performing the case management function for EACH. She identifies patients who have complex or special health care needs and ensures coordination of inpatient and outpatient resources, from both military and civilian sources (EACH, 1993; Grebenstein, 1993). In Fiscal Year (FY) 92, EACH management estimates the work of the THCMC resulted in a cost avoidance of \$6.9 million dollars (Grebenstein, 1993). This figure represents 38% of EACH's total CHAMPUS expenditures of \$18.2 million in FY 92.

Martin Army Community Hospital (MACH)

Limited research at MACH revealed that the strength of the hospital UM program is in the monitoring of contracts and partnerships. A spreadsheet was developed which enabled personnel assigned to the CCD to monitor charges, services performed, and utilization trends. The drawback to the monitoring process is that it is time and manpower intensive, requiring two full-time equivalents (FTEs) (H. Bottoms, personal communication, November 4, 1992).

Case management is also evolving as an important UM tool at MACH, but it has not reached the level of sophistication found at EACH and BACH.

DoD/HSC Guidance

Guidance from DoD and HSC concerning the implementation of UM programs is limited. Most guidance is in the form of policy letters (OASD[HA], 1992; HSC 1993b; Beumler, 1992) and memorandums (HSC, 1992; HSC, 1993a).

DoD guidance, promulgated through 1992 CCP policy guidelines, states that MTFs must establish comprehensive UM programs that ensure the appropriate utilization of scarce MHSS resources. No advice was rendered on how MTFs should organize, staff or implement a UM program. Recent guidance from DoD, provided in HSC CCD Update #19 (1993b), strongly suggests that the InterQual ISD-A criteria be used in the MTFs UM program. Admiral Martin, acting Assistant Secretary of Defense(HA), states that the InterQual ISD-A system currently utilized by the CHAMPUS regional UM contractor should be implemented for use by every MTF.

Initial HSC policy is general and vague in nature. A 1992 policy letter (Beumler, 1992) states that UM is one of the essential seven elements that must be included in every MTF's GTC plan. Again, no definitive instructions are provided. More recently, a HSC memorandum and Commander's notes (HSC, 1992; HSC, 1993a) describe several UM roles that are appropriate for nursing personnel to fill. HSC most actively advocates case management, which is the process whereby patients with complex health care needs are targeted and managed by a nurse case manager to reduce cost and improve quality of care.

Data Analysis

Several different sources were utilized to gather workload and cost data. Workload and cost were sought to assist in developing the most effective role the NC could perform. DRG and LOS data for KACH were compiled from distributed reports (Patient Administration Systems and Biostatistics Activity [PASBA], 1992). CHAMPUS data were gathered from the most recent CHAMPUS Health Care Summary Report (HCSR)(CHAMPUS, 1993), TCSDP reports (HSC, 1993c), and CHAMPUS utilization and cost reports received from the MUMPS Office (Medical and Utilization Management Program Office [MUMPS], 1992).

PASBA Data

The RUC-257 report indicates that the average LOS at KACH from 1 July 1991 to 30 June 1992 was 2.7 days. To determine if KACH had lengths of stay that were out of the ordinary when compared to peer group hospitals, further study was completed by looking at the LOS for the top 10 DRGs at KACH.

The LOS for the top 10 DRGs report compares KACH's top 10 DRGs with the peer group (active duty only) and with CHAMPUS and the peer group (for other than active duty only) lengths of stay. In the other than active duty top 10 DRG category, only DRG 039 (lens procedure with or without vitrectomy) had a LOS longer than the LOS norm. However, only 4.6% of these bed days, or four excess bed days for the entire year, were greater than the outlier threshold. The active duty top 10 DRG category had two DRGS, DRG 222 (knee procedures age < 70 without complications) and DRG 232 (arthroscopy) that have LOSs longer than the LOS norm. This can be attributed to the fact that

KACH has four orthopedic surgeons who perform a large percentage of their operations on cadets. Since the hospital is limited in its ability to discharge the cadets back to the barracks, the cadets often stay an extra day in the hospital.

CHAMPUS Data

CHAMPUS HCSRs are supplied to the MTF on a quarterly basis. These reports reflect catchment area CHAMPUS costs for a twelve month period and routinely arrive at the MTF five to six months after the "through" date. Data reported includes cost data on inpatient hospital services, inpatient professional services, and outpatient professional services. Data are aggregate in nature and may be good for identifying high cost CHAMPUS areas, but not making timely management decisions. When analyzing the most recent KACH HCSR, high cost areas (defined as > \$100,000 in total government cost) included cardiology (vascular disease), pulmonary/respiratory, obstetrics, general surgery, orthopedics, psychiatry group I, and psychiatry group II.

TCSDP reports vary in content (e.g., CHAMPUS catastrophic payments and outpatient nonavailability statements). They are published on a quarterly or ad hoc basis. Similar to the HCSR report, the TCSDPs provide aggregate data on CHAMPUS costs and account for the catchment area's CHAMPUS activity during a specific time frame. However, TCSDPs fail to provide an accurate picture of the number of patients served, the true cost of services, and when and where the care was rendered (Buchnowski, 1993).

Reports generated by the MUMPS office provided specific data on CHAMPUS catchment area activity. Report CH0772, Number of Cases by DRG, identifies high volume, high cost DRGs that would be potential diagnoses

for case management. Report CH0773, Number of Cases by DRG within Facility, shows the volume and cost of CHAMPUS admissions at all catchment area hospitals. High volume and cost facilities are excellent candidates for KACH to develop a working relationship with to manage these CHAMPUS costs. Versions 1 and 3 of report CH0774 detail multiple admissions by patient and facility. These reports are useful in identifying chronic, expensive users of CHAMPUS as potential candidates for case management. MUMPS reports used for this research project were based on records received from December 1991 to October 1992.

CHAPTER IV

DISCUSSION

Role of the UM Nurse Consultant

JCAHO (1992), OASD(HA) (1992) and HSC (Beumler, 1992) have all mandated that KACH establish a comprehensive UM program to manage limited health care resources. KACH's UM nurse consultant (NC) is going to be a key component of the hospital's overall UM program. The issue facing KACH is how to best utilize the UM nurse consultant (NC) to comply with this mandate and ensure that appropriate, cost effective and quality health care is provided for eligible health care beneficiaries.

When defining the role of the NC, several questions need to be answered. Should the focus of the UM NC efforts be internal at KACH, external at civilian facilities where beneficiaries receive care, or a combination of both? Which, if any, of the six UM functions should the NC perform? What data are available to assist the NC? How will the role developed for the NC meet the mandated regulatory requirements?

Internal or External Focus

Data analysis and interviews led to a conclusion that the focus of the NC should be on care provided external to KACH. PASBA reports (1992) reveal that KACH has an average LOS of 2.7 days and an average census of 27 patients. Discussions with LTC Walton (personal communication, October 1992) and COL Inazu (personal communication, March 23, 1993), DCAs at KACH and EACH, stressed the fact that KACH has fixed costs to take care of a small number of low acuity patients. These costs, which include areas such as

personnel and utilities, would essentially remain the same despite a minor reduction in census and/or LOS. Since KACH already has a combined medical/surgical ward and only one ward each in the areas of obstetrics and intensive care, no efficiencies can be gained through a combination or elimination of wards.

LOS data for the top 10 DRGs treated at KACH also does not support a focus on internal UM. When analyzing the LOS for the top ten DRGs (PASBA, 1992) of other than active duty patients treated at KACH, only DRG 039 (lens procedure) had a longer LOS than the peer group and CHAMPUS norms. The effect on hospital resources was minimal because DRG 039 accounted for only four excess bed days during the year. With active duty patients, DRGs 222 (knee procedure) and 232 (arthroscopy) were the only DRGs that had longer LOSs than the peer group norm. A probable cause of this deviation is that cadets, who comprise 57% of the orthopedic bed days, have an average LOS 1.1 days greater than the average of all other KACH orthopedic patients. Because returning to the barracks requires increased walking and movement up and down stairs, cadets often stay an extra day in the hospital to ensure their recovery is not impaired. The inability to send cadets back to the barracks is an environmental factor unique to the military that UM will not be able to mitigate.

A final factor that supports not having an internal focus is the appropriateness and quality of medical care provided in the MTF is currently monitored through several mechanisms. The traditional Quality Assurance (QA) program monitors appropriateness and quality through external peer review, departmental peer review, surgical case review, blood usage review, and

various other required QA reviews (M. Demers, personal communication, April 1993). Appropriateness of procedures and admissions of patients with private health insurance is monitored by the UM department of the patient's health insurance company. During the preadmission process the TPC clerk obtains the necessary authorizations to ensure that the hospital is reimbursed for all care that is provided to patients with private health insurance (A. Zemec, personal communication, April 1993).

KACH, similar to most DoD facilities, historically made little effort to manage health care dollars spent outside of the hospital. The majority of these dollars were CHAMPUS dollars, and the MTF had no authority or responsibility concerning how this money was spent. This mentality has changed because MTFs are now responsible for managing CHAMPUS dollars within their catchment area. Data analysis, interviews, and the literature suggest that a UM NC can have considerable impact on the cost and quality of care provided external to the MTF.

The UM functions that KACH's NC could perform are those identified in the literature review (Gray and Field, 1989; Baschon, 1990; Snyder, 1989), research site visits, and guidance from HSC (1992; 1993a) as functions that reduce inappropriate utilization of health care services. These functions are preadmission review (PAR), admission review, concurrent/continued stay review (CSR), discharge planning, case management and retrospective review. The remainder of this section develops the role of the KACH NC through a discussion of: which, if any, of these six functions the NC should perform; what elements of the research support this decision; what data are available to assist

the NC, and; how will the newly developed role of the NC meet the mandated requirements to perform UM?

Preadmission Review (PAR)

PAR is a function the NC should perform on a limited basis. PAR would be limited to certifying the appropriateness of admissions when patients request or are given Non-Availability Statements (NAS) (J. O'Dea & M. Demers, personal communication, April 1993; R. Buchnowski, personal communication, October 1992). CHAMPUS inpatient procedures and diagnoses which already require PAR would not be reviewed by the NC. AmeriPRO already has PAR responsibility for these procedures and diagnoses (AmeriPRO, 1992; K. Aubrey, personal communication, September 28, 1992).

Admission appropriateness should be determined using valid and reliable criteria. InterQual ISD-A criteria have been proven to be reliable and valid in determining the appropriateness of admissions (Veteran's Administration(VA), 1992; Strumwasser et al., 1990). InterQual criteria are currently available at KACH, so no cost will be incurred by the hospital. NC use of InterQual criteria to perform PAR will also align KACH with recent DoD guidance that strongly encourages MTF use of InterQual criteria in its UM program (HSC, 1993b).

Admission Review

Admission review is a function that the NC should perform on a limited basis. Certification of admission appropriateness for the eleven specified inpatient CHAMPUS procedures and diagnoses that require AmeriPRO PAR would not be duplicated by the UM NC. Grebenstein (personal communication, March 22, 1993) and Smith (personal communication, November 2, 1992)

identified four sources of cases that EACH and BACH have determined require admission review. These cases are transfers from the emergency room (ER) to civilian hospitals, CHAMPUS admissions to catchment area civilian hospitals, NAS requests that are submitted retrospectively, and all Active Duty (AD) admissions.

The NC at KACH can easily certify all ER transfers, retrospective NAS requests, and AD admissions. However, it is not practical or cost effective to certify all CHAMPUS admissions to every catchment area civilian hospital. MUMPS report CH0773 is a good tool to identify hospitals that have high CHAMPUS volume and costs. In CY 92, five civilian hospitals had CHAMPUS reimbursement rates greater than \$23,000 (range was \$23,000 to \$123,000) and utilization rates higher than 15 (range was 15 to 26). These hospitals warrant the monitoring of admissions by the NC. Two additional hospitals in close proximity to KACH would be monitored because they have a total of 24 admissions and \$24,000 in CHAMPUS costs.

Admission appropriateness will be determined through the use of InterQual criteria screens. Criteria will be applied to ER transfers, retrospective NAS requests, AD admissions and CHAMPUS admissions to specified hospitals. Grebenstein (1993) developed two forms which provide data on the patients admitted to civilian facilities. One form has the patient demographic and insurance data (see Figure 1). The second form is a quality review worksheet which provides a synopsis of all pertinent clinical aspects of the admission (see Figure 2). Both of these forms are excellent tools for the NC to use when performing admission review and provide clinical information if the patient is identified for CSR or

FIGURE 1: PATIENT DEMOGRAPHICS AND INSURANCE DATA

PATIENT NAME:			MR #	
SEX	EC:	AGE:	DOB	ID:
ADMIT:			DISCHARGE:	
IP BED:	ACCOM:	UNIT:	SVC:	
ADM DIAG:				
ADM:			PRIMARY:	

=====PATIENT INFORMATION=====

STREET:		EMPLOYER:	
CITY		TITLE:	
STATE:		STREET:	
PHONE:		CITY:	
MS:	RELIG:	STATE:	ZIP:
PREVIOUS NAME:		PHONE:	
SMOKE:	POB:	EMP ST:	LOE:
SSN #:			

=====GUARANTOR INFORMATION=====

RELATIONSHIP:	EMPLOYER:		
NAME:		TITLE:	
STREET:		STREET:	
CITY		CITY:	
STATE:		STATE:	
PHONE:		PHONE:	
SSN #:		EMP ST:	LOE:

=====MISC INFORMATION=====

RELATIONSHIP:		ONSET DATE:	
NAME:		ADMIT TYPE:	SOURCE:
EMPLOYER:		ACCIDENT:	
WK PHONE:		PLACE:	
HOME PHONE:		RPTD:	MDA: TYPE:
TEMP ADDRESS:		LAST HERE:	
ER CONTACT:		HOSPITAL:	
REL:	PHONE:	ADMIT	ADM CLERK:
WK PHONE:		DISCH:	

=====FINANCIAL CLASS===(G)=====

INSUR 1:		INSUR 2:	
REL:	CODE:	REL:	CODE
INSURED:		INSURED:	
INS ID:		INS ID:	
SSN #		SSN #	
GRP NAME:		GRP NAME:	
GRP NO.		GRP NO.	
EFF DATE:	EXP DATE:		
RNK/GR:	COMP:		
SERVICE:	STATUS		
STREET:		STREET:	
CITY:		CITY:	
STATE:	ZIP:	STATE:	ZIP:

FIGURE 2: QUALITY REVIEW WORKSHEET

Date _____		Physician _____	
Room # _____	Adm Date _____	Type: ED DA S _____	Consultants _____
Name _____	Age _____		_____
Adm Dx _____	_____		
Other Dx _____	_____		
CC _____	Surgery/Procedure _____		
_____	_____		
Sig Hx _____	_____		

Lab Findings	X-Ray Findings
Date _____	
_____	_____
_____	_____
_____	_____
_____	_____

EKG Findings: _____

INTENSITY OF SERVICE (Check any that apply)

☐ IV Therapy	☐ Resp Therapy(4-6X/d)	☐ P.T.	☐ VS q 4 h	☐ Inv Proc
☐ IV Rate	☐ Suction	☐ O.T.	☐ Neuro q 4 h	☐ Med Adj
☐ IV Meds	☐ Eye Meds q 2 h	☐ Speech	☐ Transfuse	☐ Bed R
☐ IM Meds	☐ Eval Rehab Potential	☐ Ostomy/Init	☐ Telemetry	☐ Other
☐ NG Tube	☐ Wound drainage/care	☐ Vent Assist	☐ Invol P.T.	
☐ Chest Tube	☐ Hemodialysis/Init	☐ Isolation	☐ Bowel Prep	

SEVERITY OF ILLNESS Indicator Mot: Yes _____ No _____

Notes _____

DISCHARGE SUMMARY

Date _____	Initial Assessment _____	Concurrent DRG _____	Referred to SW _____
Disposition _____	☐ Home	☐ Expired	
Name _____	☐ SNF	☐ Other	ALOS \$ _____
_____	☐ ECF		
IV Agency _____	☐ HomeCare	Total LOS _____	Final DRG _____
_____	☐ Rehab	Total Reviews _____	
_____	☐ ACF	Variance Days _____	\$ _____

case management. Daily facsimile transmissions (FAX) from hospital admitting departments will facilitate timely identification of civilian hospital admissions.

Performing the admission review function has one major drawback. For CHAMPUS admissions, the NC has no authority to deny payment if the admission is determined to be inappropriate. Goodno (personal communication, October 1, 1992) suggests sending a memorandum to the MUMPS office providing information on suspect cases. These cases can then be selected for retrospective review by the CRRC. If the admission is determined to be inappropriate through this review process, then payment can be withheld by the fiscal intermediary. Payment denial for AD admissions will be problematic if payment was funded through open allotment. In these cases, KACH has no control over disbursement of funds to pay for medical care (M. Kotch, personal communication, May 1993). Other AD admissions funded through supplemental care do not pose this problem because KACH disburses, and thus can withhold, supplemental care payments.

Concurrent Stay Review (CSR)

CSR is a function the NC should perform on a very limited basis. Limited emphasis is placed on CSR for CHAMPUS patients because CHAMPUS only pays a specified dollar amount to the hospital based on the DRG. Internal hospital UM personnel monitor the appropriateness of care to ensure that the hospital receives maximum reimbursement. Those cases identified by the NC as potential candidates for case management, due to complex health care needs and high costs, will receive CSR as a part of case management. This will be discussed further in the case management section. AD admissions to

civilian hospitals, identified through admission review, will have their cases reviewed closely by the NC so that the AD patient can be returned to the MHSS as soon as it is medically appropriate.

Appropriateness of continued stay in the hospital can be determined using several tools. InterQual criteria will be utilized to monitor severity of illness and the intensity of services required (AmeriPRO, 1992; Payne, 1987; Strumwasser et al., 1990). CHAMPUS generic quality screens provide criteria for determining the medical stability of patients for discharge (AmeriPRO, 1992). Most importantly, the clinical judgment of the NC is a key element in determining the appropriateness and quality of care (AmeriPRO, 1992; D. Grebenstein, personal communication, March 22, 1993; B. Smith, November 3, 1992). Documentation of CSR will be accomplished by using a modified version of a CSR worksheet from Bashon's A Complete Guide to Utilization Management (1990) (see Figure 3). It is a succinct, easy-to-use form to perform the CSR function.

Discharge Planning

Informally, the NC role in discharge planning is an ongoing function that occurs during most, if not all, components of UM. As part of the NC's role, discharge planning will be completed as a component of the case management function. Grebenstein (personal communication, March 22, 1993) and Smith (personal communication, November 3, 1992) both discussed the need for the NC to be actively involved in discharge planning and with the discharge planning committee, especially when case managing patients in civilian hospitals. While having no formal authority with the civilian discharge planning committee, the NC will work to establish a relationship of trust and confidence

Figure 3.

CONTINUED STAY REVIEW

Room # _____

Pt. # _____

Patient Name: _____ Address: _____

S.S. # _____ Age/Sex/Race _____ Type of Review: _____

Admit Date: _____ Time: _____ Date of Review: _____

Physician: _____ Discharge Date: _____

Diagnosis: _____ LOS: _____

History (Documented on chart)	
Physical Findings	Lab Findings
Treatments	X-ray
Consultations	Procedures
Date: _____ SI _____ IS _____ DS _____ RC Approval _____ PA Referral _____ PA Approval _____ UR Alert _____ Invasive Proc. Y / N Indicators Met _____ Notes: _____	

Date: _____ SI _____ IS _____ DS _____ RC Approval _____ PA Referral _____ PA Approval _____ UR Alert _____ Invasive Proc. Y / N Indicators Met _____ Notes: _____	
--	--

Date: _____ SI _____ IS _____ DS _____ RC Approval _____ PA Referral _____ PA Approval _____ UR Alert _____ Invasive Proc. Y / N Indicators Met _____ Notes: _____	
--	--

with hospital personnel. This relationship will allow them to influence the discharge planning process of the hospital as it pertains to case management patients. Involvement in the process, from the earliest stage possible, helps to ensure a timely and appropriate discharge. Discharge planning responsibilities may also include inpatients at KACH. This will be discussed further in the case management section. CHAMPUS generic quality screens and clinical knowledge will again be important tools for the NC to use during the discharge planning process.

Retrospective Review

Retrospective review should not be a function that the NC performs. Currently AmeriPRO has the responsibility of retrospective review for inpatient care provided to CHAMPUS patients (D. Goodno, personal communication, October 1, 1992; AmeriPRO, 1992). If the NC, while conducting other UM functions, concludes that the medical care provided to any patients being managed was inappropriate, the MUMPS office can be notified so that the record is pulled for retrospective review by AmeriPRO (D. Goodno, personal communication, October 1, 1992).

Case Management

Based on site visits, interviews, a literature review and HSC guidance; case management should be the primary function of the NC (D. Grebenstein & W. Inazu, personal communication, March 22, 1993; B. Smith, personal communication, November 3, 1992; J. O'Dea, M. Demers, R. Howe, & B. Green, personal communication, April 1993; HSC, 1992; HSC, 1993a). Case management will make optimal use of limited NC time. As a case manager, the

NC will focus on managing patients with complex and costly health care needs in an attempt to reduce costs and improve the quality of care.

Identification of potential case management patients will come from several sources. Grebenstein developed a list of conditions and diagnoses that often require case management (see Figure 4). This list can be used by the NC to screen admissions and referrals, identify potential case management patients, and determine if case management will be initiated. Determination will be based on the health care needs of the patient, a clinical evaluation by the NC, possible improvements in quality of care, and potential cost savings (J. O'Dea, M. Demers, R. Howe, & B. Green, personal communication, April 1993; D. Grebenstein, personal communication, March 22, 1993; B. Smith, personal communication, November 3, 1992). MUMPS report CH0773 (version 1), which provides details on patients with multiple admissions, is another tool which can be used to identify chronic, high cost CHAMPUS patients. The NC can make contact with patients, review their cases, and determine if case management is required. A final source of case management patients is referrals from KACH health care providers (J. O'Dea & R. Howe, personal communication, April 1993). When health care providers identify patients with complex health care needs that involve care received external to and/or internally at KACH, these patients should be referred to the NC for evaluation.

Under the case management concept, the NC will become responsible for coordinating all of the patient's medically appropriate care, inpatient and outpatient, in the most cost effective manner. This may involve the NC coordinating the care to be provided internally at KACH when appropriate and

FIGURE 4: CASE MANAGEMENT CONDITIONS

Focus will be directed, but not required to case management for the following conditions and/or diagnoses:

Neonatal Conditions

Extreme prematurity or neonate with complications include low birth weight, hydrocephalus, spina bifida, respiratory distress requiring a week or more if intensive care, bronchopulmonary dysplasia, craniofacial abnormalities and congenital anomalies.

Obstetric Conditions

Hospitalization before delivery, previous history of intensive care for an infant, high risk obstetrical conditions (e.g., toxemia, diabetes, cardiac conditions) and expected multiple birth.

Transplant and Dialysis

Renal failure, cardiomyopathy, biliary atresia, heart, liver or bone marrow transplant.

Neurologic Conditions

Intensive care or unconscious for more than 48 hours, brain tumors, stroke, closed head injury, cerebral aneurysm, complicated meningitis or encephalitis, quadriplegia and paraplegia.

Cardiovascular Conditions

Myocardial infarction, cardiac bypass surgery, cardiac valvular disease, intractable angina, peripheral vascular disease and rupture abdominal aortic aneurysm.

Respiratory Conditions

Respiratory dependency of any cause, emphysema, chronic bronchitis and asthma.

Malignancy

Multiple surgeries, radiation therapy, chemotherapy, cancer in children, acute leukemia, aplastic anemia and Kaposi's anemia.

Trauma

Thermal burns or frostbite (for adults, over more than 20% of the body; for children, over more than 10%), spinal cord injuries, crushing injuries, major fractures, multiple amputations and multiple trauma.

Other Conditions

Aids, cystic fibrosis, muscular disorders, and cerebral palsy.

cost effective. UM functions such as PAR, admission review, CSR and discharge planning will be performed by the NC as part of an overall case management plan. A networking system with the civilian hospitals identified earlier in this section is very important when conducting case management. The NC must establish trust and dependability with the admitting department, UM department, social services and discharge planners at the civilian facilities (D. Grebenstein, personal communication, March 22, 1993; B. Smith, personal communication, November 3, 1992). The KACH UM NC will develop these relationships at the five local hospitals identified as having high volume and high costs. Daily FAX transmissions of new patient admission data and quality review worksheets will be required to adequately monitor each case.

The NC has several tools available to effectively perform case management. InterQual criteria and CHAMPUS generic quality screens can be used to determine the appropriateness and quality of care. Additionally, Howe (1992) provides excellent care management and care path templates that the NC can use to develop case management care plans (see Figure 5). These three tools should allow the NC to coordinate medically appropriate care for patients with complex health care needs in the most cost effective manner.

Physician Support for the UM NC

KACH physicians and physician extenders will play a key role in ensuring the success of the UM NC, especially with the case management function (J. O'Dea & R. Howe, personal communication, April 1993; Howe, 1992; D. Grebenstein, personal communication, March 22, 1993). While the NC is responsible for coordinating all aspects of medical care, care path plans need to

Figure 5. Care Management Summary (template)

[Organization Name]
Care Management Services for [Name]
For period [date-date]
[name, with titles], Primary Care Manager

Original assessment date*[date]

Active Issues List

1. Issues worded as specifically as possible (causation not necessary)
- 2.

Issue Detail

Issue	Plan of Care	Monitored by	Service
Issue #1	Diagnostic Therapeutic Education	Accountability agreement	Interventions

Subjective: Brief narrative relating to this issue.

Objective: Any objective information collected relating to this issue.

Assessment: Assessment of this issue

Plan: Interventions (planned & real).

Summary paragraph to include:

General impressions of situation; Broad goals for client; Progress toward those goals;
Availability for clarification of information.

Summary of salient alert & reminder dates

Signed,

[name, title, Primary Care Manager]

Figure 5

Task	Daily	Weekly	Monthly	Scheduled
Activities of Daily Living				
Diet				
Activity				
Medication				
Other				

carePath created for:

Date:

Primary care manager:

Next update:

be developed through a collaborative effort with the KACH health care providers. If the health care providers do not work with and trust the NC, then case management will not be successful.

Physicians will also be used to review any adverse determinations or denials of care made by the NC. This is consistent with the physician role in UM found in the literature (Fiscus, 1993; AmeriPRO, 1992; Zusman, 1990b; Gray & Field, 1989) and at the site visit to AmeriPRO. Physician reviewers will only review cases in their specialty or related fields. Cases beyond the scope of KACH providers will be sent to Walter Reed Army Medical Center for review. If disagreements between external physicians, the NC, and KACH physician reviewers are not resolved, then the Director of Medicine or Director of Surgery (as appropriate) will be called on to make a final decision.

Regulatory Requirements

Requirements from OASD[HA] and HSC are that a UM program must be established (OASD[HA], 1992) and included in KACH's GTC plan as one of the seven essential items (Beumler, 1992). Suggested components of the plan include preadmission review, CSR, case management and discharge planning. The role that has been developed for the KACH NC includes the recommended components and provides evidence that the hospital has established a UM program.

JCAHO standards require that "the hospital provides for and demonstrates appropriate allocation of its resources through an effective utilization review [management] program" (JCAHO, 1992). Implementation of the NC role

detailed above satisfies the seven applicable standards found in the Accreditation Manual for Hospitals.

Effect on Cost and Quality

The research effort by Feldstein, Wickizer, and Wheeler (1988) documented that UM can significantly decrease health care utilization and costs. Site visits at EACH and BACH indicate that case management can result in tremendous cost avoidance. EACH avoided an estimated \$6.9 million in CHAMPUS costs in FY 92 and BACH an estimated \$1.1 million since January 1992 (Grebenstein, 1993; Smith, 1992). No specific dollar value has been calculated, but based on the literature and experience of other Army MTFs, KACH can expect to see decrease utilization and cost avoidance and/or savings through implementation of the proposed NC role.

Increased quality of care is more difficult to measure than reductions in cost and utilization. The literature suggests that a reduction of inappropriate care will result in an increase in the quality of care (Payne, 1987; Strumwasser et al., 1989; Baschon, 1990). Interviews (D. Grebenstein, personal communication, March 22, 1993; B. Smith, personal communication, November 3, 1992; R. Howe, personal communication, April 1993) and the literature (Howe, 1992) also indicate that the continuity of care provided through case management has a positive impact on the quality of care provided. All health care needs are coordinated by the case manager (NC) and care will not be fragmented. Patient satisfaction, an important component in quality, is also enhanced because the patients have one point of contact to assist them in coordinating and meeting their health care needs.

CHAPTER V
SUMMARY AND RECOMMENDATIONS
FOR FURTHER STUDY

Summary

Utilization management offers Keller Army Community Hospital an opportunity to ensure that appropriate, cost effective and high quality care is rendered to all patients. The UM NC will play a key role in the hospital's overall UM program. This study developed the role and functions of the UM NC at KACH.

A review of the literature defined UM and identified the six generally accepted components of UM. These components are preadmission review, admission review, concurrent/continued stay review, discharge planning, case management and retrospective review. Recent research detailed the effects UM has on reducing health care cost and utilization.

Site visits at a civilian hospital, VA hospital, civilian UM organization, OASD[HA], and several Army Hospitals were an integral part of the research effort. Interviews, observations and data collection revealed what aspects of UM were used and how effective they were in managing the appropriateness, quality and cost of care.

Interviews and data analysis at KACH completed the research for this project. This final step of the research ensured that the role and functions developed for the UM NC are tailored specifically to the needs of KACH and not based only on a literature review and site visits to other organizations performing UM.

The role and functions of the UM NC at KACH should focus on managing care provided external to KACH. Case management will be the main UM function performed by the NC. Limited aspects of preadmission review, admission review, concurrent stay review and discharge planning will also be performed. Results of developing and implementing the role and functions are twofold. KACH will meet UM requirements and the intent of the programs established by OASD(HA), HSC and JCAHO; and provide appropriate, cost effective and high quality care to all beneficiaries. The effectiveness of the UM NC will be measured through successful completion of inspections/surveys monitoring of health care expenditures, and customer satisfaction surveys.

Recommendations for Further Study

Utilization management is a very new concept for KACH and the Department of Defense. Limited data are available on the efficacy of UM programs in DoD facilities. Further study should be conducted at KACH to determine what effect the UM NC has on catchment area CHAMPUS costs, utilization, and quality of care. Recommend data be collected for a six month period after implementation of the UM NC role before conducting a detailed analysis. This will allow the NC to establish the program and network with the catchment area civilian hospitals.

Additional areas where UM can help the hospital better manage its scarce resources also need to be studied. Can AmeriPRO, the CHAMPUS regional UM contractor, perform the UM function for AD soldiers admitted to civilian facilities? Is it feasible and cost effective to have a direct link to the CHAMPUS Records Center, allowing the NC to utilize the automated InterQual ISD-A and

CHAMPUS Generic Quality screens currently used by the Regional Review Centers? Can the UM NC be effective as a case manager for a larger area when KACH assumes Health Service Area responsibilities from Fort. Devens on 1 October 1993? These questions require answers so that the UM NC at KACH can maximize his/her effort, ensuring that appropriate, cost effective and high quality care is being given to all beneficiaries.

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