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It is a common perception among the hospital staff in most Military Treatment Facilities (MTFs) that the Emergency Treatment Room (ETR) is a misnomer. At DeWitt Army Community Hospital, it is generally accepted by the emergency room staff that the majority of ETR visits could be classified as non-emergent. This situation is compounded by long waiting times for these non-emergent patients, which results in a high degree of patient dissatifaction. Additionally, there is a high degree of provider dissatisfaction due to the additional duty requirements to staff the ETR. The purpose of this study is to quantify the supposition that there is a high level of inappropriate visits to the ETR and to propose a model for care which will allow patients to be directed to the most appropriate setting for care. The results of this study indicate that an Advice/Triage Telephone Service and an After Hours Clinic in operation with the ETR will help alleviate the problem of inappropriate utilization of the ETR.

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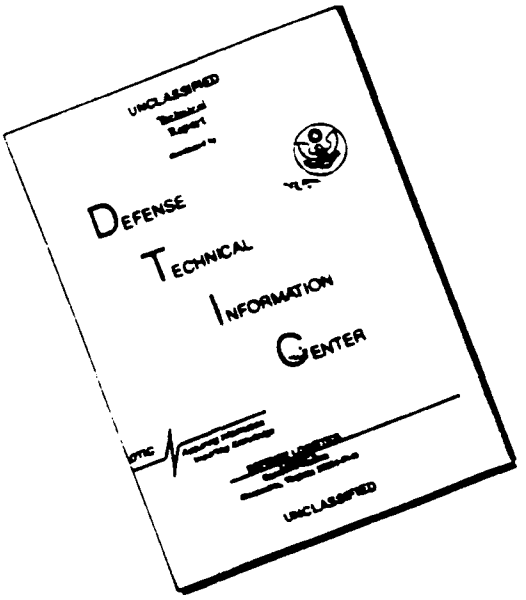

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INAPPROPRIATE UTILIZATION OF THE EMERGENCY TREATMENT ROOM AT DEWITT ARMY COMMUNITY HOSPITAL FT. BELVOIR, VIRGINIA

Christine S. Richardson, CPT, MS

U.S. ARMY-BAYLOR UNIVERSITY GRADUATE PROGRAM IN HEALTH CARE ADMINISTRATION

PRECEPTOR: COL FRANK GILLIAM

16 July 1991

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Acknowledgments

I wish to thank the staff of the Emergency Treatment Room at DeWitt Army Community Hospital for their cooperation and assistance with this project.

To my husband, all my love. Thank you for letting me go first.

Abstract

It is a common perception among the hospital staff in most Military Treatment Facilities (MTFs) that the Emergency Treatment Room (ETR) is a misnomer. At DeWitt Army Community Hospital, it is generally accepted by the emergency room staff that the majority of ETR visits could be classified as non-emergent. This situation is compounded by long waiting times for these non-emergent patients, which results in a high degree of patient dissatisfaction. Additionally, there is a high degree of provider dissatisfaction due to the additional duty requirements to staff the ETR. The purpose of this study is to quantify the supposition that there is a high level of inappropriate visits to the ETR and to propose a model for care which will allow patients to be directed to the most appropriate setting for care. The results of this study indicate that an Advice/Triage Telephone Service and an After Hours Clinic in operation with the ETR will help alleviate the problem of inappropriate utilization of the ETR.

It is a common perception among the hospital staff in most Military Treatment Facilities (MTFs) that the Emergency Treatment Room (ETR) is a misnomer. At DeWitt Army Community Hospital (DACH), it is generally accepted by the emergency room staff that the vast majority of ETR visits could be classified as non-emergent. This situation is compounded by long waiting times for these non-emergent patients which results in a high degree of patient dissatisfaction. In order to support the large volume of patients presenting to DACH's ETR, the hospital has been forced to expend additional manpower resources in this area. As a result, there is a high degree of provider dissatisfaction due to the additional duty requirements to staff the ETR.

Patients do not intentionally use the emergency room inappropriately, rather they are forced into the ETR because of their inability to access alternative sources of care. At DACH there are limited options available to the patient for treatment of emergent and non-emergent medical problems which manifest themselves after duty hours. In the current system the alternatives are to seek a next-day appointment in the

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to life and limb" criteria (Beusching, 1985). Gifford, Franaszek & Gibson (1989) reported the results of a prospective study of patient and physician interpretation of urgency among those patients presenting to an emergency department. This investigation was an attempt to define in a prospective manner the emergency nature or appropriateness of patient visits to emergency departments.

Foroughi & Chadwick (1989) defined "abusers" of emergency treatment rooms as those patients who presented to an Accident & Emergency Room whose complaint did not require urgent treatment if any, and therefore could have been dealt with by a general practitioner. A comprehensive review of the literature was unable to reveal any studies based on the patient's perception of urgency to determine the percentage of inappropriate visits to the Emergency Room.

Of those authors who have investigated the issue of emergency room utilization, many have concluded that if patients had a mechanism to make the distinction between convenience and emergency they would more appropriately utilize health care services (Beushing, 1985; Hurley, Freud, & Taylor, 1989; Stratman &

Ullman, 1975; and Vayda, Gent, & Hendersot, 1975). At DeWitt Army Community Hospital patients have no alternative to medical care after duty hours. Additionally, there are no mechanisms currently in place to direct these patients to an appropriate setting for care. I believe that the inability of DeWitt Army Community Hospital to provide these services has contributed to the perceived problem of malutilization of the Emergency Treatment Room.

I propose a new model for the delivery of health care after duty hours be adopted at DeWitt Army Community Hospital to reduce the number of inappropriate visits to the Emergency Treatment Room. The foundation of this model will be the determination of where assets and resources need to be directed in order to satisfy the patient population as well as the internal personnel resources of DACH. The integral components of this model will be the establishment of an Advice/Triage Telephone Service and an After Hours Clinic at DeWitt Army Community Hospital.

Problem Statement

There is a perception among the medical staff and administration of DeWitt Army Community Hospital that the Emergency Treatment Room is being malutilized. However, the ETR is generally perceived by the beneficiary population to be an extension of the General Outpatient Clinic, Family Practice Clinic, and Pediatric Clinic rather than a true emergency room.

LITERATURE REVIEW

Alternative Sources of Care

The issue of appropriate versus inappropriate utilization of the emergency room has been documented in the literature for the past four decades (Jacobs, Gavett, & Wersinger, 1971; Shortliffe, Hamilton, & Noroian, 1958; Solon & Rigg, 1972; Vaughan & Gamester, 1966; Weinermann, Ratner, & Robbins, 1966). In 1975, Stratmann & Ullman reported that a substantial number of people were using emergency rooms for the treatment of routine nonurgent problems. They concluded that people use the emergency room as a matter of convenience and because they lack access to alternative

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The national health insurance covers all costs except a standard fee.

Hansagi, Carlsson, Olsson & Edhag (1987) report that a considerable part of the excessive demand on hospital emergency departments in Sweden is for non-urgent health problems. They report that as many as one-third of all emergency department visits could be categorized as non-urgent. They suggest that these visits could more appropriately be handled in another setting, such as a primary health clinic. They also designed a model to divert patients with non-urgent complaints to more appropriate alternative settings for care.

Stewart, Savage, Scott, & McClure (1987) report the same tendencies in United Kingdom emergency departments. In their study of 853 children who presented at an accident and emergency room, over thirty-three percent of the visits were deemed to be inappropriate. It seems that long queues to gain access to emergency room care do not deter the volume of inappropriate visits to emergency departments. Health care economists in Britain have found that long waiting times do not serve a rationing function because

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A glaring difference between the two models of health care delivery is that HMOs usually require some kind of preauthorization before enrollees can use emergency room services. In their study of HMOs in the greater Chicago area, Hossfeld & Ryan (1989) found that fifteen HMOs responsible for ninety-nine per cent of the responding enrollees advised their subscribers to contact the HMO office, primary physician, or a toll-free number in case of an emergency. The one HMO responsible for the remaining one per cent of the enrollees instructed the subscriber to go to the nearest hospital as a first step in the event of an emergency. In literature to their enrollees, several of the HMOs offered definitions of an "emergency" and attempted to educate their enrollees on what can be considered an emergency or "life threat".

Other HMOs have used different strategies to control the use of emergency services such as contracting with urgent care centers to and imposing financial penalties for the inappropriate utilization of hospital emergency services. Daley, Leaning, & Braen (1987) reported on another HMO initiative to integrate the HMO delivery of care with that of local

emergency medical services. Harvard Community Health Plan joined with Brigham and Women's Hospital, a major Harvard teaching hospital, to provide for hospitalization of the HMO members at that institution. The agreement provided for the establishment of a separate emergency service for HMO members located at the Brigham and Women's Hospital. The service is staffed by HMO physicians who oversee the coordination of emergency care for HMO members.

A significant amount of historical information has been gathered which clearly shows that an overwhelming proportion of emergency room visits during non-duty hours has been for non-urgent care (Hurley, Freud, & Taylor, 1988). Davidson (1978) found that a disproportionate percentage of consumers of primary care in the emergency room are lower income persons. He attributes this pattern to the accessibility of the emergency room during non-traditional hours of operation, its relative proximity to care-seekers brought on by the maldistribution of primary care providers, and the absence of alternate sources of care due to the patient's inability to pay.

Advice/Triage Telephone Services

Verdile, Paris, Stewart, & Verdile (1989) report that emergency department personnel are frequently asked to give advice to members of the community who telephone for advice and information about a wide variety of medical problems. They designed a study to determine the consistency and accuracy of directions given to adults who call seeking advice about a problem. They found that telephone advice given by some emergency departments is nonstandardized and may be inadequate to the point of jeopardizing the welfare of a caller. This supports Wolcott's contention that the prohibition against giving medical advice over the phone does not decrease the amount of advice given but does cause the medical advice given to be less valid (Wolcott, 1989).

There are several advantages to a telephonic advice/triage service. First, patients are able to obtain simple medical advice without making an appointment or waiting in a walk-in clinic. Second, ill patients can be seen more quickly, thereby reducing

patient waiting time. Finally, patient waiting areas will be less crowded, thereby reducing the exposure to disease (Yeatman, 1981).

In response to the inconsistency of response within emergency departments, several emergency departments as well as clinics have adopted telephone triage systems with established protocols. Telephone triage and advice have long been an accepted practice among Emergency Medical Services (Fox, Rodriguez, & McSwain, 1981), pediatric settings (Broome, 1986), and poison control centers (Geller, Fisher, Leeper, & Ranganathan, 1988). Poison control centers have been in existence longer, and should be looked at to provide a model for designing telephone triage systems for emergency departments.

According to the American Association of Poison Control Centers (AAPCC), standardized protocols must be developed to manage telephone calls for advice. In addition to protocols, designated personnel should be assigned the responsibility to answer telephone calls for advice. These individuals should receive extensive training in the telephone triage, management and disposition of patients. Finally, the AAPCC recommend

that specific protocols for follow-up of patients be designed as part of the program. (Verdile, Paris, Stewart, & Verdile, 1989)

The documentation of telephone triage is an extremely important element that must not be overlooked. Protocols by their design, facilitate documentation because they are essentially a checklist. Such documentation could be in the form of a log which would contain pertinent information about the call and the type of advice given. (Verdile, Paris, Stewart, & Verdile, 1989)

The use of protocols has been an established practice in the management of common problems in ambulatory patients. Based on a defined medical problem, a protocol specifies those elements of the patient's history, physical examination, and laboratory investigation which must be collected in order to manage the problem. The general format of protocols include branching logic, which allows for individualization of data collected according to a patient's specific characteristics.

Protocols designed for use by practitioners specify rules for referral to, or consultation with, a

physician. However, there are several problems associated with adapting this format to the management of telephonic requests for information: 1) the patient often has a relatively poorly defined medical problem: 2) data collection is limited to questioning the individual or parent; and 3) the range of provider response is limited. These features must be taken into account when developing any protocols to be used in telephone management. (Levy, Rosekrans, Lamb, Friedman, Kaplan, & Strasser, 1979)

According to Levy, Rosekrans, Lamb, Friedman, Kaplan, & Strasser (1979) telephone contacts for initial triage, consultation and advice for management of medical problems constitute as much as one fourth of all pediatric encounters. However, they also report that there is a general lack of consistency of information given over the telephone which leads to frustration among both parents and medical staff. They developed a collection of twenty-eight protocols for twenty-five "chief complaints" in order to meet the need for more efficient processing of telephone calls,

for improved content of telephone care, and for standardization of advice given in their hospital emergency room.

Protocols are also used throughout the military health care system. Vaughn, Wolcott, & Dupont (1980) demonstrated that personnel receiving basic medical training and orientation to an algorithm-directed triage system can direct military patients to appropriate levels of health care. They suggested that such a system could be adapted for telephone screening.

Early studies of emergency department telephone triage in 1980 and 1984 (Shah, Egan, & Bain, 1980; Levy, et al, 1980; Knowles & Cummins, 1984) called for protocol development as well as training and improved staffing. Vaughn, Wolcott, & Dupont (1980) suggested that a centralized system be developed which could respond to telephonic requests for information and advice. The telephone screener could conduct an interview using the triage manual (with protocols) as a guide. Patients could either be directed immediately to a specific health care provider, given an appointment for a later time period, or directed to follow simple self-care recommendations.

In 1979, Strasser, Levy, Lamb, & Rosekrans (1979) suggested that protocols could be used for training health professionals to use the telephone more effectively in pediatric care. They suggested that a set of protocols and the advice could be kept near the telephone for physicians and nurses to use in emergency rooms as well as clinics, group and private practices.

The use of telephone triage protocols could allow for the expanded role of many physician extenders, such as nurses, nurse practitioners, and physician assistants, in all types of health care settings. In 1973, Roglieri recognized the problem of over utilization of the emergency room and documented the use of nurse practitioners to triage and treat the large number of non-seriously ill patients using emergency services in an urban area. In 1979, Perrin & Goodman reported a study which clearly demonstrated that nurse practitioners performed as well as, or better than, pediatricians in all measured aspects of telephone care. Since that time, nurses have been used in emergency rooms to conduct triage and refer patients for care (Abramowitz, Joy & Yurt, 1989; Turner, 1981).

In 1977, the Hospital for Sick Children, Toronto, established a Medical Information Center (MIC) to improve triage, provide a poison information center, improve response to telephone callers seeking advice and establish a telephone consultation service for physicians. The MIC employs specially trained nursing staff. A study of the MIC was conducted two years after it opened and the results confirmed that nurses could effectively relieve congestion, reduce the waiting period for emergency and non-emergency cases, and reduce the need for additional examination rooms. (Shah, Egan, & Bain, 1980)

The effective use of protocols in telephone triage offers many advantages. They provide a check-list, so the user will not omit key information. They make explicit guidelines for decisions regarding the management of a telephone problem. Finally, they provide a record of the telephone call information that could be included in the patients medical record and used for follow-up. (Strasser, Levy, Lamb, & Rosekrans, 1979).

Wolcott (1989) states that medicine must provide a better pre-hospital advice/triage service than we do

now. He contends that there is a demand for this type of service and that patients want it available 24 hours a day. He suggests that a tightly structured telephone advice/triage service would identify those patients at high risk with acceptable sensitivity and specificity. The issue would then become one of how to best provide the service to the patient.

An Advice/Triage Telephone Service at DeWitt Army Community Hospital could be developed in a similar manner to those already in operation at other facilities, both civilian and military. Yeatman (1981) proposed the implementation of a twenty-four hour telephone triage service for ambulatory child care. He stated that a significant percentage of pediatric care could be handled telephonically, thereby promoting home management of minor illnesses, allowing priority of care, economizing physician time, and decrease disease exposure. Kaiser Permanente has implemented a similar program. Enrollees must contact the telephone triage nurse prior to visiting an emergency room to determine the appropriateness of utilization. Patients who go to an emergency room without contacting the triage nurse are charged a co-payment fee that is fives times that

of a normal primary care visit if their visit is determined to be inappropriate. Patients whose visit is determined to be appropriate are charged the normal fee for a primary care visit.

Dunn (1983) suggests that although questioning a caller about a problem is acceptable, once any advice is offered over the telephone the emergency department staff member has assumed a duty and then has a legal obligation to the caller and is responsible for any advice given. Dunn warns that it could be considered abandonment if the staff member stops giving appropriate advice and terminates the call. Instead of discouraging the use of telephone advice services, this obligation to the patient should stimulate the use of accepted protocols when conducting triage over the telephone or giving advice. Trautlein, Lambert, and Miller's (1984) review of 200 cases of malpractice directed at emergency departments revealed that none were attributed to advice given to patients over the telephone.

Any model of health care delivery must include patient education as an integral component. Benz and Shank (1982) demonstrated that patient education can

play a significant role in reducing the percentage of inappropriate visits to the emergency room. Their study concluded that a patient education program was successful in both increasing the number of telephone calls prior to an emergency room visit and in reducing the percentage of inappropriate emergency room visits.

Purpose Statement

The purpose of this project is to quantify the supposition that there is a high level of inappropriate visits to the DeWitt Army Community Hospital Emergency Treatment Room and to develop a system that will direct patients to appropriate settings for care.

Hypotheses

1. The preponderance of visits to the DeWitt Army Community Hospital emergency treatment room can be classified as inappropriate.
2. Inappropriate utilization of the emergency treatment room is a function of the day of the week the patient was seen in the emergency treatment room.

3. Inappropriate utilization of the emergency treatment room is a function of the shift that the patient presented to the emergency treatment room.

a. Inappropriate utilization is a function of day shift.

b. Inappropriate utilization is a function of evening shift.

c. Inappropriate utilization is a function of night shift.

4. Inappropriate utilization of the emergency treatment room is a function of the category that the patient was triaged into.

a. Inappropriate utilization is a function of emergent triage category.

b. Inappropriate utilization is a function of urgent triage category.

c. Inappropriate utilization is a function of non-urgent triage category.

5. Inappropriate utilization of the emergency treatment room is a function of the patient's beneficiary category.

a. Inappropriate utilization is a function of being active duty.

b. Inappropriate utilization is a function of being a dependent of active duty.

c. Inappropriate utilization is a function of being retired.

d. Inappropriate utilization is a function of being the dependent of a retiree.

e. Inappropriate utilization is a function of all other beneficiary categories.

Methods and Procedures

The guidelines established by the American College of Emergency Physicians was used to determine the appropriateness of all visits to the DeWitt Army Community Hospital emergency treatment room during two one week periods. A retrospective record review was conducted on all cases to determine the appropriateness of each visit.

Sample Selection

The study sample consisted of all patients who presented themselves to the DACH Emergency Treatment Room during two one-week periods. One week of patient visits was studied in the months of April and October. The months of April and October were chosen due to the seasonal variance of the two periods. All patient encounters in the Emergency Treatment Room were included in the initial sample. However, sixty-one records had to be excluded from the study because the patient left the ETR without being seen by a health care provider. Both pediatric and adult patients of all beneficiary categories were included in the study.

No alteration to established ETR procedures were suggested for the period of this study. Each patient

was triaged by ETR personnel prior to examination by an ETR provider. In addition, ETR personnel conducted a thorough history of each patient, recorded all patient reported symptoms and demographics, and conducted a thorough examination of each patient. All information obtained during the triage, history taking, and examination phases of the patient encounter was recorded on the Standard Form 558 (Appendix B).

Study Design

Using the ACEP guidelines, appropriateness of use of the emergency treatment room at DeWitt Army Community Hospital was determined for all visits (n = 1229) made during two one-week periods, one week in April 1990, the other week in October 1990. Because of the effort required to coordinate the study with personnel in the Emergency Treatment Room, I decided to include all visits during a shorter period rather than sample visits made over a longer period.

Determination of appropriateness of use was based on a retrospective record review by two independent reviewers. Records were exchanged between the two reviewers, and each reviewer independently examined

each record. Records were initially grouped as "appropriate", "inappropriate", or "requiring further review". Meeting together, the two reviewers met with a board certified emergency room physician to discuss and categorize those records requiring further review until a consensus was reached.

Prior to independently reviewing records (and based on the ACEP guidelines), the reviewers agreed on criteria that each would use in determining appropriateness of the visit. Specifically all visits would be considered appropriate if they fell into one of the following categories: 1) admission to the hospital; 2) transportation to the emergency treatment room via ambulance or emergency medical services vehicle; and 3) referred by a physician to the emergency room.

Inappropriate visits were all other visits which did not meet the ACEP guidelines for an appropriate visit to a hospital emergency room. Generally visits requiring further review were those for which symptoms were present for more than 72 hours, but some aspect of the patient's condition had changed, prompting the visit.

Data Collection

The following data was also extracted from the Standard Form 558 for inclusion in the study: the time the patient presented to the ETR; the time the patient was seen by an ETR provider; the time the patient was released from the ETR; the patient's beneficiary category; the patient's initial triage category; the patient's disposition; the patient's sex and age; and the patient's mode of transportation to the ETR.

All records were coded for statistical analysis by the two independent reviewers. The two reviewers independently scored all Standard Forms 558's using dichotomous variables (1 if present, 0 otherwise) for all variables except the waiting time for the patient to see a provider, the patients total time in the ETR and the patient's age. The time the patient presented for triage, the time the patient was seen by a provider, and the time the patient was released from the ETR were recorded in 24 hour time. Time variables were used to determine the elapsed patient waiting times.

The patient's beneficiary category was coded 1 if yes, 0 otherwise for each category (active duty,

dependent of active duty, retired, dependent of retired, and other). The initial triage level (emergent, urgent, and non-urgent) was coded 1 if yes, 0 otherwise. The patient's sex was coded 1 if female, 0 if male. The patient's age was recorded in whole years (patients whose age was under 1 year were recorded as 0). The patient's mode of transportation to the ETR was coded 1 if by ambulance or Emergency Medical System (EMS) vehicle, 0 otherwise. The dependent variable "inappropriate visit" was coded 1 if the visit was determined to be inappropriate, 0 otherwise. A randomized block analysis of variance was conducted using the independent scores of the two reviewers to determine the internal consistency of the scoring by computing Cronbach's alpha. An inter rater reliability factor of 94 percent was found for this study. Although Buesching's study employed a similar methodology, he failed to report an inter-rater reliability factor (Beusching, et al, 1985).

This method of data collection afforded ease of replication for the researcher due to the simplicity of the data collection instrument. All information was recorded by health care professionals at the time each

patient presented for treatment. Additionally, by using this data collection instrument, the ethical rights of the patients were protected in that no social security information or names were used during the coding portion of the study.

Descriptive statistics were calculated on all variables. With the exception of the time and age variables, all variables were coded dichotomously, thereby allowing percentages to be assigned. In addition, inferential statistics were also computed using the Microstat computer software program. A full regression was conducted on all independent variables and a correlation matrix created using all variables.

Statistical Analysis

Descriptive Statistics

In order to gain a better knowledge of the sample being studied, descriptive statistics were computed from the data collected. The sample population consisted of 1229 patient encounters during the two one week periods of the study.

The Dependent Variable

The inappropriateness or appropriateness of a patient visit to the Emergency Treatment Room was determined by comparing a description of the patients presenting complaint and vital signs against the American College of Emergency Physicians guidelines for what constitutes an emergency visit. In addition, patients who were transported to the emergency treatment room via ambulance or EMS vehicle were deemed to be an appropriate visit, and patients who were referred to the ETR by a physician along with any patients who were admitted to the hospital following presentation to the emergency treatment room. Consequently, 503 patient visits or fifty-seven percent of the sample were determined to be appropriate visits to the emergency room, while the remaining 526 patient visits or fourty-three percent of the sample were determined to be inappropriate. (Appendix C)

Time Factors

The average waiting time for a patient to see a health care provider from the point he/she presented for triage was 36.43 minutes. The minimum waiting time was one minute, while the longest waiting time was

three hundred and twenty-five minutes. The average time that a patient spent in the ETR from the point the patient presented for triage to when he/she left the ETR was 89.7 minutes. The minimum amount of time that a patient spent in the ETR was four minutes, while the maximum amount of time was 430 minutes. (Appendix D)

Characteristics of the Sample Population

The average age of patients in the sample population was 25.39 years. The youngest patient seen was several weeks old. The most elderly patient was ninety-four. Two hundred and thirty one patients or nineteen percent were five years or younger. Two hundred and ninety-six or twenty four percent were six to seventeen years old. Four hundred and seventy-four or thirty-eight percent of the patient population were eighteen to fourty-four years old. One hundred and fifty-five or thirteen percent of the sample population was fourty-five to sixty-four years old. The remaining six percent of the sample or seventy-three patients were over the age of sixty-five.

The sample population was predominately female. Fifty-three percent or 647 of the patients were female and 582 or fourty-seven percent were male.

Seven hundred and eight dependents of active duty made up 38 percent of the sample population. The next largest beneficiary category in the sample population was active duty patients with 227 or 18 percent of the sample. The active duty beneficiary category was followed by dependents of retirees with 161 or 13 percent of the sample. Retirees made up 9 percent of the sample population with 105. The remaining 2 percent of the sample population belonged to other patient beneficiary categories such as civilian emergencies, dependents of deceased, and foreign nationals. (Appendix E)

Day and Time of Presentation to the ETR

Data for the study was collected over fourteen days. Four of these days were a weekend day and one was a holiday. The only clinic open during a weekend or holiday at DeWitt Army Community Hospital during the study period was the Emergency Treatment Room. Five hundred and sixty-nine or 46 percent of the total patient visits to the emergency treatment room during the study period were made on a weekend or holiday. Six hundred and sixty or 54 percent of the total patient visits were made during the remaining ten days

of the study. There was a great degree of variability between the time of day that patients presented to the emergency treatment room. Three hundred and eighty-six patients, or 31 percent of the sample population presented to the emergency treatment room during the day shift (0700 - 1459 hours). Six hundred and sixty-five patients, or 54 percent of the sample population presented to the emergency room during the evening shift (1500 - 2259 hours). The remaining fourteen percent of the sample population, or one hundred and seventy-eight patients, presented to the emergency treatment room during the night shift (2300 - 0659 hours). (Appendix F)

Triage Categories

All patients were triaged into one of three separate triage categories; emergent, urgent, and non-urgent. Only one percent or 14 patients were categorized as emergent. Fourty-five percent or 552 patients were categorized as urgent. Finally, the majority of all the patients, fifty-four percent or six hundred and sixty-three, were seen during the study period were categorized as non-urgent. (Appendix G)

Control Variables

Two control variables were selected for inclusion in this study; the patients mode of transportation to the emergency treatment room and whether or not the patient was admitted to the hospital from the emergency treatment room. Only 47 patients or four percent of the sample population was transported to the emergency treatment room via ambulance or an Emergency Medical Services vehicle. The remaining 96 percent of the sample population used some other means of transportation, such as driving themselves, having a parent or friend drive them, or walking. In addition, only 83 patients, or seven percent of the sample population was admitted to the hospital following their presentation to the Emergency Treatment Room. Several patients were admitted for chest pain, emergency surgical procedures, and observation. (Appendix H)

Inferential Statistics

A correlation matrix was created for all nineteen variables used in the study (Appendix I). Statistically significant correlations with the dependent variable were found at the $P < .05$ level for

the independent variables provider waiting time, total time, weekday, day shift, ambulance, sex, age, emergent triage category, urgent triage category, non-urgent triage category, admission, dependent of active duty, retired, and dependent of retired.

Additionally, Chi Square analysis was performed between the dependent variable and each of the independent variables. The overall rate of inappropriateness was 42.7 percent. Cross tabulation of appropriateness of visit with other study variables identified several high-rate subgroups (Table 1). These subgroups were as follows: 1) those patients who were initially triaged into the non-urgent category (69.83%); 2) children aged five years or younger (60.17%); 3) patients who presented to the emergency room on a weekend or holiday (49.56%); and 4) patients whose beneficiary category was dependent of active duty (46.75%). These variations in the rate of inappropriate visits were statistically significant at the $P < .01$ level or better.

Discussion

The reduced use of hospital emergency rooms has been remarkably achieved by Health Maintenance Organizations. Success can be attributed to the availability of a 24-hour advice nurse. These nurses have been specially trained to 1) identify those situations in which emergency intervention is necessary; 2) provide treatment advice for those situations for which home management is suitable; and 3) refer those patient for subsequent appointments in a provider's office during regular duty hours. As part of this network, an urgent care after-hours clinic is also available to treat such diagnoses as sore throats, ear infections, sinus infections, lacerations, etc. Because of the availability of these alternatives, patients in an HMO rarely find it necessary to use a non-member hospital emergency room.

The access of the military population to care depends on their proximity to a Military Treatment Facility (MTF). For routine checkups and prescription renewals, the outpatient clinic is generally the point of entry. In some MTFs appointments in advance are required in the outpatient clinic. It is not uncommon

to have to make the request 2-3 days in advance. The patients are advised to go to the emergency room if their condition is such that a delay of 2-3 days is not feasible. In other MTFs, where appointments are not available in the outpatient clinic, patients can experience waiting times of two to six hours to be seen by a provider on a walk-in basis. If the patient can not afford such long waiting times during duty hours, he/she may choose to utilize the emergency room after duty hours. A wait of at least 4 hours in the MTF emergency room is not uncommon. In general, the MTFs do not offer the alternative of an urgent care clinic that is offered in many HMOs. In most instances the service member or his family member only has the choice of routine outpatient care or the emergency room.

It is evident from the results of this study that DeWitt Army Community Hospital suffers from a high inappropriate utilization rate of it's emergency treatment room. In order to alleviate this problem at DACH, I propose a three stage model of health care services be adopted for after hours care. The three

components of this model would be: 1) an Advice/Triage Telephone Service; 2) an After Hours Clinic; and 3) the Emergency Treatment Room.

The first cornerstone of the model involves the creation and implementation of an Advice/Triage Telephone Service at DeWitt Army Community Hospital. An Advice/Triage Telephone Service could be set up similar to those already in operation at other military and civilian facilities. This service would serve several functions for the patient population of DACH. Such a service would allow for the efficient triage of patients before they even arrived at the hospital, directing them to the most appropriate setting for care. This would result in reduced patient waiting time in the ETR, more appropriate utilization of hospital resources, and increased patient satisfaction. This service would also allow parents an alternative to hospital based care by giving them the means to obtain medical advice in order to manage their child's illness or injury at home if appropriate. The Advice/Triage Telephone Service could be staffed by qualified emergency room trained nurses using established protocols of emergency medicine.

The second element of the model is the establishment of an After Hours Clinic. The purpose of this clinic would be to treat those patients whose medical complaint could be handled more appropriately in a primary care setting than the Emergency Treatment Room. Once operational, this After Hours Clinic could reduce the undue burden of most inappropriate visits to the Emergency Treatment Room. This clinic would be accessible to the patient population serviced by DACH after normal duty hours when most clinics have closed and on weekends and holidays when the ETR is the only available alternative for care. The After Hours Clinic should be tailored to meet the specific needs and patient demands of the Fort Belvoir and surrounding communities. According to the results of this study, this would require an emphasis on pediatric care as well as care to other age groups within the dependent of active duty beneficiary category. Given that the majority of these patients are CHAMPUS eligible, the After Hours Clinic could be effectively staffed by CHAMPUS Partners. This type of staffing would require fewer personnel resources from within the already strained system of DACH. The After Hours Clinic would

operate similarly to the current General Outpatient Clinic and Pediatric Clinic. Patients could obtain care in the After Hours Clinic 1) by appointment; 2) referral from the emergency treatment room; or 3) referral from the Advice/Information Telephone Triage Service.

The third element of the model involves the more appropriate utilization of the current hospital Emergency Treatment Room. This service would be left to operate as a true emergency service if inappropriate visits could be directed elsewhere within the system via the Advice/Triage Telephone Service and the After Hours Clinic.

The Model

The Advice/Triage Nurse will be the gate opener to the appropriate level of care according to the patient complaint. Upon the presentation of the patient at the After Hours Clinic or ETR there will be an initial triage to ensure that the patient is in the most appropriate setting. Beneficiaries will be instructed that the preferred method to access care and/or seek medical advice after normal duty hours, 1630-0730

Monday through Friday and weekends/holidays, will be to telephone the Advice/Triage Nurse prior to departing for DeWitt Army Community Hospital.

In keeping with the model patients will call the Advice/Triage Nurse directly. The Advice/Triage Nurse will listen to the complaint and ask a series of prescribed questions and then evaluate the complaint against the criteria of an established protocol. Based on this evaluation the Advice/Triage Nurse can either provide the necessary information for the patient to manage the complaint at home or instruct the patient to come to the facility to access care through either the ETR or After Hours Clinic. Patients who are given advice for home management of an illness or injury will be instructed to call back if symptoms worsen or persist over 24 hours.

The Advice/Triage Nurse may also make the determination of the need for a patient to be seen by a provider in the facility within 24 hours. Those complaints which fall under the approved guidelines of the American College of Emergency Physicians for what constitutes an emergency will be directed immediately to the ETR. If deemed necessary, emergency patient

transport will be arranged by the Advice/Triage Nurse. Those patients who require immediate medical attention for non-emergent complaints will be directed to DACH's After Hours Clinic. All patients who report to the ETR or the After Hours Clinic will be triaged upon presentation to ensure that they are at the most appropriate setting for care. Additionally, those patients whose medical complaint does not require non-duty hour care will be instructed to access care at DACH through the appropriate clinic during normal duty hours.

Conclusion

In order to alleviate the problem of inappropriate utilization of the emergency treatment room, patients must be given an appropriate alternative to seeking care after duty hours. I propose that an After Hours Clinic, tailored to the specific needs of the patient population served by DeWitt Army Community Hospital, be implemented as an alternative to the Emergency Treatment Room. In addition, an Advice/Triage Telephone Service should be created to direct patients to the most appropriate setting for care. These two additional services would operate in conjunction with the current Emergency Treatment Room in operation at DeWitt Army Community Hospital in order to better meet the needs of it's patient population.

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Table 1. Relation of Appropriateness of Emergency Room Visit to Other Study Variables

	APPROPRIATENESS				
	YES		NO		CHI
	N	%	N	%	SQUARE
Sex					NS*
Male	350	60.14	232	39.86	
Female	353	54.56	294	45.44	
Age					P<.001
0-5	92	39.83	139	60.17	
6-19	181	61.15	115	38.85	
20-44	271	57.17	203	42.83	
45-64	106	68.39	49	31.61	
65-+	51	69.86	22	30.14	
Day of Week					P<.001
Weekend/Holiday	287	50.44	282	49.56	
Weekday	416	63.03	244	36.97	
Time of Day					NS
Day Shift	245	63.47	141	36.53	
Evening Shift	369	55.49	296	44.51	
Night Shift	90	50.56	88	69.83	
Triage Category					P<.001
Emergent	14	100.00	0	00.00	
Urgent	489	88.59	296	44.51	
Non-Urgent	200	30.17	463	69.83	
Beneficiary Category					P<.01
Active Duty	132	58.15	95	41.85	
Dep-Active Duty	377	53.25	331	46.75	
Retired	71	67.62	34	32.38	
Dep-Retired	106	65.84	55	34.16	
Other	17	60.17	11	39.29	

*NS = Not Significant

Appendix A

The American College of Emergency Physicians Definition of a Bona Fide Emergency Room Visit

BONA FIDE EMERGENCY DEFINED*

We feel that a patient has made an appropriate visit to an emergency department when: An unforeseen condition of a pathophysiological or psychological nature develops which a prudent layperson, possessing an average knowledge of health and medicine, would judge to require urgent and unscheduled medical attention most likely available, after consideration of possible alternatives, in a hospital emergency department. This would include:

1. Any condition resulting in admission of the patient to a hospital or nursing home within 24 hours
2. Evaluation or repair of acute (less than 72 hours) trauma
3. Relief of acute or severe pain
4. Investigation or relief of acute infection
5. Protection of public health
6. Obstetrical crises and/or labor
7. Hemorrhage or threat of hemorrhage
8. Shock or impending shock
9. Investigation and management of suspected abuse or neglect of person which, if not interrupted, could result in temporary or permanent physical or psychological harm
10. Congenital defects or abnormalities in a newborn infant, best managed by prompt intervention
11. Decompensation or threat of decompensation of vital functions such as sensorium, respiration, circulation, excretion, mobility or sensory organs
12. Management of a patient suspected to be suffering from a mental illness and posing an apparent danger to the safety of himself, herself or others
13. Any sudden and/or serious symptom(s) which might indicate a condition which constitutes a threat to the patient's physical or psychological well-being requiring immediate medical attention to prevent possible deterioration, disability or death.

*Adopted by the Board of Directors of the American College of Emergency Physicians on October 23, 1982.

Attachment 1

GUIDELINES FOR DETERMINATION OF A BONA FIDE EMERGENCY FOR MEDICARE BENEFICIARIES

The American College of Emergency Physicians (ACEP) proposes that a three step system be used to identify "bona fide" emergency services when a claim for emergency physician services provided in a hospital outpatient setting is generated and processed. The three steps are outlined as follows:

1. Emergency department levels of service codes 90500 (Minimal) and 90505 (Brief) would not be considered "bona fide" emergency services for outpatient reimbursement limitation purposes.

2. Emergency department levels of service codes 90510 (Limited), 90515 (Intermediate), 90517 (Extended), and 90520 (Comprehensive) would routinely be considered "bona fide" emergency services when indicated (through the use of a modifier or by checking box 16A on the HCFA 1500 claim form) by the physician.

3. If, after applying steps 1 and 2 above, the Medicare carrier is unable to determine whether or not "bona fide" emergency services were provided, the following list of diagnoses/signs/symptoms/complaints would be referenced to make an initial determination (subject to further review of medical records, evidence, or documentation) as to the probability that a "bona fide" emergency condition existed. This list is not intended to be used in place of actual circumstances surrounding the emergency department visit, the physician's medical judgement, or other factors which should be taken into account before making a final "bona fide" emergency determination.

A. V. Shunt Malfunction (Hemodialysis)
Abdominal aneurysm, ruptured
Abdominal distention
    acute
Abdominal distention, gaseous
Abdominal pain
Abortion, self-induced, complete or
        incomplete
    complicated by-
        infection
        hemorrhage
        tissue or organ damage
        renal failure
        metabolic disorder
        shock
        embolism
        other complications

Abortion, spontaneous, complete or incomplete:
- complicated by -
  - infection
  - hemorrhage
  - tissue or organ damage
  - renal failure
  - metabolic disorder
  - shock
  - embolism
  - other complications

Abortion, threatened
- affecting fetus or newborn

Abrasion, eye
Abscess and cellulitis of orbit
Acidosis, diabetic
Acidosis, other -
- lactic
- metabolic NEC
  - with respiratory acidosis
- late, of newborn
- respiratory
  - complicated by
    - metabolic acidosis
    - metabolic alkalosis

Adams-Stokes syndrome
Addisonian crisis
Adenitis, mesenteric
Adenopathy
AIDS with
Airway Obstruction NEC
Alcoholic hallucinoses
Alcohol withdrawal symptoms NEC
Allergic purpura
Allergic reaction
Altered mental status
Anal fissure
Anal fistula
Anaphylactic shock
Aneurysm
Angina pectoris
Angina, unstable
Angioneurotic edema
Anuria

Anxiety
- depression
- generalized
- hysteria
- in
  - acute stress reaction
  - transient adjustment reaction
  - panic attack

Aortic Aneurysm, dissecting
Aortic Aneurysm, ruptured
Apnea
Appendicitis
Arrhythmia, Cardiac -
- conduction disorders
- other disorders

Arterial embolism
Asphyxia
Asthma
Atelectasis
Atrial flutter
Automatic implantable defibrillator malfunction
Balanitis
Biliary calculus
Blacking out
Bladder disorder, unspecified
Bladder obstruction -
- congenital

Bleeding tooth socket
Blindness
Blood clots
Blood-dyscrasia
Blood poisoning; Septicemia
- meningococcal septicemia
- anthrax septicemia
- herpetic septicemia

Blurred vision
Brachial arteritis
Bradycardia, reflex
Breathing difficulty
Bronchiolitis
Bronchitis, acute -
- unqualified
- chronic with acute exacerbation

Bundle branch block
Bursitis
Cancer, with severe pain or bleeding

Cardiac arrest
    during or resulting from surgery
Cardiac arrhythmias -
    conduction disorders
    other disorders
Cardiomyopathy
Cardiospasm -
    congenital
Cerebral -
    embolism
    hemorrhage
    infarct
    ischemia, transient
    ischemia, generalized
    thrombosis
Cerebrovascular accident (CVA)
    insufficiency, transient
    insufficiency, generalized
Chest pain
Choking sensation
Cholecystitis
Circulatory disorder, unspecified
Cirrhosis, alcoholic
    non-alcoholic
Colic -
    abdominal
    renal
Colitis -
    amebic
    infectious
    ischemic
    non-infectious
    radiation
    regional
    toxic
    ulcerative
Collapsed lung
Colostomy obstruction
Coma
Complete heart block
Congenital heart disease
Congestive heart failure
Conjunctivitis
Convulsions
Convulsive disorder
Cor pulmonale
Costochondritis

Croup
Cushing's syndrome
Cyanosis
Cystic fibrosis
Cystitis
Dacryoadenitis
Dehydration
Delirium, acute
Delirium tremens
Depression
    acute
    anxiety
Detached retina, with defect
        without defect
Diabetes
Diabetic acidosis
Diabetic coma
Difficulty walking
Dislocation, except fingers or toes
Diverticulitis -
        colon
        esophagus
        gastric
Diverticulitis (continued) -
        small intestine
Diarrhea - infectious
        post operative or unspecified
Dizziness
Drug overdose
Drug reaction (except insulin)
Duodenal ulcer
        with perforation
        without perforation
Duodenitis
Dyspnea
Dysuria
Eclampsia
Ectopic pregnancy
Edema -
        angioneurotic
        generalized
        laryngeal
        penis
        pulmonary
        scrotum
Effusion of joint
Electrolyte imbalance

Embolism -
- arterial
- cerebral
- pulmonary
- venous

Emphysema
Encephalitis - viral
- due to immunization
- non-infectious

Endocarditis
- rheumatic

Endometriosis
Enteritis -
- ischemic
- regional
- toxic

Epileptic convulsions
Epistaxis
Esophageal obstruction
Esophageal rupture
Esophageal varices
Esophagospasm
Eustachitis
External otitis
False labor
Fever - Rocky Mountain
Fever - Scarlet
Fibrillation, ventricular
Frequent urination
Food poisoning
Fracture, except fingers or toes
Gastric ulcer -
- with perforation

Gastric ulcer -
- without perforation

Gastritis; Gastroenteritis -
- viral
- infectious
- non-viral
- radiation
- salmonella
- toxic
- non-infectious

Gastrointestinal Obstruction -
- congenital
- duodenal
- esophageal

Gastrointestinal Obstruction (continued) -
- intestinal
- post operative
- pyloric

Gastrointestinal bleeding
- adult
- newborn

Gastrojejunal ulcer -
- perforated
- without perforation

Giant Urticaria (Hives)

Glaucoma

Glomerulonephritis, acute
- with lesion

Goiter
- toxic
- diffuse

Grand mal epilepsy

Headache

Heart block

Heart disease -
- congenital
- hypertensive

Heart disorder, unspecified

Heat prostration

Hematemesis

Hematomyelia

Hematuria

Hemophilia

Hemoptysis

Hemorrhage -
- cerebral
- esophageal varices
- gastrointestinal adult
- newborn
- subarachnoid
- tooth socket

Hemorrhage of ulcer, duodenal
- with perforation

Hemorrhage of ulcer, gastric
- with perforation

Hemorrhage of ulcer, gastrojejunal
- with perforation

Hemorrhage of ulcer, peptic
- with perforation
- without perforation

Hemorrhage, vaginal, non-pregnant
- early pregnancy
- antepartum
- complicating delivery
- post partum following abortion
- post partum delivery

Hemorrhage with gastritis or duodenitis
Hemorrhoids with strangulation
Hepatitis, acute
- alcoholic
- neonatal
- unspecified
- viral

Hernia
- inguinal

Herniated intervertebral disc
Herpes Simplex
Herpes zoster
Hives
Hyperemesis gravidarum
Hyperpyrexia (fever)
Hypertension
Hypertensive crisis
Hypertensive heart disease
Hypertrophy of tonsils and adenoids
Hyperventilation
Hypoglycemia, unspecified
Hypoprothrombinemia, acquired
- newborn

Hysterical neuroses
Ileitis
Incarcerated hernia
- inguinal

Infarction -
- cerebral
- impending MI
- myocardial (MI)
- pulmonary

Infection -
- streptococcal
- upper respiratory

Insufficiency -
- cerebrovascular
- pulmonary

Insulin reaction
Intermenstrual pain
Internal derangement of joints

Intervertebral disc
    perforation
Intestine, unspecified disorder
Iritis
Irritable bowel syndrome
Jaundice
    adult
    newborn
Ketoacidosis
Keratitis
    syphilitic
Kidney and ureter, unspecified disorder
Labor
    false
    premature
    threatened premature
Labyrinthitis
Laryngeal edema
Laryngitis
Left Bundle Branch Block
Leukemia
Loss of consciousness
Lymphadenitis (except mesenteric)
Lymphangitis
Malfunction -
    pacemaker
    automatic implantable defibrillator
    shunt
Manic depressive
Mastoiditis
Medications, reactions to (except insulin)
Meniere's disease
Meningitis -
    coccidioidal
    meningococcal
    mumps
    unspecified
    viral
Mesenteric adenitis
Migraine
Miscarriage
Muscle cramp
Myasthenia gravis
Myelitis
Myositis, infective
Nasal Hemorrhage

Nausea, severe or persistent
    with diarrhea
Nephrolithiasis
Neoplasms, malignant
Neuralgia, neuritis, unspecified
Nosebleed
Obstruction -
    airway
    colostomy
    GI tract, congenital
    duodenal
    esophageal
    intestinal
    post operative
    pyloric
    urinary tract, bladder
    congenital
    unspecified
    ureter
    vena cava
Occlusive disease of artery
Oculomotor disturbance
Omphalitis
Ophthalmic herpes zoster
Orchitis
Otitis -
    external
    media
Otorrhagia
Ovarian cyst
Overdose
Pain -
    abdominal
    back
    breast
    chest
    female genital organs
    in or around eye
    joint
    muscle
    neck
    penile
    testicular
Painful respiration
    chest wall syndrome
Palpitations
Pancreatitis

Paranoia
Paranoid schizophrenia
Parotitis
    infectious
    non-infectious
Paroxysmal atrial tachycardia
Pelvic inflammatory disease
Peptic ulcer
    perforated
Perforated internal organ
Pericarditis
Peritonitis
Peritonsillar abscess
Pharyngitis
    vesicular
Phimosis
Phlebitis
Pleurisy
Pleuritis
Pleurobronchitis, acute
Pneumonia
Pneumothorax
Poison -
    ivy
    oak
    sumac
Poisoning -
    Blood
    Food
    Overdose of Drug
Polymyositis
Post-partum hemorrhage -
    following abortion
    following delivery
    puerperium sepsis
Pregnancy - abortion, self-induced
    abortion, spontaneous
    eclampsia
    hemorrhage
    hyperemesis gravidarum
    labor, false
    premature
    threatened premature
Prostate, unspecified disorder
Prostatitis
Psychophysical disorder
Psychophysiological reaction

Puerperal Subinvolution of Uterus
Puerperium sepsis
Pulmonary -
    edema
    embolism
    fibrosis
    infarct
    insufficiency
Pyelitis; pyelonephritis
Pylorospasm
Pyuria
Quinckes Edema
Renal -
    colic
    failure
Respiratory arrest
Respiratory distress syndrome
Retention - urinary
Rheumatic pericarditis
Rheumatism
Right Bundle Branch Block
Rocky mountain spotted fever
Ruptured -
    esophagus
    spleen
    tympanic membrane
Salpingitis
Scarlet fever
Schistosoma hematobium
Schizophrenia, paranoid
Sciata
Seizure
Senile dementis with delirium
Septicemia
    herpetic
    meningococcal
    anthrax
Serum hepatitis
Shock
Shortness of breath
Shunt malfunction
Sickle cell crisis
Speech disturbance
Spleen
Status epilepticus
Stenosis/stricture of salivary gland

Stomach ulcer
    perforated
Stomatitis
Strangulated hernia
    inguinal
Streptococcal infection
Stroke
Suffocation
Suicide ideation
Sunstroke
Swelling or mass -
    eye
    female genital organ
Sympathetic ophthalmia
Symptomatic Heart Disease
Syncope
Synovitis and Tenosynovitis
Syphilis
Tachycardia -
    with sinus bradycardia
Testicular torsion
Tetanus
Tetany
Thoracic Aneurysm, ruptured
Threatened abortion
Threatened premature abortion
Thrombocytopenia
Thrombophlebitis
Thrombosis -
    arterial
    cerebral
    intracranial sinus
    portal vein
    venous
Thyroid crisis
Tic douloureux
Tonsillitis
Tooth - bleeding socket
Toxemia of pregnancy
Toxic diffuse goiter
Transient Cerebral Ischemia
Transitory respiratory distress syndrome
Tympanic membrane
Typhoid fever
Ulcer
Unconsciousness
Uremia

Upper respiratory infection
Urethritis
    venera
Urinary -
    calculus
    obstruction, bladder
    congenital
    unspecified
    ureter
    retention
    infection
Urinary tract, unspecified disorder
Uveitis
Vaginal bleeding - See "Hemorrhage"
Van Willabrand Disease
Vascular lesion of retina
Venous thrombosis or embolis
Ventricular -
    fibrillation
    tachycardia
Vertigo
Vincent's angina
Vision loss
Viral -
    encephalitis
    hepatitis
Vomiting and nausea -
    persistent
    post operative
Vomiting and nausea (continued) -
    severe
Wheezing
Whiplash (cervical strain)
Withdrawal symptoms, syndrome
    alcohol
    drug or narcotic
    steroid NEC
Wolff-Parkinson-White Syndrome
Wound infection, post-traumatic
Wound, open - unspecified
Xanthoma
Yeast infection

This document was approved by the American College of Emergency Physicians' Board of Directors on January 27, 1990.

Appendix B

Standard Form 558

558-102 *(See Instructions on Back of this Sheet)* NSN 7540-01-075-3786

EMERGENCY CARE AND TREATMENT
(Medical Record)

TREATMENT FACILITY *(Stamp)*

LOG NUMBER

ARRIVAL
DATE: DAY | MONTH | YR. | TIME

TRANSPORTATION TO HOSPITAL *(Attach care enroute sheet)*
☐ PRIVATE VEHICLE ☐ AMBULANCE ☐ OTHER *(Specify)*

CURRENT MEDS. *(Tetanus immunization and other data)*

HISTORY OBTAINED FROM
☐ PATIENT ☐ OTHER *(Specify)*

ALLERGIES

PATIENT'S HOME ADDRESS OR DUTY STATION *(City, State and ZIP Code)*

HOME TELE. NO. *(Inc. area code)*

CHIEF COMPLAINT(S) *(Include symptom(s), duration)*

SEX | AGE

POSSIBLE THIRD PARTY PAYER?
☐ YES ☐ NO

VITAL SIGNS

TIME			
BP			
PULSE			
RESP.			
TEMP.			
WT. *(Child)*			

CATEGORY *(See reverse)*
☐ EMERGENT
☐ URGENT
☐ NON-URGENT

DESCRIBE (1) Subjective data *(Pertinent History)*, (2) Objective data *(Examination - include results of tests and x-rays)*, (3) Assessment *(Diagnosis)*, (4) Plan *(Treatment/Procedures - include medication given and follow-up)*

TIME SEEN BY PROVIDER

ORDERS	INITS.	TIME

ASSESSMENT/DIAGNOSIS

DISPOSITION *(Check all that apply)*
☐ HOME ☐ FULL DUTY
QUARTERS
☐ 24 Hrs. ☐ 48 Hrs. ☐ 72 Hrs.
MODIFIED DUTY UNTIL:
DAY | MONTH | YEAR
REFERRED TO *(Indicate clinic)*
☐ EMERGENCY ☐ TODAY
☐ 72 HOURS ☐ ROUTINE
ADMIT. TO HOSP. UNIT/SERVICE

CONDITION UPON RELEASE
☐ IMPROVED ☐ UNCHANGED
☐ DETERIORATED
TIME OF RELEASE:

(CONTINUE ON SF 507, IF NEEDED)

PATIENT'S IDENTIFICATION *(Mechanical imprint)*
FOR WRITTEN ENTRIES GIVE: *Name - last, first, middle; SSN; DOB, service status, name and relation of sponsor or next of kin. (IMPORTANT - LIST FACILITY HOLDING TREATMENT RECORD).*

SIGNATURE OF PROVIDER AND ID STAMP

INSTRUCTIONS TO PATIENT *(Include medications ordered, any limitations and follow-up plans)*

Appendix C

Dependent Variable Frequency Distribution

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 8. APP/INAP

PATIENTS WHOSE ETR VISIT WAS DETERMINED TO BE INAPPROPRIATE

				....CUMULATIVE...	
=====CLASS LIMITS====		FREQUENCY	PERCENT	FREQUENCY	PERCENT
.00 <	1.00	703	57.20	703	57.20
1.00 <	2.00	526	42.80	1229	100.00
	TOTAL	1229	100.00		

=====CLASS LIMITS====		FREQUENCY	.....
.00 <	1.00	703	|==========
1.00 <	2.00	526	|==========

Appendix D

Time Factors Frequency Distributions

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 1. PRO.TIME

PATIENT WAITING TIME TO SEE A PROVIDER

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	15.00	416	33.85	416	33.85
15.00	<	30.00	294	23.92	710	57.77
30.00	<	45.00	162	13.18	872	70.95
45.00	<	60.00	111	9.03	983	79.98
60.00	<	75.00	86	7.00	1069	86.98
75.00	<	90.00	43	3.50	1112	90.48
90.00	<	105.00	44	3.58	1156	94.06
105.00	<	120.00	18	1.46	1174	95.52
120.00	<	135.00	19	1.55	1193	97.07
135.00	<	150.00	10	.81	1203	97.88
150.00	<	165.00	7	.57	1210	98.45
165.00	<	180.00	1	.08	1211	98.54
180.00	<	195.00	2	.16	1213	98.70
195.00	<	210.00	2	.16	1215	98.86
210.00	<	225.00	2	.16	1217	99.02
225.00	<	240.00	2	.16	1219	99.19
240.00	<	255.00	2	.16	1221	99.35
255.00	<	270.00	1	.08	1222	99.43
270.00	<	285.00	1	.08	1223	99.51
285.00	<	300.00	3	.24	1226	99.76
300.00	<	315.00	0	.00	1226	99.76
315.00	<	330.00	3	.24	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY	
.00	<	15.00	416	|==========
15.00	<	30.00	294	|==========
30.00	<	45.00	162	|==========
45.00	<	60.00	111	|=======
60.00	<	75.00	86	|=====
75.00	<	90.00	43	|==
90.00	<	105.00	44	|===
105.00	<	120.00	18	|=
120.00	<	135.00	19	|=
135.00	<	150.00	10	|
150.00	<	165.00	7	|
165.00	<	180.00	1	|
180.00	<	195.00	2	|
195.00	<	210.00	2	|
210.00	<	225.00	2	|
225.00	<	240.00	2	|
240.00	<	255.00	2	|
255.00	<	270.00	1	|
270.00	<	285.00	1	|
285.00	<	300.00	3	|
300.00	<	315.00	0	|
315.00	<	330.00	3	|

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 2. TOT.TIME

TOTAL PATIENT TIME IN THE ETR

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	30.00	135	10.98	135	10.98
30.00	<	60.00	332	27.01	467	38.00
60.00	<	90.00	290	23.60	757	61.59
90.00	<	120.00	174	14.16	931	75.75
120.00	<	150.00	111	9.03	1042	84.78
150.00	<	180.00	75	6.10	1117	90.89
180.00	<	210.00	38	3.09	1155	93.98
210.00	<	240.00	22	1.79	1177	95.77
240.00	<	270.00	21	1.71	1198	97.48
270.00	<	300.00	13	1.06	1211	98.54
300.00	<	330.00	8	.65	1219	99.19
330.00	<	360.00	6	.49	1225	99.67
360.00	<	390.00	2	.16	1227	99.84
390.00	<	420.00	1	.08	1228	99.92
420.00	<	450.00	1	.08	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY	
.00	<	30.00	135	|==========
30.00	<	60.00	332	|==========================
60.00	<	90.00	290	|========================
90.00	<	120.00	174	|==============
120.00	<	150.00	111	|=========
150.00	<	180.00	75	|======
180.00	<	210.00	38	|===
210.00	<	240.00	22	|=
240.00	<	270.00	21	|=
270.00	<	300.00	13	|=
300.00	<	330.00	8	|
330.00	<	360.00	6	|
360.00	<	390.00	2	|
390.00	<	420.00	1	|
420.00	<	450.00	1	|

Appendix E

Characteristics of the Sample Population Frequency Distributions

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP2 LABEL: AGE VARIABLES
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 6

VARIABLE: 1. 0-5

PATIENTS AGED 0 TO 5 YEARS

===== VALUE =====	FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	998	81.20	998	81.20
1.00	231	18.80	1229	100.00
TOTAL	1229	100.00		

=====CLASS LIMITS====	FREQUENCY	.....
.00	998	:==========
1.00	231	:======

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP2 LABEL: AGE VARIABLES
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 6

VARIABLE: 2. 6-17

PATIENTS AGED 6 TO 19 YEARS

===== VALUE =====	FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	933	75.92	933	75.92
1.00	296	24.08	1229	100.00
TOTAL	1229	100.00		

=====CLASS LIMITS====	FREQUENCY	.....
.00	933	;==========
1.00	296	;=========

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP2 LABEL: AGE VARIABLES
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 6

VARIABLE: 3. 18-44

PATIENTS AGED 18 TO 44 YEARS

===== VALUE =====	FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	755	61.43	755	61.43
1.00	474	38.57	1229	100.00
TOTAL	1229	100.00		

=====CLASS LIMITS====	FREQUENCY	.....
.00	755	¦==========
1.00	474	¦==========

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP2 LABEL: AGE VARIABLES
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 6

VARIABLE: 4. 45-64

PATIENTS AGED 45 TO 64 YEARS

===== VALUE =====	FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	1074	87.39	1074	87.39
1.00	155	12.61	1229	100.00
TOTAL	1229	100.00		

=====CLASS LIMITS====	FREQUENCY	.....
.00	1074	¦==========
1.00	155	¦====

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP2 LABEL: AGE VARIABLES
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 6

VARIABLE: 5. 65-+

PATIENTS AGED 65 YEARS AND OLDER

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00 <		1.00	1156	94.06	1156	94.06
1.00 <		2.00	73	5.94	1229	100.00
	TOTAL		1229	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00 <		1.00	1156 |:============================
1.00 <		2.00	73 |:=

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 10. AGE

THE PATIENT'S AGE

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	5.00	203	16.52	203	16.52
5.00	<	10.00	126	10.25	329	26.77
10.00	<	15.00	110	8.95	439	35.72
15.00	<	20.00	144	11.72	583	47.44
20.00	<	25.00	107	8.71	690	56.14
25.00	<	30.00	96	7.81	786	63.95
30.00	<	35.00	75	6.10	861	70.06
35.00	<	40.00	73	5.94	934	76.00
40.00	<	45.00	67	5.45	1001	81.45
45.00	<	50.00	45	3.66	1046	85.11
50.00	<	55.00	44	3.58	1090	88.69
55.00	<	60.00	34	2.77	1124	91.46
60.00	<	65.00	33	2.69	1157	94.14
65.00	<	70.00	35	2.85	1192	96.99
70.00	<	75.00	23	1.87	1215	98.86
75.00	<	80.00	8	.65	1223	99.51
80.00	<	85.00	3	.24	1226	99.76
85.00	<	90.00	1	.08	1227	99.84
90.00	<	95.00	2	.16	1229	100.00
			TOTAL 1229	100.00		

=====CLASS LIMITS====			FREQUENCY	
.00	<	5.00	203	|==========
5.00	<	10.00	126	|=========
10.00	<	15.00	110	|========
15.00	<	20.00	144	|==========
20.00	<	25.00	107	|========
25.00	<	30.00	96	|=======
30.00	<	35.00	75	|=====
35.00	<	40.00	73	|=====
40.00	<	45.00	67	|=====
45.00	<	50.00	45	|===
50.00	<	55.00	44	|===
55.00	<	60.00	34	|==
60.00	<	65.00	33	|==
65.00	<	70.00	35	|==
70.00	<	75.00	23	|=
75.00	<	80.00	8	|
80.00	<	85.00	3	|
85.00	<	90.00	1	|
90.00	<	95.00	2	|

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 9. SEX

THE PATIENT'S GENDER

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00 <	1.00		582	47.36	582	47.36
1.00 <	2.00		647	52.64	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====		FREQUENCY .....
.00 <	1.00	582 |==========
1.00 <	2.00	647 |==========

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 15. AD

PATIENT BENEFICIARY CATEGORY: ACTIVE DUTY

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00 <		1.00	1002	81.53	1002	81.53
1.00 <		2.00	227	18.47	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00 <		1.00	1002 |==========
1.00 <		2.00	227 |======

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

• VARIABLE: 16. DEP-AD

PATIENT BENEFICIARY CATEGORY: DEPENDENT OF ACTIVE DUTY

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	1.00	521	42.39	521	42.39
1.00	<	2.00	708	57.61	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00	<	1.00	521 |==========
1.00	<	2.00	708 |==============

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 17. RET

PATIENT BENEFICIARY CATEGORY: RETIRED

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	1.00	1124	91.46	1124	91.46
1.00	<	2.00	105	8.54	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00	<	1.00	1124 |==========
1.00	<	2.00	105 |==

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 18. RET-DEP

PATIENT TRIAGE CATEGORY: DEPENDENT OF RETIRED

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00 <		1.00	1068	86.90	1068	86.90
1.00 <		2.00	161	13.10	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00 <		1.00	1068 |==========
1.00 <		2.00	161 |====

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 19. OTHER

PATIENT BENEFICIARY CATEGORY: OTHER

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00 <		1.00	1201	97.72	1201	97.72
1.00 <		2.00	28	2.28	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00 <		1.00	1201
1.00 <		2.00	28

Appendix F

Day and Time of Presentation to the ETR Frequency Distributions

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 3. WEEK.DAY

DAY OF THE WEEK THE PATIENT PRESENTED FOR TREATMENT

				....CUMULATIVE...	
=====CLASS LIMITS====	FREQUENCY	PERCENT	FREQUENCY	PERCENT
.00 < 1.00	569	46.30	569	46.30
1.00 < 2.00	660	53.70	1229	100.00
	TOTAL 1229	100.00		

=====CLASS LIMITS====	FREQUENCY	.....
.00 < 1.00	569	|==========
1.00 < 2.00	660	|==========

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 4. D.SHIFT

PATIENTS WHO PRESENTED TO THE ETR DURING THE DAY SHIFT

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00 <		1.00	843	68.59	843	68.59
1.00 <		2.00	386	31.41	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00 <		1.00	843 |==========
1.00 <		2.00	386 |==========

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 5. E.SHIFT

PATIENTS WHO PRESENTED TO THE ETR DURING THE EVENING SHIFT

				....CUMULATIVE...	
=====CLASS LIMITS====	FREQUENCY	PERCENT	FREQUENCY	PERCENT
.00 < 1.00	564	45.89	564	45.89
1.00 < 2.00	665	54.11	1229	100.00
TOTAL	1229	100.00		

=====CLASS LIMITS====	FREQUENCY .....
.00 < 1.00	564 |==========
1.00 < 2.00	665 |==========

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 6. N.SHIFT

PATIENTS WHO PRESENTED TO THE ETR DURING THE NIGHT SHIFT

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00 <		1.00	1051	85.52	1051	85.52
1.00 <		2.00	178	14.48	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00 <		1.00	1051 |==========
1.00 <		2.00	178 |====

Appendix G

Triage Category Frequency Distributions

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 11. EMERG

PATIENT TRIAGE CATEGORY: EMERGENT

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00	<	1.00	1215	98.86	1215	98.86
1.00	<	2.00	14	1.14	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00	<	1.00	1215 |==========
1.00	<	2.00	14 |

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 12. URGENT

PATIENT TRIAGE CATEGORY: URGENT

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00 <		1.00	677	55.09	677	55.09
1.00 <		2.00	552	44.91	1229	100.00
		TOTAL	1229	100.00		

===CLASS LIMITS====			FREQUENCY .....
.00 <		1.00	677 |==========
1.00 <		2.00	552 |==========

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 13. NON-URG

PATIENT TRIAGE CATEGORY: NON-URGENT

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00 <		1.00	566	46.05	566	46.05
1.00 <		2.00	663	53.95	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00 <		1.00	566 |==========
1.00 <		2.00	663 |==========

Appendix H

Control Variable Frequency Distributions

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 7. AMBUL

PATIENTS WHO ARRIVED AT THE ETR BY AMBULANCE OR EMS

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00 <		1.00	1182	96.18	1182	96.18
1.00 <		2.00	47	3.82	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00 <		1.00	1182 |==========
1.00 <		2.00	47 |=

---------- FREQUENCY DISTRIBUTIONS ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

VARIABLE: 14. ADMIT

PATIENTS WHO WERE ADMITTED TO DACH FROM THE ETR

=====CLASS LIMITS====			FREQUENCY	PERCENT	....CUMULATIVE... FREQUENCY	PERCENT
.00 <		1.00	1146	93.25	1146	93.25
1.00 <		2.00	83	6.75	1229	100.00
		TOTAL	1229	100.00		

=====CLASS LIMITS====			FREQUENCY .....
.00 <		1.00	1146 |==========
1.00 <		2.00	83 |==

Appendix I

Correlation Matrix

---------- CORRELATION MATRIX ----------

HEADER DATA FOR: A:GMP1 LABEL: GMP RESEARCH DATA
NUMBER OF CASES: 1229 NUMBER OF VARIABLES: 19

CORRELATION MATRIX

	PRO.TIME	TOT.TIME	WEEK.DAY	D.SHIFT	E.SHIFT	N.SHIFT	AMBUL	APP/INAP
PRO.TIME	1.00000							
TOT.TIME	.51547	1.00000						
WEEK.DAY	-.12822	-.05428	1.00000					
D.SHIFT	-.00513	.06813	-.19439	1.00000				
E.SHIFT	.11925	.00492	.11750	-.73477	1.00000			
N.SHIFT	-.16215	-.09416	.09000	-.27848	-.44223	1.00000		
AMBUL	-.05286	.11376	.09155	-.01610	-.02921	.06260	1.00000	
APP/INAP	.24355	-.11111	-.12689	-.08576	.03758	.05522	-.12104	1.00000
SEX	.01417	.00501	.01813	.00629	.00299	-.01254	-.01481	.05629
AGE	.00966	.23645	-.00001	.15154	-.12351	-.02440	.07728	-.14476
EMERG	-.06325	.03669	.05354	.00996	.02192	-.04418	.05855	-.09285
URGENT	-.22680	.11843	.14620	.03394	.01089	-.05554	.11848	-.57279
NON-URG	.23980	-.12600	-.15729	-.03599	-.01554	.06483	-.13070	.59137
ADMIT	-.12184	.29909	.09382	.02747	-.03846	.01823	.19994	-.22624
AD	.02980	.02523	.00881	.01674	-.04135	.03648	.08002	-.00913
DEP-AD	-.00611	-.16676	.00921	-.13255	.11204	.01618	-.09509	.09312
RET	.00601	.15221	-.01977	.08167	-.04565	-.04307	.06048	-.06435
RET-DEP	-.00758	.08941	-.01190	.08538	-.05863	-.02959	-.00197	-.06778
OTHER	-.05137	-.00065	.01054	.04941	-.04542	-.00086	-.00201	-.01084

	SEX	AGE	EMERG	URGENT	NON-URG	ADMIT	AD	DEP-AD
SEX	1.00000							
AGE	.02703	1.00000						
EMERG	-.02104	.04959	1.00000					
URGENT	-.05765	.10653	-.09693	1.00000				
NON-URG	.06201	-.11686	-.11618	-.97729	1.00000			
ADMIT	-.04348	.17293	.27665	.19374	-.25224	1.00000		
AD	-.25828	.13552	-.05109	-.00403	.01490	.02231	1.00000	
DEP-AD	.21856	-.59965	-.01653	-.05957	.06296	-.14313	-.55485	1.00000
RET	-.28145	.48117	.10434	.02832	-.05048	.13814	-.14548	-.35629
RET-DEP	.18954	.23789	.00377	.05666	-.05735	.05888	-.18480	-.45261
OTHER	.04652	.19424	-.01639	.02657	-.02303	.02410	-.07268	-.17799

	RET	RET-DEP	OTHER
RET	1.00000		
RET-DEP	-.11867	1.00000	
OTHER	-.04667	-.05928	1.00000

CRITICAL VALUE (1-TAIL, .05) = + Or - .04695
CRITICAL VALUE (2-tail, .05) = +/- .05593

N = 1229
