

**U.S. Army-Baylor University Graduate Program in Health Care
Administration**

**A Study on Non-urgent Utilization in the Ambulatory
Care Reception Center and Emergency
Department at Darnall Army Community Hospital**

Submitted to:

**The Faculty of Baylor University
In Partial Fulfillment of the Requirements for Master of Health Care
Administration**

May 1997

By

**CPT Damon G. Baine
Fort Hood, TX 76544-5063
817-288-8600**

20000107 016

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY <i>(Leave blank)</i>		2. REPORT DATE MAY 1997		3. REPORT TYPE AND DATES COVERED Final Report (07-96 to 07-97)	
4. TITLE AND SUBTITLE A Study on Non-Urgent Utilization in the Ambulatory Reception Center and Emergency Department at Darnall Army Community Hospital				5. FUNDING NUMBERS	
8. AUTHOR(S) CPT Damon G. Baine					
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Darnall Army Community Hospital				8. PERFORMING ORGANIZATION REPORT NUMBER 15-97	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Medical Department Center & School Bldg.2841; ATTN: MCCS-HRA U.S. Army-Baylor Graduate Program in Health Care Administration 3151 Scott Road Fort Sam Houston, TX 78234-6135				10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES					
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited				12b. DISTRIBUTION CODE	
13. ABSTRACT <i>(Maximum 200 words)</i> <p>This study addresses access to primary care at Darnall Army Community Hospital. The purpose of this management project was to determine the reasons that MHSS beneficiaries with non-urgent conditions use the Ambulatory Care Reception Center(ACRC) and Emergency Department(ED) rather than accessing the primary care system.</p> <p>This study supports previous findings that many of our patients present at the ACRC and ED because they perceive their problems as urgent even when they are considered non-urgent by health professionals. In addition, many of our patients feel no other option is available to them for primary care due to a shortage of appointments.</p> <p>Three courses of action will decrease the non-urgent utilization of the ACRC/ED. Provide education on self-care techniques and resources to the beneficiary population, increase the primary care capacity of the system through a thorough analysis utilizing medical simulation to design the optimum primary care system, and have on-call primary care managers (PCMs) to the Prime enrollees.</p>					
14. SUBJECT TERMS Non-urgent Emergency Department Utilization				15. NUMBER OF PAGES 49	
				18. 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	

ACKNOWLEDGMENTS

I would like to thank LTC Ron Gelzer, LTC Clyde Turner, and LTC Cynthia McMinn for their assistance and guidance in conducting this study. I would also like to thank the nursing staff and clerical staff in the ACRC and ED that supported the administration of the survey. I also appreciate the assistance and motivation I received from MAJ John Shero to press on when my interest waned. A special thanks goes to COL Raymond Burden for his professional guidance and tutelage during my residency. I consider myself extremely fortunate to have had the opportunity to spend my residency under his wing. Most of all I want to thank my wife whose continuous support throughout the didactic and residency phase of this program enabled me to successfully complete this phase of my education without which I would have certainly failed. Finally, I thank my two daughters for the sacrifices they had to endure as I spent more time on my education and less time with them.

ABSTRACT

This study addresses access to primary care at Darnall Army Community Hospital. The purpose of this management project was to determine the reasons that MHSS beneficiaries with non-urgent conditions use the Ambulatory Care Reception Center(ACRC) and Emergency Department(ED) rather than accessing the primary care system.

This study supports previous findings that many of our patients present at the ACRC and ED because they perceive their problems as urgent even when they are considered non-urgent by health professionals. In addition, many of our patients feel no other option is available to them for primary care due to a shortage of appointments.

Three courses of action will decrease the non-urgent utilization of the ACRC/ED. Provide education on self-care techniques and resources to the beneficiary population, increase the primary care capacity of the system through a thorough analysis utilizing medical simulation to design the optimum primary care system, and have on-call primary care managers (PCMs) to the Prime enrollees.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
ABSTRACT	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	v
CHAPTER 1	
INTRODUCTION	1
Ambulatory Care Reception Center	3
Conditions Which Prompted the Study	4
Statement of the Problem	5
Literature Review	5
Purpose	18
CHAPTER 2	
METHODS AND PROCEDURES	19
Survey Administration	19
Data Collection	21
CHAPTER 3	
RESULTS	24
Response Rate	24
Demographic Characteristics and Enrollment Status	24

Access to Appointments 26

Usual Source of Medical Care and Recent Contact 26

Reason(s) for Coming to the ACRC/ED 29

CHAPTER 4

DISCUSSION 32

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS 39

APPENDIX 43

1. DACH ACRC/ED Ambulatory Patient Survey 44

BIBLIOGRAPHY 46

LIST OF TABLES

TABLE

1. Demographic Characteristics in Ambulatory ED Patients 25
2. Appointment Seeking Behavior by All Study Patients and Those Enrolled and not Enrolled in TRICARE Prime 26
3. Usual Source of Medical Care by Enrollment Status 27
4. Care Received within 2 Days Prior to ACRC/ED Visit 28
5. Reasons for Ambulatory Visits to the ACRC/ED by All Study Patients and Those Enrolled /Not Enrolled in TRICARE Prime . . . 29

CHAPTER 1

INTRODUCTION

Emergency department care for patients whose problems are not true emergencies has become a fashionable scapegoat for the ills of the health care system in the United States. Such care is considered wasteful and expensive and is therefore a prime target for cost cutting efforts in the current managed care environment.

Under managed care tenets, our military treatment facilities (MTF) are expected to provide cost effective healthcare that maximizes productivity. MTF commanders have responsibility to provide appropriate healthcare to the catchment area beneficiaries within the confines of their budget.

Today, the Military Health Services System (MHSS) must remain competitive with the civilian managed care organizations if it is to survive. The MHSS must increase its efficiency while improving access. The challenge to the MTF commander is to provide more care to more people in the most cost effective manner.

Darnall Army community Hospital (DACH) is funded based on the beneficiary population in the catchment area. DACH's budget is capitated at a fixed amount per beneficiary. The financial incentive under this method of funding is to ensure care is provided in the most cost-effective setting while maintaining high quality, accessible care.

It is well documented that emergency room care for non-urgent visits is two to three times as expensive than care in a less intensive setting (Walsh, 1990; GAO, 1993; Baker & Baker, 1994; Young et al., 1996). Under managed care, these inefficiencies have to be reduced to remain fiscally sound. Emphasis must be placed on providing the right care at the right place at the right time for the least cost. An ER is set up to evaluate and stabilize patients requiring immediate care. Non-urgent visits to the emergency room wastes hospital resources that can be more appropriately used elsewhere.

There are efficiencies to be gained by reducing the number of non-urgent visits to the ED. However, in order to implement effective strategies, the organization must understand the reasons why patients use the ED for non-urgent problems.

Ambulatory Care Reception Center

On 3 June 1996, DACH initiated the Ambulatory Care Reception Center(ACRC) to inform customers about access options when seeking emergency or primary care without an appointment and then to facilitate access to care in the most appropriate setting. The goals of the ACRC primarily address access and utilization.

ACRC seeks to maximize patient utilization of existing appointments in the Family Care and Pediatric Clinics by scheduling available same-day appointments (SDA) for patients seeking access to DACH through the ACRC/ED. The intent is to reduce the number of no-show and cancelled appointments that go unfilled. The ACRC seeks to facilitate access by streamlining the patient's process for accessing primary care at DACH.

The ACRC is the access point for walk-in patients at DACH who previously would access the ED. The patient is initially seen by a registered nurse (RN) where they are triaged into categories 1-5. Categories 1 and 2 are considered emergent. Category 3 is urgent and categories 4 and 5 are non-urgent. Patients triaged as category 1-3 are referred immediately to the ED for treatment. Patients triaged as category 4 or 5 are given the opportunity to make a SDA at one of the three Family Care Clinics (FCCs) or

Pediatric Clinic if one is available. Tricare Prime enrollees can schedule appointments as far as 7 days in advance with their primary care manager (PCM) if a SDA is not available. Patients not enrolled in Tricare Prime do not have this benefit. If a SDA is not available for nonenrollees and they still want to be seen by a physician that day, their only other alternative is to wait to be seen at the ED where waits can be significant due to their non-urgent triage category. Both the Prime enrollees and nonenrollees may opt to wait in the ED if they desire to be seen that day.

Conditions Which Prompted the Study

The budget at DACH for fiscal year(FY) 1997 is \$6 million less than the FY96 budget. This decrement requires DACH to take a hard look at how and where care is provided. The ER is a very expensive venue of care. The cost to staff and maintain the ED is substantial. It is essential that all high cost utilization be analyzed. Patients that seek access to care via the ACRC will invariably spill over to the ED when appointments are not available. These patients face long waiting times which affects patients' satisfaction and also cost more to treat in the resource intensive ED versus a more appropriate setting (e.g., outpatient clinic). The proactive step of implementing the ACRC has certainly improved the appropriate utilization of emergency services, evidenced by a 60-

70 percent drop in nonurgent workload (Gelzer,1996), yet there is still room for improvement. Steps must be taken to ensure ED utilization is focused on urgent and emergent care and to make changes to improve access to appropriate sources of primary care. The first step is understanding why patients access the ACRC and ED for their primary care.

Statement of the Problem

The problem addressed in this study deals with access to primary care at DACH. The question asked is why are non-urgent patients choosing to use the ACRC as their access point rather than going to less intensive setting for care (e.g., Family Care Clinic, Pediatric Clinic, Adult Chronic Care Clinic)

Literature Review

Emergency medicine was formally established in the 1970's as a specialty to evaluate, stabilize, and treat illnesses and injuries that require immediate attention (Nordberg, 1990). Consequently, almost all ERs are set up to treat and receive patients with a wide range of illnesses and injuries 24-hours a day. Because patients need no appointment and access is generally not restricted, conditions treated range from life threatening emergencies to non-urgent treatments for colds and minor lacerations.

The nation's emergency departments (EDs) have evolved from the source of acute care for most critically ill or injured patients to an expensive acute care and minor care clinic (Young & Sklar, 1995). It is widely recognized that hospital EDs provide a substantial amount of non-urgent, primary medical care. Studies have shown at many hospitals the majority of patients who utilize the ED receive treatment for non-urgent conditions (Shesser et al, 1991). Visits to hospital EDs continue to increase. In 1993 the General Accounting Office(GAO) reported that ED use had increased by 19 percent from 1985 to 1990, with 99.6 million visits to emergency departments in 1990 (GAO, 1993). The use of the ED for primary care is problematic because it is an innappropriate use of an expensive type of care.

Several studies looking at utilization of the ED in the civilian sector have been conducted over the past twenty years. Many of the studies suggest that a significant proportion of patients who came to the ED should have seen either a primary care provider or did not need to be seen by a health care provider at all. The percentages of non-urgent users in the ED varied from a low of 35 percent to a high of 75 percent (GAO, 1993).

In the study conducted by the GAO, of the nearly 100 million visits to the ED in 1990, almost 43 percent were assessed as non-

urgent conditions . These were conditions that could have been treated in a physician's office or at home with over the counter medications. This study concluded that people with non-urgent conditions often seek care in the ED because they had no access to other care when they wanted or needed medical care. The most frequent reason given for non-urgent ED use was that the patient did not have a primary care provider. Of the 43 million non-urgent ED visits in 1990, 42 percent did not have a primary care provider. The second leading reason for non-urgent ED use was that it was offered after regular office hours and was more convenient (GAO, 1993).

A study conducted by the Health Care Advisory Board(HCAB) found that over 75 percent of ED visits could have been more appropriately handled in a physician's office . This study also reported that up to 50 percent of the non-urgent ED visits are attributable to the unavailability or lack of a primary care provider. The other two most common reasons why patients visit the ED for non-urgent conditions was that the ED was more convenient and that the ED offered after regular provider office hours (Health Care Advisory Board, 1993).

In a study that looked at the ED as a primary care provider, the President of the American College of Emergency Physicians

stated that the ED has become the "safety net for accessing care" (Greene, 1992). According to him, people come to the ED to be triaged to the most appropriate clinical setting.

In an unpublished study conducted in a military level 2 ED, the researcher concluded that 54 percent of the visits were for non-urgent care. The two main reasons non-urgent patients utilized the ED was because they perceived their condition to be emergent and because they could not access alternate sources of care due to a lack of appointments and no evening or weekend hours (Richardson, 1991).

A number of civilian studies have also attempted to identify possible determinants of non-urgent ED use. A study conducted in 1992 found that the most common reason for non-urgent use of the ED was other primary care was not available (Padgett & Brodsky, 1992). The researchers concluded the convenience and accessibility of the ED are powerful incentives to its heavy and inappropriate use. By providing sophisticated diagnostic and treatment services 24-hours a day, with no appointment or physician referral necessary, the ED is an appealing alternative to crowded and inaccessible clinics where the wait for an appointment with a primary care provider can be weeks (Padgett & Brodsky, 1992)

In 1990, a study was conducted in an urban public hospital in Los Angeles to determine the ED ambulatory patients' perceptions of their illness urgency, their attempts to get care elsewhere, and the proportion of patients referred to the ED by another provider. The results of the study revealed most of the patients thought that they required immediate medical attention, even if they said that their condition was not serious, painful, or debilitating. Half of all the patients sought care elsewhere before presenting to the ED, and 38 percent had seen a doctor. 44 percent of all patients said they were referred to the ED by a physician or a nurse and the referred patients had illness acuteness similar to that of patients who came to the ED on their own. The researchers concluded these findings have important implications for the delivery of health care to the urban poor. Efforts to expand ambulatory care sites may have little impact on ED use for non-urgent conditions if patients believe their problems constitute an emergency. People will use health care facilities according to their perceived needs rather than to the expectations of those who designed the system. If these attitudes cannot be changed, hospitals where overcrowding is problematic may need to develop objective criteria to identify patients who can safely be triaged away from the ED to their primary care provider or an

alternative ambulatory care setting. Finally, physicians may need motivation, perhaps in the form of financial incentives, to see patients in their office or clinic rather than to refer them to the ED (Baker, Stevens & Brook, 1995).

A secondary study was conducted in conjunction with the above study to determine the proportion of patients who consider the emergency department their regular source of care, as well as the associated characteristics of patients who identify the emergency department as their usual provider, particularly whether their health status is different from patients with other regular sources of care, and also the relationship between regular source of care, ED use, and overall use of ambulatory services. A total of 16 percent identified the ED as their regular source of care. One quarter of this group reported fair or poor health. African Americans and Latinos were more likely than whites to identify an ED as their regular source of care. Patients whose regular source of care was the ED had 25 percent fewer physician visits and were less likely to have seen a physician during the preceding three months than patients who were usually seen in an office or clinic. Of all patients, 56 percent identified a regular source of care other than the ED, but almost a third of those patients recent physician visits still occurred in an ED. The researchers concluded that the

patients rely heavily on ED for ambulatory physician visits, regardless of their reported regular source of care. However, patients who identify an ED as their regular source of ambulatory care used physician services less frequently than patients with access to providers in other settings (Baker, Stevens & Brook, 1994).

The lower overall use of medical services among patients who identified the ED as their regular source of care is concerning. Previous studies have shown that the lack of a regular source of care is a barrier to health care access (Hayward & Freeman, 1991). Having an ED as a regular source of care may be only a partial solution. In a case control study, researchers found that patients who relied on an ED for blood pressure checks and medication refills were less compliant and more likely to have severe, uncontrolled hypertension (Shea et al, 1992).

Other research has attempted to identify specific characteristics about the non-urgent users of the ED. The assumption is if socio-demographic characteristics are known about the non-urgent users then steps can be taken to direct these individuals to more appropriate sources of medical care. A study conducted in 1985 examined inappropriate utilization by socio-demographic variables. The researchers found the subgroups with

the highest inappropriate visit rates included: children aged 5 or younger (15.2 percent); those unable to identify a personal or primary care physician (14.1 percent); and those patients that were unemployed (13.1 percent) (Buesching et al, 1985).

In 1994, a group of fifty-six hospitals conducted a cross-sectional survey over a 24-hour period to characterize the reasons ambulatory patients use hospital EDs for outpatient care and to determine the proportion of ED patients who initially are assessed as having nonurgent conditions, but subsequently are hospitalized. Results showed that 86 percent of the surveyed population had actual clinical reasons for seeking care at the ED. 45 percent of the patients thought that their condition was emergent in nature or that they were too sick to go anywhere else. Patients with a regular physician or with insurance cited similar reasons for seeking care at an ED. 50 percent cited one or more nonfinancial barriers to care as an important reason for coming to the ED. In total, 49 percent of all ED visits were ambulatory of which 39 percent of the walk-ins were assessed at triage as having a non-urgent condition. 5.5 percent of the non-urgent patients were admitted to the hospital. The researchers concluded that most ambulatory patients seek care in an ED because of worrisome symptoms or nonfinancial barriers to care (problems with work schedules, limited

transportation, lack of a telephone, etc.). Although many ambulatory patients appear to have non-urgent conditions based on triage classification, a small but disturbing fraction of non-urgent patients are hospitalized. EDs provide access to care for ambulatory care patients with painful, worrisome, or uncomfortable symptoms. EDs are also an important point of care for those who cannot easily get treatment elsewhere. Although many patients who seek care in the ED have non-urgent problems, it is not always easy to identify them at the triage desk. Strategies to restrict ED utilization must be carefully evaluated to confirm that they do more good than harm (Young et al, 1996).

In several of the studies the researchers have made proposals for reducing the non-urgent use of the ED. Some advocate setting up a nurse triage system with an adjacent acute care clinic (Kerr, 1989). Specifically, when the patient presents to the ED the patient undergoes a preliminary screening by a triage nurse who uses selective triage criteria to determine whether the patient's condition is emergent/urgent or non-urgent. If the patient is classified non-urgent, the patient is referred to the acute care clinic for treatment. One successful program was established at the St. Joseph's Hospital in Patterson New Jersey. They established a hot line, answered by nurses in the ED, to direct

patients with minor ailments to the appropriate clinic (Howland, 1993).

The literature also revealed that a number of hospitals have reduced the number of inappropriate ED visits by referring them to a less intensive source of care (Greene, 1992, HCAB, 1992). Many of these hospitals have implemented a "fast track" area in the ED where patients are immediately triaged and non-urgent patients are seen by the fast track RN where they are prepared for examination by a physician. Because the patients are as ready as the nurse can make them and are all in a single area, the physician often needs only a few minutes with each (Romanelli, 1992). This system efficiently maintains patient flow in light of limited resources, space constraints, limited man power and increasing census. The fast track increases patient flow of lower acuity patients without compromising overall patient care and allows ED physicians to see a greater proportion of higher acuity patients (Simon et al, 1996).

Other researchers have advocated the establishment of an "Advice Nurse" or health care advisor type service (Howland, 1993; Derlet & Nishio). Under such a program, the patient who is experiencing a medical problem would call a telephone number staffed 24-hours a day by a qualified triage nurse and explain to the nurse the symptoms/presenting problem. Using established

screening criteria, the patient is directed to the appropriate type of medical care. Informed Access Systems (IAS), a company that provides a 24-hour telephonic advice nurse/doctor service, called "First Help", reported in an independent telephone survey 62 percent of the callers were safely directed to self care and 35 percent of the 62 percent said they would have otherwise gone to the ED. The researchers also reported a 99 percent customer satisfaction rate which is consistent with several other studies that have examined telephone-based triage systems (Pollard, 1992; Wilson et al, 1980).

There are studies that do not support the use of telephone-triage. A study conducted by Kerr, raised the issue regarding patients whose primary language is not English, who are illiterate, elderly, or afraid. These patients would be at a disadvantage when asked to explain their presenting problems (Kerr, 1989). The researcher is also concerned that telephone conversations are less revealing than the traditional physician-patient physical encounter. It is for this reason studies advocating the use of a telephone screening system propose conservative screening criteria to ensure the patient's health is not jeopardized (Howland, 1993; Derlet & Nishio, 1990).

The study by the HCAB recommended the use of a primary care liaison to reduce the utilization of the ED for primary care (HCAB, 1993). The primary care liaison, typically a discharge nurse, educates non-urgent patients on the role of primary care providers and then connects the patients to the appropriate primary care providers. Researchers found that this set up convinced over 90 percent of the patients reached to stop using the ED as a primary care source.

Another method of reducing inappropriate ED use cited in the literature is self-care. A study conducted on Medicare beneficiaries examined the impact of self-care on ambulatory utilization, to include ED use. Researchers found that this health education program on self-care promoting individual decision making can reduce non-urgent use of the ED. Self-care, in this instance, did not negatively impact the health status of any of the study subjects (Vickery et al, 1988)

An unpublished study by the Air Force examined the effect that issuing a self-care handbook to beneficiaries had on reducing inappropriate outpatient visits. The study was conducted at three Air Force bases where "Take Care of Yourself" self-care manuals were given to the beneficiaries along with a 20 minute orientation on how to use the book. The researchers found six months after the

manuals were issued inappropriate ED visits fell 28 percent (U.S. Air Force, 1993).

The literature also identified other methods to reduce non-urgent ED usage. A study conducted from 1992 to 1993 examined the effect of a copayment on the ED use in a group-model Health Maintenance Organization (HMO). Results showed after adjustment for age, sex, and socioeconomic status, introduction of a small copayment for the use of the ED was associated with a decline of about 15 percent in the use of that department, mostly among patients with conditions considered likely not to present an emergency (Selby, Fireman, & Swain, 1996)

In 1988, a study also examined the effect of refusing care to non-urgent patients presenting to an ED. This ED adopted a policy of refusing to treat patients in the ED if they failed to have what was considered an emergency condition. Screening examinations were performed by triage nurses to determine whether patients were eligible to be seen in the ED. In the first six months 4,186 patients were referred away from the ED of which only 42 patients returned to the ED within 48-hours and none had a deterioration of their condition. The researchers concluded that a selective triage system may be used to effectively decompress an ED (Derlet & Nishio, 1990).

Purpose

The purpose of this management project was to determine the reasons that MHSS beneficiaries use the ACRC and ED at DACH for non-urgent conditions rather than accessing the primary care system. Non-urgent user behavior and demographic information was collected and used to make recommendations on optimum ways to redirect our beneficiaries to the appropriate level of care. The ultimate goal of this project was to make recommendations that will have a significant impact on increasing appropriate access to care and patient awareness.

CHAPTER 2

METHODS AND PROCEDURES

This study focused on non-urgent utilization of the ED at DACH. A survey (Appendix 1) was conducted on every walk-in patient to the ACRC and the ED during 3 February to 3 March 1997. The survey instrument was developed in cooperation with the DACH Chief of Emergency Operations, and an ED clinical resident. Both Head Nurses of Ambulatory Medicine, and the ACRC reviewed the survey and concurred with the instrument.

Survey Administration

The survey identified motivation for ED utilization by patients with non-urgent conditions as well as demographic information on each walk-in patient. The survey was issued to every walk-in patient who sought care at the ACRC or ED over a 30-day period. For those patients who sought care from 0700 to 2300 hours, the ACRC administered the survey. For those walk-in patients who presented for care between 2300 and 0700, the ED administered

the survey. A pilot survey was administered prior to the data collection period to eliminate any procedural flaws.

As walk-in patients signed in at the receptionist, they were asked to fill out the survey and hand it to the triage nurse when they were screened. The receptionist verified the patients Tricare Prime enrollment status and annotated it on the survey prior to giving it to the patient.

Each respondent was required to select one or more answers from a list of options. Responses that did not fit a preassigned category was listed as "other" and specified. Patients who presented with unstable conditions or are in labor with a term pregnancy were excluded from this study.

The survey consisted of the following questions: (1) Where do you usually go for medical care? Did you attempt to make an appointment through Central Appointments prior to coming to the ACRC or ED? (2) Within the last 2 days were you seen or treated elsewhere for your problem before you came here? If yes, where were you treated before you came here? (3) Why did you choose to come to the ACRC/ED instead of a doctor's office or clinic?

The screening nurse indicated whether the non-urgent patients presenting to the ACRC were triaged away without being seen at the ED.

The sample group of this study consisted of every non-urgent walk-in user of the ACRC or ED during the 30-day data collection period who completed the survey. The study sample was obtained 24-hours a day throughout the period.

Data Collection

The data were collected and coded by the researcher. The Statistical Package for the Social Sciences (SPSS), version 7.0 will be used to run the descriptive and inferential statistics.

The data from the study group were collected from every consecutive walk-in patients at the ACRC and ED. The following variables coded for the study was nominal data. The TRICARE enrollment status was coded as 1=DACH Prime, 2=Civilian Prime, and 3=Not enrolled in Prime. Time the patient arrived was coded as 1=0700-1100, 2=1100-1500, 3=1500-1900, 4=1900-2300, 5=2300-0300, and 6=0300-0700. The age of the patient was coded as 1=0-14 years, 2=15-25 years, 3=25-44 years, 4=45-64 years, and 5=65 years and over. The sex of the patient was coded as 1=male, and 2=female. The beneficiary status was be coded as 1=active duty, 2=active duty family member, 3=retiree, and 4=retiree family member. Usual health status was coded as 1=excellent, 2=very good, 3=good, 4=fair, and 5=poor. Education level of the patient or

parent if patient is a dependent child was coded as 1=high school, 2=college, and 3=post graduate.

The questions that the patient filled out on the survey was coded in the following manner. Where do you usually go for medical care: 1=private MD, group, or clinic, 2=Family Care Clinic (FCC) Killeen, 3=FCC Copperas Cove (CC), 4=Adult Chronic Care Clinic (ACCC), 5=FCC Darnall, 6=Pediatric Clinic Darnall, 7=ED Darnall, 8=I don't usually seek medical care, 9=Troop Medical Clinic (TMC), and 10= other. Did you attempt to make an appointment through Central Appointments prior to coming to the ACRC or ED: 1=yes, and 2=no. Within the last 2 days, were you seen or treated elsewhere for your problem before you came here: 1=yes, and 2=no. If yes, where were you seen or treated before you came here: 1=this ED, 2=another ED, 3=Private MD, group or clinic, 4=FCC Killeen, 5=FCC CC, 6=ACCC, 7=FCC Darnall, 8=Pediatric Clinic Darnall, and 9=TMC, and 10=other. Why did you choose to come to the ACRC or ED instead of a doctor's office or clinic (more than one answer is permitted; each answer coded as 0=yes and 1=no): it is more convenient, it offers after office hours (evening/weekend/holiday), unable to get through to Central Appointments, no appointments available in Central Appointments, no appointments available at my civilian PCM, I missed my

scheduled appointment, the level of care here is better, I do not have an assigned primary care physician, I felt the patients condition was an emergency, I was referred here by a physician, and other. Initial impression by triage personnel: 4=category 4, and 5=category.

For this study, descriptive statistics and frequency data will be tabulated. A Chi Square test was used to analyze the data to determine statistically significant differences among the means.

CHAPTER 3

RESULTS

Response Rate

A total of 5486 patients presented at the ACRC during the period from 3 February through 3 March 1997. 1872(44%) of those were triaged as Category 1-3 and were excluded from the study, while 3614(66%) of the patients were triaged as Category 4 or 5 and were included in the study. Of the Category 4 and 5 patients presenting at the ACRC, 1542 completed and returned surveys. 2072 either submitted incomplete surveys or failed to turn-in the survey.

Demographic Characteristics and Enrollment Status

Forty-eight percent(737) of the patients were below the age of 14, 306 (20%) were 15-25, 315 (21%) were 26-44, 139 (9%) were 45-64, and 35 (2%) were 65 and older. Fifty-one percent(899) of the study patients were female and 635(41%) were male. Ten percent(160) of the patients were active duty soldiers, 977(64%)

were active duty family members, 102(7%) were retirees, and 292(19%) were retiree family members (Table 1).

A total of 365 patients(24%) were enrolled in TRICARE Prime to DACH Primary Care Managers (PCM), 30(2%) were Prime enrollees to civilian PCM, and 1147(74%) were not enrolled in Prime. All active duty soldiers were considered Prime enrollees (Table 1).

Table 1.-Demographic Characteristics and Enrollment Status in Ambulatory Emergency Department Patients (N=1542)

	No. (%)
Sex:	
Female	899(59)
Male	635(41)
Age:	
0-14	737(48)
15-25	306(20)
26-44	315(21)
45-64	139(9)
65 and older	35(2)
Eligibility Status	
Active Duty	160(10)
Active Duty Family Member	977(64)
Retiree	102(7)
Retiree Family Member	292(19)
Enrollment Status	
TRICARE Prime-DACH PCM	365(24)
TRICARE Prime-Civilian PCM	30(2)
Not Enrolled	1147(74)

Access to Appointments

When asked if an attempt was made to make an appointment prior to seeking care at the ACRC/ED, 880 patients (57%) reported that they had tried to schedule an appointment, and 654(43%) had not. Table 2 compares the appointment seeking behavior of patients enrolled in TRICARE Prime to those not enrolled. Of the patients who attempted to make an appointment, 145(16%) were enrolled in TRICARE Prime with Darnall as their PCM, 15(2%) were enrolled in Prime with a civilian PCM, and 720(82%) were not enrolled in Prime.

Table 2.-Appointment Seeking Behavior by all Study Patients and those Enrolled and not Enrolled in TRICARE Prime

Attempted to Make an Appointment	Prime Darnall	Prime Civilian	No Prime	P Values
	No.(%) (N=365)	No.(%) (N=30)	No.(%) (N=1147)	
Yes	145(16)	15(2)	720(82)	<.001
No	217(33)	15(2)	422(65)	<.001

Usual Source of Medical Care and Recent Contact

When asked where they usually receive medical care, 72 patients (5%) identified a private physician, group or clinic as their source of medical care, 270(18%) identified the Killeen Family Care Clinic, 172(11%) identified the Copperas Cove Family Care Clinic,

15(1%) identified the Adult Chronic Care Clinic, 294(19%) identified the Darnall Family Care Clinic, 313(21%) identified the Darnall Pediatric Clinic, 102(7%) identified the Darnall Emergency Room, 113(7%) selected a Troop Medical Clinic, 100(7%) identified that they did not usually seek care from a regular source, and 65(4%) identified a source other than those listed on the survey. Table 3 shows the usual source of medical by enrollment status.

Table 3.-Usual Source of Medical Care by Enrollment Status

Usual Source	Prime	Prime	No Prime	Total
	Darnall	Civilian		
	No.(%)	No.(%)	No.(%)	No.(%)
Private MD, Clinic	2(0.1)	18(1)	52(4)	72(5)
FCC Killeen	43(3)	4(0.2)	223(15)	270(18)
FCC Cop. Cove	26(2)	1(0)	145(10)	172(12)
ACCC	1(0)	0(0)	14(1)	15(1)
FCC Darnall	51(3)	2(0.1)	241(16)	294(19)
Darnall Pediatrics	81(5)	2(0.1)	230(15)	313(20)
Darnall ER	13(1)	0(0)	90(6)	103(7)
TMC	113(7)	0(0)	0(0)	113(7)
No regular source	33(3)	3(0.1)	64(4)	100(7)
Other	2(0.1)	0(0)	63(4)	65(4)

Eleven percent of the respondents (n=161) reported that they had seen another clinician in the previous 2 days including 46(32%) who had received treatment in the Darnall Emergency Room, 2(1%) from another Emergency Room, 11(8%) from a private physician, group or clinic, 17(12%) from the Killeen Family Care Clinic, 7(5%) from the Copperas Cove Family Care Clinic, 18(13%)

from the Darnall Family Care Clinic, 9(6%) from the Darnall Pediatric Clinic, 18(13%) from a Troop Medical Clinic, and 16(10%) from a source other than those listed on the survey (Table 4).

Table 4.-Care Received within 2 Days Prior to ACRC/ED Visit (N=161)

Location	No. (%)
Darnall ER	46(32)
Another ER	2(1)
Private MD, Clinic	11(8)
FCC Killeen	17(12)
FCC Copperas Cove	7(5)
FCC Darnall	18(13)
Darnall Pediatrics	9(6)
Troop Medical Clinic	18(13)
Other	16(10)

Reason(s) for Coming to the ACRC/ED

Table 3 shows reasons for seeking care in the ACRC/ED and compares the answers of patients who are enrolled and not enrolled in TRICARE Prime.

Table 5.-Reasons for Ambulatory Visits to the ACRC/ED by All Study Patients and Those Enrolled/Not Enrolled in TRICARE Prime

Reasons for Visits*	All Study Patients No.(%) (N=1542)	Prime Darnall No.(%) (N=365)	Prime Civilian No.(%) (N=30)	No Prime No.(%) (N=1147)	P Values
It is more convenient	154(10)	34(9)	3(10)	117(10)	.625
Offers after office hours	203(13)	73(20)	2(7)	128(11)	<.001
Could not get thru to appointments	282(18)	47(13)	2(7)	233(20)	<.001
No appointments available	609(39)	77(21)	2(7)	530(46)	<.001
No civilian PCM appt available	44(3)	11(3)	11(37)	22(2)	.042
Missed scheduled appointment	7(.1)	2(.1)	0(0)	5(.4)	.807
Care here is better	34(2)	6(2)	0(0)	28(2)	.335
Do not have a PCM	154(10)	17(5)	1(3)	136(12)	<.001
Felt condition was an emergency	372(24)	104(28)	8(27)	260(23)	.023
Was referred here	61(5)	18(5)	5(16)	38(3)	.093
Other Reasons	247(16)	75(21)	3(10)	169(15)	.002

*Patients could give more than 1 reason so percentages total more than 100%.

More patients enrolled in TRICARE Prime with Darnall as their PCM sought care in the ACRC/ED because it offered after office hours (20% vs 7% for enrollees with civilian PCMs and 11% for non enrollees; $P < .001$). Almost twice as many nonenrollees indicated that they could not get through to Central Appointments therefore they sought care at the ACRC/ED (20% vs 13% for enrollees with Darnall PCMs and 7% with civilian PCMs; $P < .001$). Compared with other respondents, nonenrollees were much more likely to seek care at the ACRC/ED due to lack of availability of appointments (46% vs 21% for enrollees with Darnall PCMs and 7% with civilian PCMs; $P < .001$). Enrollees with civilian PCMs were more likely to go to the ACRC/ED due to no appointments being available at their civilian PCM (37%). Non enrollees were over three times as likely to go to the ACRC/ED because they missed their scheduled appointment than the other respondents (.4% vs .1% for enrollees with Darnall PCMs and 0% for enrollees with civilian PCMs). Nonenrollees were also much more likely to visit the ACRC/ED because they did not have a regular physician or PCM (12% vs 5% for enrollees with Darnall PCMs and 3% for enrollees with civilian PCMs; $P < .001$). There were no significant differences in the percentages of respondents who visited the ACRC/ED for perceived emergent conditions (28% for enrollees with Darnall

PCMs, 27% for enrollees with civilian PCMs, and 23% for nonenrollees; $P=.023$). Enrollees with civilian PCMs were more than three times as likely to seek care at the ACRC/ED because they were referred there (16% vs 5% for Darnall enrollees and 3% for nonenrollees).

CHAPTER 4

DISCUSSION

The use of the ED by nonemergency patients has been described previously . In a 1985 study, inappropriate visits accounted for 15.6% of the visits at one large urban hospital (Beusching 1985). More recently, the federal General Accounting Office has estimated that 43% of ED visits are by non-urgent patients (GAO, 1993). The Health Care Advisory Board in Washington, DC, estimates as many as 50% of national ED visits are non-urgent (Health Care Advisory Board, 1993). In the 1992 National Hospital Ambulatory Medical Care Survey, the Centers for Disease Control and Prevention identified 55.4% of ED visits as non-urgent (McCaig, 1994). This study's finding that 66% of the ambulatory visits to the ACRC/ED were triaged as nonemergencies is significantly higher than the national average indicated in the literature. This has important implications to our health care system and points to the necessity of understanding why our beneficiaries are accessing the system in this expensive and resource intensive setting.

It is important to understand how the triage categories used in the ACRC/ED mesh with the TRICARE Prime access standards. Prime enrollees seeking TRICARE wellness visits are to receive an appointment within 28 days. This classification does not correspond with any of the triage categories due to the nature of the visit (physical exam, Pap smears, etc.). Enrollees seeking an appointment for a TRICARE routine visit must be appointed within 7 days. Patients triaged into Category 5 fall into this classification. Enrollees requiring an TRICARE urgent visit must be given an appointment within 24 hours. Patients triaged into Category 4 are included in this classification. However, urgency is measured differently in EDs where an urgent problem is described as one that requires medical attention within a few hours (Gill, 1994). For the purposes of this discussion, Category 4 patients are considered non-urgent even though they fall under the "urgent" classification within the TRICARE Prime access standards.

The main reason the average beneficiary with a non-urgent condition is seeking access through DACH's ACRC/ED is due to a lack of availability of appointments. The findings indicate that most beneficiaries are attempting to make an appointment through central appointments prior to presenting at the ACRC/ED. As expected, the percentage of beneficiaries not enrolled in TRICARE

Prime who failed to get an appointment is much higher than our Prime enrollee respondents. DACH is fencing a portion of the appointment template for only Prime beneficiaries in order to meet the TRICARE access standards mandated by law. This reduces the total number of appointments available to the nonenrolled population.

The second most frequent reason the average respondent chose to access care at the ACRC/ED was they perceived their condition as an emergency. According to the literature that measures urgency from the patients perspective, as many as 75-95% of ED patients view their problem as urgent (Gill, 1996). This study's finding of 24% respondent perceived emergency is markedly lower than what the literature suggests. This indicates that DACH's beneficiary population may be using the ACRC/ED for reassurance rather than treatment for problems perceived to require urgent attention.

The third major reason the average respondent gave for seeking care at the ACRC/ED was due to an inability to get through to central appointments. This could indicate a need for additional staffing in central appointments. However, during the course of this study, additional central appointment clerks were hired to alleviate the telephone queueing problem. Further analysis is

required to determine if ACRC/ED visits are still occurring due to access problems to central appointments.

By grouping the respondents by enrollment status, the top three reasons given for utilizing the ACRC/ED shifted. The top three responses from non-enrollees to TRICARE Prime mirrored the top three reasons given by the entire sample.

The main reason Darnall Prime enrollees gave was they felt their condition was an emergency. However, their percentage was also far below the national average.

The second most frequent reason given by DACH Prime enrollees was due to no appointments being available. The Clinical Support Division keeps track of whether DACH is meeting TRICARE Prime access standards and for all Category 5 respondents, appointments were offered within 7 days. Many respondents in this group are reluctant to wait that long prior to being examined by a health care provider and therefore seek care through the ACRC/ED. This expensive, resource intensive venue becomes the path of least resistance for these beneficiaries. Most Category 4 respondents were offered an appointment within 24 hours (Shero, 1997), but chose to go to the ACRC/ED instead because the time of the appointment was not satisfactory. Due to the high utilization exhibited during the February data collection period,

there were some Category 4 respondents for which there was not an appointment available within 24 hours. This group appropriately sought care at the ACRC/ED due to an access constraint to the primary care system.

The third most frequent reason given by the DACH Prime group was a response other than those provided on the survey. Two thirds of the responses provided related to the patient wanting to be seen sooner than the next available appointment. The remaining third was because the respondents were referred to the ACRC/ED by a nurse via the TRICARE Health Care Information Line (HCIL). Since these respondents were told by a nurse to go to the ED, it is quite reasonable for these individuals to assume that immediate medical attention was necessary. ED referrals by doctors and nurses are likely to reinforce patterns of non-urgent ED use by patients (Baker, Stevens & Brook, 1995)

The majority of respondents enrolled to civilian PCMs visited the ACRC/ED because there were no appointments available with their PCM. The standard for this group was also that they be given an appointment within 7 days. The TRICARE contractor is also bound by contract to follow the access standards. If there are insufficient resources in place to ensure these standards are met for the civilian Prime enrollees, it is incumbent on the contractor to

procure resources to comply with the contract. Currently, there is no system in place that monitors whether the contractor is meeting the Prime access standard.

The second most frequent reason civilian enrollees gave for visiting the ACRC/ED was they felt their condition was an emergency. The third most frequent reason for this group was because they were referred to the ACRC/ED.

In a system where controls are in place to monitor compliance to established access standards to the primary care network, the non-urgent utilization of the ACRC/ED is most often linked to the patients' perception of their condition as being urgent. Whereas in a system without such controls, non-urgent utilization of the ACRC/ED is based on access constraints.

There are several limitations to this study. First, a number of respondents frequented the ACRC/ED more than once during the data collection period and refused to fill out the survey for their subsequent visits. This reduced the response rate of the survey. Second, the precise criteria used to classify patients varies from triage nurse to triage nurse, and shift to shift. The triage nurse is placed in a tenuous position to control the access to the ED and primary care system based on the triage category the patient is classified in. There is a natural tendency for the triage nurse to

classify a non-urgent patient into an urgent category (Categories 3) to reduce their wait time in the ED based on social considerations such as a baby being in pain that truly triages into a Category 4 or 5. Since patients triaged as Category 1-3 were excluded from the study, the actual number of non-urgent patients could be higher than the number included in the study.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

There is little disagreement that the ACRC/ED is frequently used for problems that do not require urgent medical attention. Since ED care for such problems can be costly, it may be desirable from a health policy perspective to limit this use of the ED. However, if we are to change ED utilization, we must first understand and address the problem from the point of view of those who make the decision to seek ED care, i.e., the patients. This study supports previous findings that many ED patients perceive their problems as urgent even when they are considered non-urgent by health professionals. Also, many patients feel no other option is available to them for primary care due to a shortage of appointments or inconvenient office hours.

Based on the results of this study, there are three courses of action that could reduce non-urgent use of the ACRC/ED. The first is education. Much of the beneficiaries propensity to utilize the ACRC/ED for non-urgent problems is due to the culture that has been established in the past. Our beneficiaries have been used to

going to have an unforeseen problem
 regardle e this behavior, we must educate
 our bene care system, and on basic self-
 care tec → A key point in the education
 process involves marketing. We must market to our beneficiary
 population they have a health plan with certain benefits. Prime
 enrollees do not have to just show up at the ACRC/ED to receive
 care. They can schedule an appointment with their PCM and be
 confident they will be seen within the established access standards
 set forth in the TRICARE contract. Effectively marketing TRICARE
 Prime is the first step in reducing non-urgent utilization in the
 ACRC/ED.

Educating eligible beneficiaries on the DACH health care
 system is the role of every provider and administrator in the
 organization. It is of particular importance that the triage nurse
 educate the patient on how and where to access health care at
 DACH. Aggressive distribution of and orientation to the Take Care
 of Yourself self-care manual to the beneficiaries that are repeat
 users of the ACRC/ED for non-urgent conditions will also help
 reduce the non-urgent utilization of the ACRC/ED. Based on
 previous studies, the use of self-care manuals alone could reduce

the number of non-urgent ACRC/ED visits by at least 15 percent (U.S. Air Force, 1993).

The second approach is increase the primary care capacity. This does not necessarily need to be accomplished by throwing more providers into the system. Further analysis should be conducted to determine the most efficient use of the existing resources (physicians, ancillary staff, facility, etc.) in the provision of primary care at DACH. Medical simulation would be a useful method of modeling the patient flow within the various primary care clinics and identify the optimum design of the primary care system at DACH.

It is evident many of our beneficiaries are utilizing the ACRC/ED for reassurance that their perceived problem is not an actual emergency requiring immediate attention. Many times the beneficiaries anxiety could be allayed by talking to a provider over the phone. As we enroll more beneficiaries in TRICARE Prime, it will be even more important for us to manage the beneficiaries demand of our medical services if we are to continue to comply with the Prime access standards. The third course of action that I recommend is to have PCMs on-call to the Prime enrollees. This will divert those utilizing the ACRC/ED for "peace-of-mind" and also

satisfy the 24 hour PCM access requirement stated in the TRICARE contract.

In conclusion, if we are to remain a fiscally sound organization in the future, we must treat our patients in the most appropriate and cost effective setting. With the impending establishment of Enrollment Based Capitation (EBC), where we are actually funded a specified amount per enrollee per year, it is imperative we find ways to provide high quality care, for the most cost effective value, while ensuring adequate health care access to our beneficiary population. The three approaches recommended will decrease inappropriate C/ED and will enhance our financial position.

APPENDIX 1

DACH ACRC/ED Ambulatory Patient Survey

DACH Prime	
Civilian Prime	

For Office Use Only

**DACH Ambulatory Care Reception Center (ACRC) /
Emergency Department (ED) Ambulatory Patient Survey**

This survey is for research purposes only. It will be used to determine why people seek walk-in care at the ACRC and Emergency Room at this hospital so that we can better serve the needs of this community. Information provided in this survey will be strictly confidential. No names or identifying numbers will be used and the survey in no way affect the care provided to you. The survey is completely voluntary. Your decision to participate or not participate in this survey will in no way affect the medical care provided to you. Thank you for your support in this research effort.

Please fill in the information below and answer questions 1 through 4. When finished please hand survey to the screening nurse.

Time of arrival: _____ AM or PM Date: _____ Patient's Age: _____ Sex _M_ _F

Active Duty Active Duty Family Member Retiree Retiree Family Member

Usual Health Status: Excellent Very Good Good Fair Poor

Highest Education Level (of parent if patient is a child): HS College Post Graduate (Masters, MD, PhD)

1. Where do you usually go for medical care?

- Private doctor, group, or clinic
- Family Care Clinic Killeen
- Family Care Clinic Copperas Cove
- Adult Chronic Care Clinic (Trimmier)
- Family Care Clinic Darnall
- Pediatric Clinic Darnall
- Emergency Room Darnall
- I don't usually seek medical care
- Troop Medical Clinic
- Other site(s) of care: _____

2. Did you attempt to make an appointment through Central Appointments or your TRICARE Civilian Primary Care Manager prior to coming to the ACRC or Emergency Room?

Yes No

3. Within the last 2 days, were you seen or treated elsewhere for your problem before you came here?

Yes (--> answer the next question #3A) No (--> skip to question #4)

3A. If Yes, Where were you seen or treated before you came here?

- This Emergency Room
- Another Emergency Room
- Private doctor, group, or clinic
- FCC Killeen
- FCC Copperas Cove
- Adult Chronic Care Clinic (Trimmier)
- FCC Darnall
- Pediatric Clinic Darnall
- Troop Medical Clinic
- Other site(s) of care: _____

4. Why did you choose to come to the ACRC/Emergency Room instead of a doctor's office or clinic?

(May check more than one answer)

- It is more convenient (easier or quicker)
 - It is open after office hours (evening/weekend/holiday)
 - Unable to get through to Central Appointments
 - No appointments available through Central Appointments
 - No appointments available at my civilian TRICARE Primary Care Manager (PCM)
 - I missed my scheduled appointment
 - The level of care here is better
 - Do not have a designated primary care physician
 - Felt the patients condition was an emergency
 - Was referred to the Emergency Room by a physician
 - Other reasons: _____
-

The following is to be completed by the screening nurse.

5. Initial impression by triage personnel: Category _____ (1-5)

5A. Did the patient elect to go to the Emergency Room for treatment.

Yes No

BIBLIOGRAPHY

- Baker, David W., Carl D. Stevens & Robert H. Brook. "Regular Source of Ambulatory Care and Medical Care Utilization by Patients Presenting to a Public Hospital Emergency Department." *Journal of the American Medical Association* 271, no. 24 (22/June 1994): 1909-12.
- _____. "Determinants of Emergency Department Use by Ambulatory Patients at an Urban Public Hospital." *Annals of Emergency Medicine* 25, no. 3 (March 1995): 311-16.
- Baker, Lawrence C. & Linda Schuurman Baker. "Excess Cost of Emergency Department Visits For Non-urgent Care." *Health Affairs*, no. Winter (1994): 162-71.
- Buesching, Don P., Alexander Jablonowski. "Inappropriate Emergency Department Visits." *Annals of Emergency Medicine* 14, no. 7 (July 1985): 672-76.
- Derlet, Robert W. & Denyse A. Nishio. "Refusing Care to Patients Who Present to an Emergency Department." *Annals of Emergency Medicine* 9, no. 3 (March 1990): 262-67.
- Derlet, Robert W., Donna Kinser. "Prospective Identification and Triage of Nonemergency Patients Out of an Emergency Department: A 5-Year Study." *Annals of Emergency Medicine* 25, no. 2 (February 1995): 215-23.
- Gelzer, Ronald L. LTC, MD. Interviewed by CPT Damon Baine. Darnall Family Care Clinic, 17 September, 1996.
- General Accounting Office. "Report to the Chairman, Subcommittee on Health for Families and the Uninsured, Committee on Finance, U.S. Senate: Emergency Departments Unevenly Affected by Growth and Change in Patient Use." GAO/HRD-93-4. Washington, D.C.: Government Printing Office, 1993.

- Gill, James M. "Nonurgent Use of the Emergency Department." *Annals of Emergency Medicine* 24, no. 5 (November 1994): 953-57.
- _____. "Nonurgent Use of Hospital Emergency Departments: Urgency from the Patient's Perspective." *Journal of Family Practice* 42, no. 5 (May 1996): 491-97.
- Greene, Jay. "If You Can't Stem the Tide, Try Diverting a Trickle." *Modern Healthcare* 22, no. 16 (13/April 1992): 49-62.
- Hayward, R.A., A.M. Bernard & H.E. Freeman. "Regular Source of Ambulatory Care and Access to Health Services." *American Journal of Public Health* 81 (1991): 434-38.
- Health Care Advisory Board. *Redefining the Emergency Department*. Washington, D.C.: The Advisory Board Company, 1993.
- Howland, Daphne. "ED's Mission Stretched to Meet the Rise in Non-urgent Care." *Medical Staff Leader* 22, no. 8 (1993): 4-5.
- Kerr, Harry D. . "Access to Emergency Departments: A Survey of HMO Policies." *Annals of Emergency Medicine* 18, no. 3 (1989): 274-77.
- McCaig, L.F. *National Hospital Ambulatory Medical Care Survey: 1992 Emergency Department Summary Advance Data*. Atlanta, GA: Centers for Disease Control and Prevention. US Department of Health and Human Services, 1994.
- Nordberg, Marie. "Overcrowding: The ER's Newest Predicament." *Emergency Medical Services* 19, no. 4 (1990): 33-47.
- Padgett, Deborah & Beth Brodsky. "Psychosocial Factors Influencing Non-Urgent Use of the Emergency Room: A Review of the Literature and Recommendation for Research and Improved Service Delivery." *Social Science Medicine* 35, no. 9 (1992): 1189-92.

- Pollard, J.W. "Patient Advisory Nurse - A Program That Works." *Group Practice Journal*, Sept/Oct 1992, 31-33.
- Richardson, Christine. "Inappropriate Utilization of the Emergency Treatment Room at Dewitt Army Community Hospital, Ft. Belvoir, Virginia." U.S. Army-Baylor University Graduate Program in Healthcare Administration, 1991.
- Romanelli, Norah. "We Put ED Patients on the Fast Track." *RN* 55 (1992): 17-19.
- Selby, Joe V., Bruce H. Fireman. "Effect of a Copayment on Use of the Emergency Department in a Health Maintenance Organization." *New England Journal of Medicine* 334, no. 10 (1996): 635-41.
- Shea, S., D. Misra, M.H. Ehrlich. "Correlates of Non Adherence to Hypertension Treatment in an Inner-city Minority Population." *American Journal of Public Health* 82 (1992): 1607-12.
- Shero, John, Interviewed by CPT Damon Baine. Clinical Support Division, 12 May, 1997.
- Shesser, Robert, Thomas Kirsch, Jeff Smith. "An Analysis of Emergency Department Use by Patients with Minor Illness." *Annals of Emergency Medicine* 20, no. 7 (July 1991): 743-48.
- Simon, Harold K., David McLario. "'Fast Tracking' Patients in an Urban Pediatric Emergency Department." *American Journal of Emergency Medicine* 14, no. 3 (May 1996): 242-44.
- U.S. Air Force. "Preliminary Report on 'Take Care of Yourself' Study," 1993.
- Vickery, Donald, Thomas Golaszewski, Elizabeth Wright & Howard Kalmer. "The Result of Self-care Interventions on the Use of Medical Services in a Medicare Population." *Medical Care* 26, no. 6 (1988): 580-88.
- Walsh, Mike. "Patient's Choice: GP or A&E?" *Nursing Standard* 5, no. 10 (1990): 28-31.

Wilson, F., L. Wilson, A. Butler. "Algorithm-directed Triage of Pediatric Patients." *Journal of the American Medical Association* 243, no. 15 (1980): 1528-31.

Young Gary P., Michele B. Wagner, Arthur L. Kellermann. "Ambulatory Visits to Hospital Emergency Departments." *Journal of the American Medical Association* 276, no. 6 (14/August 1996): 460-65.

Young, Gary P. & David Sklar. "Health Care Reform and Emergency Medicine." *Annals of Emergency Medicine* 25, no. 5 (May 1995): 666-74.

Young, Gary P. MD, Michele B. Wagner. "Ambulatory Visits to Hospital Emergency Departments." *Journal of the American Medical Association* 276, no. 6 (14/August 1996): 460-65.