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With over 260,000 annual outpatient visits in a 70 bed hospital, staffed by 560 personnel, an efficient and effective means of scheduling outpatient ambulatory appointments at the USAF Academy Hospital, Colorado Springs, Colorado is paramount. The research problem involved determining the proper appointment system configuration, centralized or decentralized. A key aspect of this decision process was measuring the patient and staff satisfaction levels using questionnaires. The conclusion was that a successful appointment scheduling system must be tailored to the needs and desires of the patients and the clinical staff. The recommendations were based on the patient and staff satisfaction levels, efficiency of operations, cost considerations, and physical facility constraints. The recommendations involved establishing a decentralized system for booking appointments in large clinics, and a centralized system for booking appointments in other smaller clinical areas.

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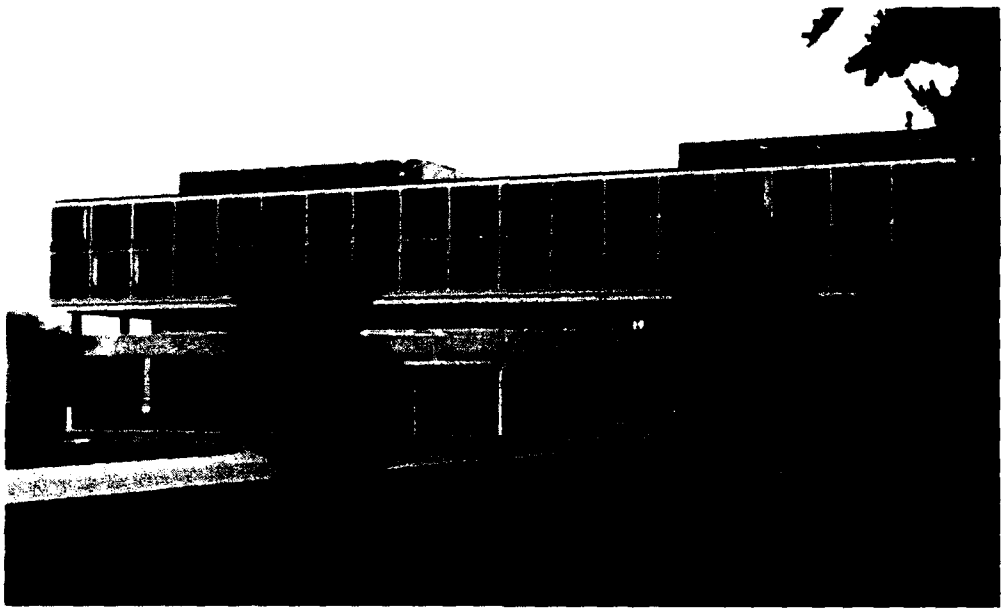

OUTPATIENT APPOINTMENT SCHEDULING SYSTEM

30 JUNE 1988

A STUDY OF AN APPOINTMENT SCHEDULING SYSTEM FOR OUTPATIENTS

AT THE

UNITED STATES AIR FORCE ACADEMY HOSPITAL

A Graduate Research Project

Submitted to the Faculty of

Baylor University

In Partial Fulfillment of the

Requirements for the Degree

of

Master of Health Administration

by

Major Donald Shields, USAF, MSC

June 30, 1988

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CHAPTER I

INTRODUCTION

In an era of ever-increasing emphasis on resource constraints, we must make our choices carefully. It becomes extremely important to establish both an efficient, and an effective means of scheduling patient appointments in ambulatory health care services. This problem is addressed in Air Force Regulation 168-4, which provides appointment system guidance to Air Force executive managers. The regulation states that "each medical treatment facility (MTF) must have an appointment system which is responsive to the health care needs of the people using the facility." The exact appointment system configuration (centralized or decentralized) is commander-determined, but the actual manpower earned for appointment services is based on a central appointment system. This is formally known as the Ambulatory Care Administrative Services Air Force Manpower Standard (AFMS 5142). The guiding directive also states that "a central appointment system....has been found to require less resources than a decentralized system." However, the regulation goes on to add that "facilities with an automated patient appointment and scheduling system may want to consider a combination of centralized or decentralized service" (AFR 168-4 1987, 6-1).

The purpose of this study is to evaluate the alternatives of:

(1) refining the existing appointment system configuration to more adequately meet the staff needs while continuing to

meet the needs of the patients, or;

(2) converting the existing system to a combination of centralized and decentralized modes.

Even though consideration will be given to the needs of the patient population, the major decision factors will include staff desires, and cost.

Background

The USAF Academy Hospital, together with the Cadet Clinic, provide health care services to over 14,000 Air Force active duty personnel (includes 4,492 Academy cadets), dependents, and civilian employees. In addition, care is provided to over 41,000 retirees and their dependents in the Colorado Springs area (MAMS 1987, 14-15). The facility is capable of supporting 105 inpatient beds, although it is currently authorized to operate as a 70 bed hospital with a daily occupied bed census of approximately 60 (MAMS 1987, 13).

General and specialized medical support, both inpatient and outpatient, is provided not only to personnel assigned to the USAF Academy, but also to the Headquarters, North American Aerospace Defense Command (NORAD), United States Space Command, USAF Space Command (including Peterson Air Force Base and Falcon Air Force Station), Fort Carson, and retirees and their dependents in the Colorado Springs area.

The hospital provides such services as Adolescent Medicine, Aerospace Medicine, Anesthesiology, Cardiology, Dermatology, Emergency Services, Environmental Health Services, Family

Practice, Gastroenterology, Gynecology, General Surgery, Internal Medicine, Mental Health, Neurology, Obstetrics, Ophthalmology, Orthopedics, Otolaryngology, Pathology, Sports Medicine, Podiatry and Urology. In addition, services are provided in Clinical Psychology, Dietetics, Optometry, Pharmacy, Physical Therapy, and Psychiatric Social Work. A Clinical Laboratory, Radioisotope Laboratory, Computerized Axial Tommography (CAT) Scanner, Cardiopulmonary Laboratory and the Cadet Clinic are also an integral part of the hospital operations. Dental Services are provided in General Dentistry, Oral Surgery, Periodontics, Prosthodontics, Endodontics, and Orthodontics (MHR 1987, 4-5). The hospital also continues to provide medical support to the Cadet Wing in the areas of intercollegiate, intramural, and physicial education athletic programs, and the cadet flying, soaring, and precision parachuting programs (MHR 1987, 4).

Development of the Problem

With over 260,000 annual outpatient visits in a 70 bed hospital staffed by 560 personnel (MAMS 1987, 13, 18, 54), arranging for the right patient to see the right provider at the right time for the right amount of time is a challenge for any outpatient appointment system.

The USAF Academy Hospital evolved initially from using a decentralized mode of appointing outpatients in 1961, to a central appointment system (CAS) mode of operation by 1966. Patient appointments were made manually by the appointment

clerks using a rotary wheel file. Schedules were forwarded to outpatient records to pull the patient record prior to the clinic visit. The system continued to evolve over the years as a combination of a centralized-decentralized system based upon the needs of the patients, the desires of the staff, and the direction of executive management.

Although the USAF Academy Hospital appointment system is primarily a centralized system, the CAS does not book acute appointments, and there are some clinics and ancillary services that exclusively book their own appointments. These areas include: Urology, Acute Care, Orthopedics/Podiatry, Nuclear Medicine, Cardiopulmonary, Physical Therapy, Allergy, Emergency Room, and the Cadet Clinic.

These clinics (except for the Emergency Room, Cadet Clinic, Physical Therapy, and Allergy) all operate on the Automated Quality of Care Evaluation Support System (AQCESS) automated appointment system. They accounted for approximately 19 percent of the total hospital appointment workload transactions during August and September 1987. The remaining 81 percent of the appointment transactions are booked by a combination of CAS and clinic personnel (appendix B & C). The four areas mentioned above (in parentheses) are walk-in type clinics/ancillary services or have unique scheduling needs that cannot be accommodated in the automated system.

The CAS has a total of five persons assigned (four are GS-4, and the supervisor is a GS-5) representing a total of 47 years of appointment system experience. It is interesting to note

that, around 1979, a nurse (RN) was hired as the CAS supervisor. It was felt that this would provide the necessary skills in the CAS area to accomplish patient appointment screening for severity of illness. This experiment worked well when a nurse was present, but the position was often vacant due to the inability to hire and retain a nurse supervisor at a GS-5 salary. A senior administrative appointment clerk was then hired to fill the supervisor role and employee turnover in this position was reduced (Malone, 1987).

The appointment system operated basically unchanged until an automated appointment system was developed and installed in February 1985. The government procured system was unique to the a USAF Academy. CAS clerks still refer to this old system as extremely cumbersome. This older system was replaced, in June 1987, by the Tri-Service Medical Information System (TRIMIS) AQCESS Patient Appointment System (PAS).

The AQCESS Appointment and Scheduling Module (A&SM) automated the patient appointment procedures in outpatient clinics. It was designed to streamline booking and scheduling procedures. The majority of the clerical and management appointment data used in this Graduate Research Project (GRP) was obtained from the AQCESS system.

The USAF Academy Hospital CAS, which is evaluated annually, has not been a source of patient complaints (Schuknecht 1986 and 1987). The main problems surfaced were frequent appointment clerk turnover (three CAS clerks out of five within the last year) and the demand for appointments far exceeding the quantity

of available CAS appointments. The report also pointed out that although demand was high, there were unfilled appointments which were usually the result of providers alloting appointment times that only they or clinic personnel could schedule (Schuknecht, 1987).

On August 5, 1987, the Director of Patient Affairs, and the Nursing Supervisor for Ambulatory Care Services completed a three page study of decentralizing the appointment system (see appendix F). They concluded that no changes should be made to the current appointment system (Pollard and Atkins, 1987).

The USAF Hospital executive management has discussed the centralized-decentralized issue many times at executive management meetings. A strong desire existed to analyze the appointment system workload and the attitudes of the professional staff (CAS, Clinics, Information Systems, Executive Management) to determine if decentralizing a portion or all of the CAS would improve clinic administration. It was felt that, although patient satisfaction is critical to an efficient PAS, most patients are unknowledgeable about a decentralized system due to the highly centralized configuration at the USAF Academy Hospital. A comprehensive patient satisfaction survey would be of little benefit until after a more decentralized system is implemented.

Statement of the Problem

To develop a centralized or decentralized appointment scheduling system configuration for outpatients at the United States Air Force Academy Hospital.

Research Objectives

The research objectives of this study were to:

1. Review the Fiscal Year (FY) 1987 workload at the USAF Academy Hospital to determine workload demands in clinical areas.
2. Review a minimum of 15 percent of the annual appointment transaction data (a total of two months data) to determine clinic, clerk, and central appointments personnel workload.
3. Determine the outpatient satisfaction levels with the present appointment system using the 1987 Air Force Health Care Survey (appendix H).
4. Develop a suitable and structured staff interview questionnaire for use as the research survey instrument.
5. Conduct a pre-test of the staff survey questionnaire to establish the validity of the survey instrument.
6. Determine alternate methods of providing appointment services (centralized or decentralized) and evaluate the alternatives using cost effectiveness analysis (CEA) techniques.
7. Based on examination of the data, present findings to the USAF Academy Hospital Commander with recommendations as to the most appropriate form of providing appointment

services. These findings could include a totally centralized or totally decentralized or a combination of these two appointment configurations.

Criteria

The following criteria guided the conduct of this study to ultimately judge the appropriateness and feasibility of all final recommendations:

1. Services and appointment system configuration recommendations cannot require major construction.
2. The system must be consistent with current Department of the Air Force policies and regulations.
3. Implementation of the recommendations must be within the authority of the Commander, USAF Academy Hospital.
4. Evaluate recommended methods of providing appointment services using cost effectiveness analysis techniques.

Assumption

In pursuing this study, it was assumed that no mission changes would occur during the research period, that would affect patient beneficiaries or workload.

Limitations

The following limitations applied to the pursuit of this study:

1. The 1987 Air Force Health Care Survey (shown in appendix H) may not have been statistically validated.

2. The 1987 Air Force Health Care Survey results was not necessarily a statistically random sampling.

3. The exact number of appointment transactions made by the central appointment clerks for each of the outpatient clinics using AQCESS had to be approximated using a combination of reports. These reports contained duplicative information which may have resulted in an overstatement of total patient visits.

Literature Review

"Rapid growth in the demand for ambulatory care has placed increasingly heavy workloads on outpatient clinics."

(Steidley and Vanioh 1977, 359)

The appointment system is the patient's initial access to health care delivery, and it is also one of the most complex problems facing today's health care management (Brandler 1983, 24). The objective of any outpatient appointment system is to minimize patient delays and optimize available resources (Madden 1976, 48). To accomplish this objective, the administrator must balance the allocation of resources (money, space, and manpower) by optimizing the relationships among the priorities of patients, providers, and support personnel (Herpok 1980, 66).

Appointment systems have always been of great interest to the military manager and to such large multi-specialty groups as the Kaiser-Permanente Health Maintenance Organization (Stuart 1976, 392). In fact, patient appointment scheduling was the number one item on the USAF Surgeon General information systems top ten problem list for FY 88 (Symposium, 1987). In addressing this problem area, it is essential that the outpatient appointment system be flexible, efficient, and effective. This requirement demands that the appointment system be constantly reviewed by physicians, nurses and management alike.

Although the private practice physician historically has had little need for automated appointment scheduling systems, this appears to be changing. Between 1966 and 1986, the ambulatory

general practice physician has dramatically increased the use of appointment systems. By 1986, over 80 percent of general practitioners were using them (Fishbacher and Robertson 1986, 282).

A review of the literature revealed that most of the patient appointment system articles fall into three groups; (1) patient waiting time, (2) punctuality/no show behavior, and (3) patient flow in clinics. In addition, there is very little literature, published outside the military, on centralized versus decentralized patient appointment system operations. The military and a few large multi-speciality health care entities such as Kaiser-Permanente provide the leadership in this area.

The earliest article found, relating to appointment systems and scheduling, was written in 1952. In their article, Welch and Bailey discussed appointment scheduling as related to the punctuality of the patients and the providers. They also addressed such issues as patient queues, and the time spent by the provider in consultation with each patient. Their final conclusion was that a balance must be struck between the patient waiting time and physician idle time (Welch and Bailey 1952, 1105 & 1108).

Another landmark appointment study was conducted from 1968 to 1973, and addressed the systems and procedures for outpatient flow at a large health center. It specified the distinct advantages of both a centralized and a decentralized appointment system (Reisman, Joao Mello da Silva and Mantell 1978, 42). Details on the strengths and weaknesses of these systems are

shown in appendices N through Q.

In 1976 Edward Madden wrote about a study he performed on a manual centralized appointment system during design of a new U.S. Public Health Service Hospital in New Orleans. He noted that a decentralized appointment system usually had no central management, a lack of coordination between departments, and patient delays. He also found that one of the main advantages of an appointment system is the ability to schedule future actions and events. It is not just a workload accounting system for patients as used by many clinics. In addition, it performs an important information function while controlling resource availability (Madden 1976, 48 & 49).

Another appointment system initiative involved automation at Children's Hospital Medical Center in Boston, Massachusetts. The article stated that automation brought order out of what was a chaotic situation in the appointment of over 150,000 patients annually. This increased efficiency in handling the large numbers of patients not only meant savings in time and money for patients, but reduced the hospital costs as well (Cronkhite 1969, 55).

Some of the earliest studies of centralized versus decentralized appointment systems were accomplished in the early 1970's by the Army Health Care Studies Division at Fort Sam Houston, Texas. The first CAS study was completed in January 1973, and was heavily criticized for not addressing both sides of the CAS issue. The Army Surgeon General had already decided to designate the CAS as the system of choice prior to

undertaking this study. The final study results did not have to defend the superiority of the CAS, but simply outlined methods to be used in implementing or upgrading an existing CAS (Raiha, 1985, 2).

The earlier Army study did have some benefits. It pointed out that central appointment systems, having computer automation support, had a distinct advantange (see appendix N) over the manual systems (Stuart 1973, 75). A follow-on study, conducted by the Army in 1977, concluded that justification for a CAS cannot be predicated on a reduction in cost or a demonstratable difference in patient workload. The 1977 study went on to state that outpatient appointment systems are best regulated by a combination of systems providing maximum patient accessibility to the levels of care matching the patient's need (Alexander 1977, 5). This study also provided several management recommendations for an efficient and effective PAS. These included: (1) a minimum of 70 percent of outpatient visits should be appointed in advance of patient arrival; (2) 90 percent of the professional staff should have a favorable opinion about the effectiveness and efficiency of the appointment system; (3) clinical personnel should spend less than 10 percent of their time in appointment-making duties; and (4) system flexibility for physicians is key to survival. It was also noted that provider productivity improves as the result of the control and monitoring mechanisms used in conjunction with a centralized system. In short, the success or failure of the centralized appointment system is not solely a function of

the availability of adequate resources. The study also warned not to underestimate the importance of the time spent by many CAS clerks in providing information which does not lead to the making of an appointment (Alexander 1977, 77 & 87).

In a Graduate Research Project for Baylor University in 1985, Major Raiha noted that, at Madigan Army Medical Center, the patients using a decentralized system had a higher overall opinion of the patient appointment system. Over 88 percent of the in-hospital group, who used a decentralized system, expressed overall satisfaction, compared to 63.3 percent of those using the centralized system (Raiha, 1985, 49).

A July 1987 article, written about automation of patient appointments in the Army, cited some key issues and components that any PAS would have to accomodate. These included: (1) access; (2) availability; (3) management data; (4) decentralized capability for individual clinic support; and (5) a clustering capability to allow mini-centralized systems to function (Palmer, Wilson and Hubble 1987, 356). The beauty of automated appointment systems is that they allow centralized management control, but also allow the flexibility of a decentralized operation by locating the devices throughout the clinic areas.

Other literature stated one weakness of centralized appointment systems is that they are not generally set up to chedule same-day acute appointments (Singer, Rossfeld, and Hall 976, 156). In many high volume ambulatory care clinics, a significant number of patient appointments are reserved for same-day acute care. These are almost always booked directly by

the clinic. The same article addressed an aspect of decentralization which impeded efficient workflow. Direct face-to-face communication with the patient in the clinic often resulted in a drop in productivity in the reception area. Patients can be appointed more quickly and with fewer interruptions by using a telephone call-in system instead of a walk-up window.

A 1976 appointment system study involved a survey of 164 staff members and 2,254 patients in four military hospitals (Stuart 1976, 393-394). It concluded that: (1) as many clinics as possible should be on the CAS; (2) a good telecommunications system is essential; (3) busy signals should be 6 percent or less; (4) 14 to 38 percent of the CAS calls in the military hospitals surveyed were for information only; (5) the numbers of physicians served per clerk ranged from 6 to 24, and (6) the maximum number of telephone calls handled per clerk per day was 242.

Another article, published in 1986, concerning efficient and effective appointment systems, recommended a centralized appointment system where patients could schedule services in all departments by calling one central number. It stated that training of appointment personnel is of vital importance. Furthermore, it emphasized that scheduling personnel must be knowledgeable of departmental and procedure-specific information. This knowledge is needed in order to correctly appoint patients to the right clinic and appointment slot (Woerly 1986, 5).

An additional key aspect of appointment systems is their ability to smooth patient flow and minimize the peak and valleys experienced in clinic workloads (Dickinson 1979, 225). Many articles reported that the individual appointment is superior in smoothing out workload, but that a definite lag exists in its adoption by many clinics. The block or wave appointment system, where several patients are directed to arrive at the clinic at the same time, circumvents many of the best features in an appointment system. It increases both patient waiting times and dissatisfaction, and demands larger patient waiting areas. Unfortunately, many clinics still use a block form of scheduling and report extensive patient waiting times. Several articles also addressed the issue that walk-in patients do not recognize the negative impact of unplanned visits on the total system (Cupit 1985, 141). A few general recommendations which have helped many appointment systems included: (1) doctors starting sessions on time; (2) not creating a pool of patients at the start of a session; (3) making sure the doctor is not distracted; and (4) educating doctors and others about effective operation of the scheduling system (O'Keefe 1985, 709).

The Army Health Services Command has, through many studies over the past 14 years, established management indicators for effective and efficient hospital appointment systems. These include: (1) walk-in rates should not exceed 10 percent of the total patient visits; (2) the length of an average appointment transaction should not exceed 2.5 minutes; (3) there should be one appointment clerk for approximately every 2,000 monthly

patient contacts; (4) informational calls should not exceed 10 percent of the total calls received; (5) a minimum of an 80 percent patient satisfaction rate should be maintained; (6) calls placed on hold should not exceed one minute; (7) there should be 1.5 telephone lines for every appointment clerk, and (8) busy signals should not exceed 6 percent of all attempted calls (HSC PAM 40-7-1 1986, 8, 15, 26).

Research Methodology

A review of workload and staffing changes for the USAF Academy was analyzed to determine if they would have any impact on the appointment process. Using historical data as a starting point, the options and impacts of a centralized or decentralized appointment service were analyzed and identified.

Demographic and medical care data, as described in the objectives, was evaluated to determine the major commonalities in the appointment process, the patient population, and to assist in determining the types of appointment services that should be provided in the outpatient clinics.

Previous appointment and clerical workload transactions were analyzed using 15 percent of the annual appointment data from FY 1987. This data encompassed the August and September 1987 AQCESS appointment transactions. This particular PAS data was used because it represented 15 percent of the appointment transactions and was considered a representative sample. The decision to use this time-period and the 15 percent sample, was based on the recommendations of Resource Management, Patient

Affairs, Information Systems, and the CAS Supervisor. The AQCESS system was implemented in June 1987, and the June through July 1987 time-frame was felt to contain potential AQCESS appointment system startup data inconsistencies. Due to patient and staff summer rotations, it was also felt that both the volume of appointments, and the clinical mix of June and July 1987 appointments might not be representative of the USAF Academy Hospital. Particular attention was given to determining what appointment services were obtained by calling the central appointment desk, and what services were obtained when calling the clinics directly.

The projected cost of any personnel, equipment, supplies, renovation, modification, and design changes in the recommendation was calculated based upon estimates provided by the Patient Affairs Office, Resource Management Office, Medical Supply Office, Medical Information Systems, Base Civil Engineer, and the Civilian Personnel Office at the USAF Academy. The recommendations were evaluated using cost-effectiveness analysis (CEA). The total cost (subjective, operating, personnel, equipment, and facility modifications) was considered.

A descriptive analysis of patient satisfaction levels was undertaken in the discussion section of this GRP. The analysis was based on the Air Force patient survey shown in appendix H. This survey was administered to the four top Air Force categories of beneficiaries, with at least 60 persons in each category. These categories included Active Duty, Dependent of Active Duty, Retiree, and Dependent of Retiree or Deceased

Member. This survey was not necessarily a statistically random sampling, and the survey instrument was not statistically validated.

The staff interview survey, shown in appendix J, was administered to all 46 personnel involved with the appointing scheduling system at the USAF Academy Hospital. These personnel encompassed the entire staff population involved with the appointment system. A descriptive analysis of the survey results is presented in the discussion section of this GRP.

CHAPTER II

DISCUSSION

The discussion of this research effort is divided into two principal sections; (1) patient satisfaction, and (2) staff satisfaction. The examination of the satisfaction levels includes a review of the questionnaire selection and the administration of the questionnaires, along with a descriptive analysis and interpretation of the results of the surveys. Modifications to the questionnaire through pre-testing is also discussed.

This USAF Academy Hospital appointment system GRP involved analyzing patient satisfaction levels through the use of the 1987 Air Force Health Care Survey. This survey questionnaire was developed, mandated, and administered under guidance from the Air Force Surgeon General. Measuring the staff satisfaction involved the development and administration of a hospital staff survey. While patient needs are always the first and foremost consideration, the needs and capabilities of the individual staff member were also considered.

Patient Satisfaction Questionnaire

The patient satisfaction rate was measured using the 1987 Air Force Health Care Survey (appendix H). This survey instrument contained a total of 32 questions covering a wide variety of areas. Questions were included on patient demographic data, facility information, quality of care provided, facility appearance, support personnel, laboratory,

pharmacy, x-ray, and the appointment system. This particular survey instrument was used for the following reasons:

(1) The survey was already developed and about to be administered by hospital personnel as mandated by the United States Air Force (USAF) Surgeon General (SG).

(2) The patient appointment survey used contained questions similiar to those which were already being considered for use in conjunction with this research.

(3) Both the hospital executive management and this researcher wanted to minimize the quantity of appointment system questionnaires the hospital staff had to administer and those which the patients had to complete.

Because the particular Air Force survey used covered a wide spectrum of services and care provided at the USAF Academy Hospital, several questions were extracted to provide a descriptive measure of the patient satisfaction levels with the USAF Academy Hospital appointment system. The questions used included:

(1) Survey question number 1: "What is your beneficiary category?"

(2) Survey question number 4: "If you do not receive the majority of your care from an Air Force Medical Treatment Facility, which one of the following best explains why not?"

(3) Survey question number 31: "Using the scale below, please tell us how satisfied you are with the following services?" This question used a Likert scale to measure

satisfaction ranging from "Very Satisfied" to "Very Dissatisfied."

(4) Survey written comments question (no number): "Please use the space below to tell us what you think about the way we are providing medical care. Your comments will be compiled and will be used by the executive management of this medical treatment facility in making decisions for change."

Fielding the Patient Survey

The patient survey instrument (shown in appendix H) was administered to 279 patients at the USAF Academy Hospital during December 1987, and January 1988. It is important to recognize that the patient satisfaction rates were obtained from a limited group. While this small group does not allow generalization to the patient population as a whole, or the determination of opinion trends, it does provide a clear appreciation for popular concerns among the patients.

The survey instructions mandated that it be administered to the top four Air Force categories of beneficiaries, with at least 60 persons in each category. These four categories were Active Duty, Dependent of Active Duty, Retiree, and Dependent of Retiree or Deceased Member. These patients were chosen at random from those who presented for care at the USAF Academy Hospital. The survey was not necessarily a statistically random sampling, and the survey instrument may not have been statistically validated.

The survey was administered by a designated hospital employee under guidance from the Air Force Surgeon General. This employee asked patients who were waiting in the central lobby area to complete the survey. The respondents were patients from all outpatient areas in the hospital. They included patients who were picking up medical records, waiting for their pharmaceutical prescriptions to be filled, or waiting for other general clinical appointments.

Analysis of Patient Satisfaction Results

The complete 1987 Air Force Health Care survey results are shown in appendix X. An analysis of significant responses to survey questions number 1 and 31, are shown in Table 1. In aggregate, only 48 percent of the 279 patients surveyed were satisfied or very satisfied with the appointment system. As shown in Table 1, there is much room for improvement in patient satisfaction levels.

Table 1

Overall Appointment System Satisfaction

Satisfaction Category	Total Percentage	Total Number
Very Satisfied/Satisfied	48%	33
Neutral	18%	50
Very Dissatisfied/Dissatisfied	33%	92
No Response	1%	4
TOTAL:	100%	279

Source: 1987 Air Force Health Care Survey (appendix X)

It was perhaps more revealing to analyze the individual category of respondents to determine differences in satisfaction levels as shown in Table 2. The active duty personnel had the largest dissatisfaction rate (48 percent) with the appointment system. In contrast, a total of 62 percent of the retirees were satisfied or very satisfied with the appointment system.

Table 2

Beneficiary Appointment System Satisfaction

Beneficiary Category	Active Duty %	Active Duty #	Retiree %	Retiree #
Very Satisfied/Satisfied	32%	21	62%	49
Neutral	20%	13	10%	8
Very Dissatisfied/Dissatisfied	48%	32	26%	20
No Response	-	-	2%	2
TOTAL:	100%	66	100%	79

Source: 1987 Air Force Health Care Survey (appendix X)

It was also revealing to analyze specific areas of satisfaction and dissatisfaction based on the written comments included on the patient survey. A total of 26.2 percent of those surveyed (73 patients) chose to make 118 separate written comments. Of this group, 41 percent (48 total comments) were considered positive in nature and were issues of patient satisfaction. The remaining 59 percent of the comments (70 total) were considered negative in nature and were categorized as issues of patient dissatisfaction. These positive and negative comments were stratified as shown in Table 3.

Table 3

Patient Survey Written Comments

Category	Positive %	Positive #	Negative %	Negative #
General Courtesy & Treatment	90%	43	10%	7
Pharmacy	2%	1	7%	5
Family Practice Clinic	4%	2	11%	8
Facility Parking	2%	1	-	-
Appointment System	2%	1	29%	20
Overall Comment	-	-	6%	4
Physical Plant	-	-	3%	2
Lack of Services	-	-	9%	6
Dental	-	-	1%	1
Emergency Room	-	-	3%	2
OB Ward and Nursery	-	-	4%	3
Radiology	-	-	4%	3
Aerovac System	-	-	1%	1
Medical Records	-	-	9%	6
Peterson Field Clinic	-	-	3%	2
TOTAL:	100%	48	100%	70

Source: 1987 Air Force Health Care Survey (appendix X)

In summary, Table 3 shows that the appointment system represented the largest area of patient dissatisfaction. More specifically, difficulty in getting an appointment and the waiting time for appointments were the most frequently indicated reason for patient dissatisfaction with the central appointment system at the Air Force Academy Hospital. Although this area represents a very small segment of the patients surveyed, it still may be indicative of a problem or larger trend.

The final patient survey question that was analyzed was question number 4: "If you do not receive the majority or your care from an Air Force Medical Treatment Facility, which one of the following best explains why not?".

Table 4
Reasons For Not Seeking Care At The Air Force Academy

Category of Survey Respondent	Not Applicable %	Not Applicable #	No Response %	No Response #
Active Duty Military Member	86%	57	8%	5
Active Duty Dependent	74%	49	20%	13
Retired Military Member	75%	59	13%	10
Retired Military Dependent	51%	34	34%	22
TOTAL:	72%	199	18%	50

Source: 1987 Air Force Health Care Survey (appendix X)

In summary, a total of 249 patients out of 279 surveyed (90 percent) chose "not applicable", or "no response" on this question. As shown in table 4, this question yielded little additional information on patient dissatisfaction with the appointment system. A better and more complete approach would have been to survey all eligible beneficiaries in the catchment area.

Staff Satisfaction Questionnaire

A survey of the USAF Academy Hospital staff who were involved with the appointment system was also undertaken. This survey involved the entire population, a total of 46 staff members which included all personnel associated with the appointment process. These staff members included executive management, department managers/supervisors, appointment clerks, clinic non-commissioned officers (NCOs), clinic charge nurses, psychologist, optometrist, nutritionist, audiologist, and physicians. The researcher and hospital executive management were very much in favor of a 100 percent staff survey of those persons who were involved with the appointment system. It was felt that the population was sufficiently small that a 100 percent survey was reasonable, and that if performed by appointment with the researcher present, a total response rate of 100 percent was very possible.

Staff Questionnaire Design

The staff survey instrument is shown in appendix I (pre-test) and in appendix J (post-test). The questionnaire was reviewed and approved by the Hospital Executive Committee prior to being used. The survey instrument was designed to fit on two sheets of paper printed on both sides. The first page contained three introductory paragraphs and was signed by the Hospital Commander. The first paragraph described the purpose of the survey. It explained that the hospital executive management wanted to know how the staff members felt about the appointment

system. The second paragraph emphasized that all answers should be based only on their experience with the appointment system at the USAF Academy Hospital, and not on experiences they may have had at other MTFs.

The format of the survey questionnaire was deliberately kept short and the researcher used a Likert scale so that responses could be measured across a continuum from "Not Applicable," "Very Satisfied," "Satisfied," "Neither Satisfied/Dissatisfied," "Dissatisfied," to "Very Dissatisfied."

The demographic information was requested first, based on three questions. This information included: position title, tenure in present position, and clinic or duty section. The information sequencing under position title, and clinic/duty section was random. The sequencing under the tenure question was listed from the fewest number of months in the current position, to more than three years in a position. The top end (three years) was felt to be the break point as approximately one third of the Academy Hospital staff departs each year. It was felt that tenure beyond the point when most of the staff normally rotates, would be of little use. It was also felt that all these demographic areas would provide useful insight and stratification of staff satisfaction levels.

The next section contained six questions which were used to measure satisfaction or dissatisfaction (using a Likert scale) concerning the staff members' feelings about the appointment system used at the USAF Academy Hospital. The last page contained two open-ended questions. The first question was:

"If you could change anything about the appointment system, what would it be?" The second question was: "How would one additional full-time appointment clerk affect the patient care provided in your area?" These open ended questions were asked so that the staff members surveyed could provide additional insight into the appointment system operation which might be changed to help them in the performance of their duties.

Discussions with many individuals knowledgable about survey techniques were indispensable to the development of this survey instrument. These people included Lieutenant Colonel William H. Clover at the USAF Academy and Lieutenant Colonel Arthur L. Badgett at Evans Community Hospital, Fort Carson, Colorado. Both persons were very familiar with survey composition and analysis and were invaluable in the development of a pre-test questionnaire. Their insight led the researcher to include a column on the questionnaire labeled: "Not Applicable." This choice was included to to reduce the possibility of inaccurate force choice responses; i.e., a staff member forced to choose along a scale from "Very Satisfied," to "Very Dissatisfied," when the question was "Not Applicable," could result in the inaccurate responses being given equal weight with other responses which would be more valid.

Pre-test of Staff Questionnaire

The pre-test included a total of nine persons (20 percent) of the intended population to be surveyed. The average time required to complete the survey was 3 minutes and 30 seconds.

The actual pre-test times ranged from a low of 2 minutes and 10 seconds, to a high of 3 minutes and 58 seconds. Several excellent suggestions were received during the pre-test which improved the survey instrument.

These suggestions included eliminating questions which were redundant and rewording others which generated confusion. Several duty title areas were added, along with asking the staff member to identify the clinic or department area in which they worked. A few of the questions were revised to be more specific, the sequencing of the opinion questions was changed to allow related questions to be grouped together, and the overall opinion of the appointment system was placed last instead of first. By incorporating all these suggestions, the survey instrument was reduced to two pages, with a total of 11 questions.

Fielding the Staff Survey

The survey instrument fielded in this GRP is shown in appendix J. All surveys were administered by the researcher between 18 December 1987 and 5 January 1988. It took approximately 20 total hours to administer to the hospital staff. An appointment was made separately with each staff member surveyed to ensure a quiet environment. In addition, the surveyor was present during each survey to encourage 100 percent completion and answer any questions that might have arisen. The survey completion rate was 100 percent and relatively few questions were asked. The staff members were told that survey

results would be summarized and presented to executive management and that individual responses would be held in strict confidence.

Analysis of Staff Satisfaction Results

A total of 46 USAF Academy staff members were surveyed using the questionnaire in appendix J. Of those surveyed, a total of 34 staff members, representing 74 percent, were either satisfied or very satisfied with the appointment system. A total of 6 persons (13 percent) were neither satisfied or dissatisfied, and 6 persons (13 percent) were either dissatisfied or very dissatisfied with the appointment system. As shown in Table 5, with only a 74 percent overall satisfaction rate, there is much room for improvement.

Table 5

Overall Summary Of Staff Responses

Satisfaction Category	Total Percentage	Total Number
Very Satisfied/Satisfied	74%	34
Neither Satisfied Nor Dissatisfied	13%	6
Very Dissatisfied/Dissatisfied	13%	6
TOTAL:	100%	46

Source: Summary Of Staff Responses (appendix U)

The staff members also made 43 written comments concerning how to improve the appointment system (Table 6). A total of 30 percent of the comments were related to errors in procedure or knowledge attributable to training deficiencies or

forgetfulness. These could be rather easily resolved by refresher training. An additional 26 percent of the comments were directed to policy issues (perceived or real). These could be resolved by policy clarifications aimed at increasing communications. Furthermore, 28 percent of the comments were related to improvements by tailoring the system through both centralization and decentralization. These changes include bringing OB/GYN clinic into the automated system, allowing some clinics to book their own appointments, and allowing other clinics to shift the booking of some appointment types to the CAS.

Table 6

Staff Survey Written Comments - I

Category	Total Percentage	Total Number
Training Deficiencies/Forgetfulness	30%	13
Policy Issues	26%	11
Tailor System (Centralize/Decentralize)	28%	12
Computer Software Changes	16%	7
TOTAL:	100%	43

Source: Appointment System Staff Written Comments (appendix W)

The final written survey question (How would one additional full-time appointment clerk affect the patient care provided in your area?) also generated 24 written comments from the staff. The majority of the comments (71 percent) indicated that this would improve patient care and accessibility, while 29 percent of the comments were negative in nature. Nearly 75 percent of

the negative comments were related to the clinic being so small that not enough workload would be present to keep a clerk busy. The stratification of responses is shown in Table 7.

Table 7

Staff Survey Written Comments - II

Category	Positive %	Positive #	Negative %	Negative #
General Comments	23%	4	43%	3
Appointment Accessibility	42%	7	-	-
Grouping/Co-located Clinics	23%	4	-	-
Contingent Comments (Space)	12%	2	57%	4
TOTAL:	100%	17	100%	7

Source: Appointment System Staff Comments (appendix W)

An analysis of the demographic responses (Table 8) revealed that the top five categories of respondents were clinic NCOs, physicians, department managers/supervisors, allied health care professionals (either a psychologist, physician assistant, optometrist, nutritionist, or an audiologist), and appointment clerks. The staff members worked in a total of 18 different hospital or clinic areas.

Table 8

Classification Of Staff Responses

Category	Total Percentage	Total Number
Clinic NCOs	28.2%	13
Physicians	23.9%	11
Department Managers/Supervisors	13.1%	6
Allied Health Care Professionals	10.9%	5
Appointment Clerks	10.9%	5
Clinic Nurses	6.5%	3
Executive Managers	6.5%	3
TOTAL:	100%	46

Source: Classification of Staff Responses (appendix R)

Analysis of Staff Question Number Four Results

An analysis of question number four (the staff member's ability to obtain patient and schedule information from the appointment system) revealed that, of the 46 staff members surveyed, 80.4 percent were satisfied or very satisfied. In addition, five persons (10.9 percent) marked this as not applicable. As shown in Table 9, this area requires little improvement.

Table 9

Staff Responses - Question Four

Satisfaction Category	Total Percentage	Total Number
Very Satisfied/Satisfied	80.4%	37
Not Applicable	10.9%	5
Neither Satisfied Nor Dissatisfied	-	-
Very Dissatisfied/Dissatisfied	8.7%	4
TOTAL:	100%	46

Source: Summary Of Staff Responses (appendix U)

Analysis of Staff Question Number Five Results

The analysis of question number five (How satisfied are you that the central appointment clerk matches the patient with the proper appointment slot?) revealed that of the 46 staff members surveyed, 6 persons (13 percent of the staff) indicated that they were were dissatisfied or very dissatisfied. In addition, 26 percent indicated that this question did not apply to them because they make all their own appointments in the clinic. As shown in Table 10, this area requires little improvement.

Table 10

Staff Responses - Question Five

Satisfaction Category	Total Percentage	Total Number
Very Satisfied/Satisfied	50.1%	23
Not Applicable	26.0%	12
Neither Satisfied Nor Dissatisfied	10.9%	5
Very Dissatisfied/Dissatisfied	13.0%	6
TOTAL:	100%	46

Source: Summary Of Staff Responses (appendix U)

Analysis of Staff Question Number Six Results

The analysis of question number six (How satisfied are you with your ability to contact the central appointment clerk when you need to?) revealed that 12 persons (26 percent of the staff) marked this as not applicable because they book all the appointments directly in the specialty clinics. Furthermore, 30 persons (65.4 percent) were either satisfied, or very satisfied,

and 2 persons (4.3 percent) were dissatisfied. As shown in Table 11, this area requires little improvement.

Table 11

Staff Responses - Question Six

Satisfaction Category	Total Percentage	Total Number
Very Satisfied/Satisfied	65.4%	30
Not Applicable	26.0%	12
Neither Satisfied Nor Dissatisfied	4.3%	2
Very Dissatisfied/Dissatisfied	4.3%	2
TOTAL:	100%	46

Source: Summary Of Staff Responses (appendix U)

Analysis of Staff Question Number Seven Results

The analysis of question number seven (How satisfied are you with the number of appointment scheduling people in your area?) revealed that, of the 46 staff members surveyed, 28 persons (60.8 percent) were either satisfied or very satisfied. As shown in Table 12, a slight improvement in staff satisfaction can be obtained by tailoring the appointment system. This tailoring can be achieved through centralizing or decentralizing some appointment workload.

Table 12

Staff Responses - Question Seven

Satisfaction Category	Total Percentage	Total Number
Very Satisfied/Satisfied	60.8%	28
Not Applicable	15.3%	7
Neither Satisfied Nor Dissatisfied	10.9%	5
Very Dissatisfied/Dissatisfied	13.0%	6
TOTAL:	100%	46

Source: Summary Of Staff Responses (appendix U)

Analysis of Staff Question Number Eight Results

The analysis of question number eight [How satisfied would you be if all appointments were made in the clinic area (given no additional staffing)?] revealed that 10 persons (21.7 percent) were satisfied or very satisfied, and 26 persons (56.6 percent) were either dissatisfied or very dissatisfied. It is interesting to note as shown in Table 13, that nearly 22 percent of the staff desire to operate a decentralized appointment system even if no additional staffing is available.

Table 13

Staff Responses - Question Eight

Satisfaction Category	Total Percentage	Total Number
Very Satisfied/Satisfied	21.7%	10
Not Applicable	8.7%	4
Neither Satisfied Nor Dissatisfied	13.0%	6
Very Dissatisfied/Dissatisfied	56.6%	26
TOTAL:	100%	46

Source: Summary Of Staff Responses (appendix U)

The responses, when stratified by clinic or work area, revealed that in many of the specialty clinic areas (Surgery, Acute Care, Orthopedic/Podiatry, Nuclear Medicine, and ENT/Audiology) the staff members were satisfied or very satisfied with this proposal. In contrast, some clinics (such as Family Practice and Pediatrics) were very dissatisfied with this proposal and wanted to shift additional workload to the CAS. In addition, of the 5 central appointment clerks, 60 percent were very dissatisfied by the proposed decentralized system. The decentralized proposal would not eliminate any CAS positions, but would relocate the employees to the clinic areas.

CHAPTER III

CONCLUSIONS

In formulating the conclusions and recommendations in this GRP, an indepth look at staff satisfaction rates at the USAF Academy Hospital was undertaken. The patient satisfaction rates were also measured using a small sample and a survey instrument developed by the Air Force Surgeon General staff. It is important to recognize that the patient satisfaction rates were obtained from a limited group. While this small group does not allow generalization to the patient population as a whole, or the determination of opinion trends, it does provide a clear appreciation for popular concerns among the patients. The conclusions were based on the patient survey, the staff population survey, and on the literature reviewed.

An extensive search for ambulatory care performance indicators was conducted during the literature review performed earlier in this GRP. The majority of the outpatient ambulatory care management indicators found, were those published by the Army Health Services Command. These management indicators were used as a guide in arriving at the conclusions and recommendations in this GRP.

One management indicator was found in the patient satisfaction questionnaire. The analyzed results revealed that only 48 percent of the patients were satisfied with the present appointment system. The active duty component of the patient population surveyed had only a 32 percent overall satisfaction rate with the present appointment system. The published

standards (HSC PAM 40-7 1986, 15) call for a minimum goal of an 80 percent patient satisfaction rate with military outpatient appointment systems. Using this management indicator as a yard-stick, significant improvement (a minimum of a 32 percent improvement) in the Academy Hospital outpatient appointment system is apparently needed.

Specific analysis of the written patient comments pointed out the difficulty in getting through to CAS clerks. Specifically, difficulty in getting an appointment and waiting time for appointments were the most frequently indicated reasons for patient dissatisfaction with the CAS at the Air Force Academy Hospital.

Another management indicator was revealed in the call sequencer system survey conducted in December 1987 (appendix G). It showed that, on the average, 58 percent of the calls to CAS were placed on hold in excess of one minute (69 seconds). The duration of the calls placed on hold, ranged from one second, to 8 minutes and 59 seconds. This result was compared to standards cited earlier in the literature review, that calls placed on hold should not exceed one minute (HSC PAM 40-7-1 1986, 27). Much improvement is also needed in this area.

Another management indicator was revealed by the analysis of the staff questionnaire. This survey showed that only 74 percent of the overall staff indicated satisfaction with the present outpatient appointment system. The standards, as cited earlier in the literature review (Alexander 1977, 5) revealed that 90 percent of the professional staff should have a

favorable opinion about the appointment system. Using this statistical standard as a yard-stick, significant improvement (a minimum of a 16 percent improvement) in the Academy Hospital outpatient appointment system is apparently needed to meet the minimum expectations of the staff.

The largest overall dissatisfaction with the appointment system came from the physician category, where 36 percent were dissatisfied. In general, when looking at individual questions of appointment system support characteristics, the highest dissatisfaction was indicated by those clinics that relied on the central appointment system for their appointment support. All but one clinic (cardiopulmonary) who booked their own appointments were satisfied with their current decentralized appointment system configuration.

It was also interesting to note specific staff dissatisfaction as indicated by their written comments. The staff members made 43 written comments. An analysis of these written comments revealed that 30 percent were related to errors in procedure or basic appointment system operation/knowledge. The written comments also recommended freeing up clinic technician and nurse time spent making appointments, so that the staff can spend more time with direct patient care and physician support activities. In addition, 28 percent of the comments were categorized as tailoring the system by shifting a portion of the appointment workload currently performed in the clinics to the CAS.

Furthermore, discussions with the hospital staff revealed

that the USAF Academy Hospital OB/GYN clinic currently operates dual appointment books (manual and automated). This mix of both manual and automated schedules, has often resulted in double-booked providers. This double booking increases both the patient and the staff dissatisfaction levels. As pointed out earlier in the GRP literature review, automated systems (such as AQCESS) smooth patient flow, and minimize the peak and valley extremes in workload (Dickinson 1979, 225). Furthermore, it was noted that the OB/GYN clinic uses the block or wave type appointing process described earlier in this GRP. This process circumvents many of the best features of an automated appointment system. This wave scheduling process increases patient waiting time, results in the need for larger waiting areas, and increases patient dissatisfaction levels (Cupit 1985, 141).

The key to any successful appointment system, as cited by the literature, is having the flexibility to accommodate patient and staff needs (Alexander 1977, 77). This flexibility can be achieved by tailoring the appointment system to the individual needs of the clinics and patients while still maintaining central management oversight over productivity and control. This tailoring process should be geared toward increasing clinic flexibility, while increasing patient and staff satisfaction levels.

The many written comments provided by the patients and the hospital staff, frequently included nonappointment system aspects of satisfaction and dissatisfaction. These comments

were provided to the hospital executive management for their use, information, and action.

The literature and survey data cited throughout this GRP supports the need for an appointment system responsive to the needs of not only the patient, but also the staff. It is apparent that changes in the USAF Academy Hospital outpatient appointment system must be made to improve patient and staff satisfaction levels.

CHAPTER IV

RECOMMENDATIONS

Based on the survey data, the literature reviewed, and the foregoing conclusions, the following recommendations are made. First, the staff members made 43 written comments concerning improving the appointment system. A total of 30 percent of the comments were related to errors in procedure or knowledge attributed to training deficiencies or forgetfulness. These could be resolved by refresher/inservice training. Second, an additional 26 percent of the written staff comments were attributed to policy issues (perceived or real). These could be resolved by the clarification of policies, increased communications, and changes in the appointment system. Third, 28 percent of the comments promoted appointment system changes that allowed the system to be tailored by centralizing some functions and also decentralizing some of the appointment functions and responsibility.

The tailoring of the appointment system to the needs of the

clinics, while increasing patient accessibility, as pointed out in the surveys, involves several areas. First, it is important that all outpatient clinics operate within the same automated appointment system for continuity and consistency of operations. This recommendation involves the OB/GYN clinic which currently uses a combination of both manual and automated appointment schedules. All OB/GYN appointment functions should be accomplished in one appointment system (in this case the hospital standardized AQCESS system). The AQCESS system would match patient arrivals with provider time slots, smooth the appointment flow, and reduce the patient waiting time in the clinic lobby. This recommendation should lead to improved patient and staff satisfaction levels.

Second, the system should be tailored by centralizing the appointment workload associated with small clinics, so that technicians and nurses can spend more time with direct patient care activities. This recommendation involves changing the mix of the type of appointments booked only by the clinic, and only by the CAS. One specific recommendation involves the shifting of acute pediatric appointments to the CAS, allowing pediatric personnel to spend more time in direct patient care activities.

Third, the system can be tailored to patient and staff needs by decentralizing the appointment workload in large clinics. This direct support, by assigning appointment clerks to that clinic, would free technician and nurse time for other direct patient care activities. This recommendation should increase patient accessibility to hospital staff, reduce the overwhelming

number of telephone calls to CAS, and allow the patient to book follow-up appointments prior to departing the clinic area. A 60 day pilot test of this decentralized appointment hub concept began on 20 June 1988 in the Internal Medicine/Neurology clinic.

Fourth, further study of patient satisfaction should be undertaken. Due to the limitations imposed by executive management, the actual patients surveyed were small in number (total of 279). In addition, the survey did not necessarily include those patients in the geographical catchment area who do not use the Air Force Academy Hospital for their patient care needs. While this small group does not allow generalization to the patient population as a whole, or the determination of opinion trends, it does provide a clear appreciation for popular concerns among the patients.

An implementation plan (shown in appendix Y) was included to provide an orderly decentralization of the entire hospital appointment configuration, should the pilot test be successful. The implementation plan outlines the ten appointment hubs, which are clinic groups in a decentralized configuration. These hubs are:

(1) Internal Medicine, Neurology

(2) OB/GYN

(3) Family Practice

(4) Mental Health

(5) Cardiopulmonary

(6) Nuclear Medicine

(7) Acute Care

(8) Orthopedics, Podiatry

(9) Urology

(10) Pediatrics, Nutrition, Surgery, Dermatology, Ophthalmology, and Optometry

These hubs were established because they represent logically similiar clinical areas, similiar appointments or procedures, are physically colocated, and have workload of sufficient volume to earn appointment clerks in even increments. The implementation plan does not have a fixed time-table, and can be implemented in logical groupings as management and staff desire.

The implementation plan contains the sequencing and cost data associated with these recommendations. The total cost to implement these recommendations are minimal. The hospital clinics already have multiple CRTs in the clinic areas, desks, and other administrative supplies. These items are currently used by the clinic personnel to support acute patient telephone appointment referrals. In addition, no additional manpower is required to implement this plan. The appointment clerks are merely relocated from the central appointment system area, or the clinic currently desires to continue using technicians to booked appointments due to the nature of the appointment mix, complexity of procedures, or decisions involved with specialized tests performed.

The success of the pilot test will be measured at the end of this 60 day period by using the evaluation plan shown in

appendix Z. The evaluation involves measuring four main components to include: patient satisfaction in the decentralized clinic, patient satisfaction with the central appointment system, staff satisfaction, and the productivity of the clinic health care providers. This plan was agreed upon by all personnel involved, briefed to the Hospital Commander, and approved by the hospital Executive Committee.

The first component, clinic patient satisfaction will be measured using the questionnaire shown in appendix Z. The second element, CAS patient satisfaction, will be measured using a separate outpatient questionnaire shown in appendix Z. The CAS staff and the clinic staff satisfaction will be measured using the staff questionnaire developed during this research (appendix J). The last component involves monitoring the Internal Medicine/Neurology health care provider productivity. This will be done by comparing clinic provider productivity prior to the test period, with productivity during the test period.

This decentralized test involves reassigning one full-time appointment clerk from CAS to the Internal Medicine/Neurology clinic. This clinic grouping was picked for this pilot test because:

(1) The recommendations of the patients and staff members to increase patient accessibility, free technician and nurse time for other direct patient care activities, and tailor the appointment system through decentralization.

(2) The clinics are co-located, and have averaged 2,479

appointment transactions per month during August and September 1987 (see appendix M). This workload was felt to be compatible with the recommended patient contacts per appointment clerk standard of approximately 2000 per month (HSC PAM 40-7 1986, 26).

(3) The impact on the CAS would be minimal, as the CAS should see a 26 percent decrease in workload and only a 20 percent decrease in staff. The CAS would have four remaining employees to handle approximately 7,100 transactions, well within the recommended standard per staff member.

The pilot test in the Internal Medicine/Neurology clinic would use a total of two telephone lines for appointment purposes. One telephone line is already present in the clinic and a second will be relocated from the CAS area at a cost of $180.00. The $180.00 represents the total tangible cost of the pilot test in the Internal Medicine/Neurology clinic.

The results and recommendations in this GRP were briefed to the Hospital Commander and approved by the hospital Executive Committee in February and March 1988. Hospital personnel were also made aware of the various findings and recommendations of this GRP. These changes were welcomed by the hospital staff.

APPENDIX A

DEFINITIONS

DEFINITIONS

Accessibility: Establishing contact with the PAS. Contact is usually made by telephone.

Appointment Transactions: The sum total of the appointment transactions undertaken by an appointment clerk in the normal course of duties. These transactions include booking, canceling, scanning, new patient registrations, editing old patient registrations, checking patients in upon arrival at a clinic, and logging the patient as a walk-in.

AQCESS: Automated Quality of Care Evaluation Support System. An automated system developed by TRIMIS to support patient administration, quality assurance, emergency room, patient appointing, and risk managmenet.

Availability: Securing an appointment after contact has been made with the PAS.

A&SM: Appointment and Schedule Module. Refers to the appointment and scheduling module in the AQCESS system.

CAS: Central Appointment System. A system for making appointments for all or most of the clinics of a MTF by clerks who are in one location, under central supervision.

Catchment Area: That geographical area surrounding each Uniformed Services MTF that constitutes the patient service area. The catchment areas are defined by ZIP codes.

CEA: Cost-Effectiveness Analysis. Warner and Luce define it as the medical practice considered to be "worth the expenditures of resources." It is a formal analytical technique for comparing the consequences of alternative uses of resources. It includes subjective and objective analysis.

CRT: Cathode Ray Tube. A viewing and data entry device used with automated appointment systems.

FY: Fiscal Year. Refers to the Department of Defense financial/budget year which begins 1 October and ends 30 September of the following year.

HCP: Health Care Provider. These include physicians, nurse practitioners, physicians' assistants, physical therapists, midwives, optometrist, audiologist, nutritionist, and others providing diagnostic and therapeutic services to authorized health care beneficiaries.

MTF: Uniformed Services Medical Treatment Facility - any of the hospitals or clinics owned and operated by the Department of Defense.

NCO: Non Commissioned Officer. This refers to the enlisted members of the Armed Forces. In this GRP these individuals are primarily the medical technicians working in clinical areas directly supporting patient care activities.

Opportunity Cost: The value of the alternative endeavors that might have been undertaken with the same resources (Warner and Luce, 1982).

PAS: Patient Appointment System. An appointment system configuration (manual or automated) which supports appointment transactions.

PAS Personnel: All personnel making appointments for patients regardless of their duty assignment and job title.

SG: Surgeon General. Refers to the Air Force Surgeon General, who establishes policy and guidance for the Air Force Medical Service. The Air Force SG is located at Bolling Air Force Base, Washington D.C.

TRIMIS: Tri-Service Medical Information System. A Department of Defense Tri-Service organization responsible for the automation of health care activities.

USAF: United States Air Force. A component of the Department of Defense.

APPENDIX B

APPOINTMENT CLERK WORKLOAD STATISTICS

(AUGUST 1987)

USAF Academy Hospital Appointment System
Workload Analysis
August 1987

Section	# Clerks	Workload Range Per Clerk	Total Transactions	% of Total Transactions	# of Appts Booked By Clinic	Total Clinic Visits	Estimated # of Appts Booked by Central Appts	Estimated % of Appts Booked by Central Appts
Hospital **	67	1-3182	25717	99.99%	14016			
Central Appts	5	567-3182	9277	36.07%	4033	4033	N/A	N/A
Surgery	4	8-501	696	2.71%	402	491	89	18.13%
OB/GYN	7	1-660	1747	6.79%	1173	1409	236	16.75%
Nutrition	4	14-240	607	2.36%	369	402	33	8.21%
Neurology	1	266	266	1.03%	132	160	28	17.5%
Urology *	2	41-285	326	1.27%	231	231	N/A	N/A
Dermatology	1	421	421	1.64%	220	439	219	49.88%
Acute Care *	2	385-649	1034	4.02%	659	659	N/A	N/A
Family Practice	10	17-2007	4162	16.18%	2361	4199	1838	43.77%
Ortho/Podiatry *	5	129-834	1765	6.86%	1089	1089	N/A	N/A
Peds/Well Baby	2	358-860	1218	4.74%	652	984	332	33.74%
Internal Medicine	5	72-734	1636	6.36%	1254	1623	369	22.74%
Nuclear Medicine *	2	1-153	154	.60%	128	128	N/A	N/A
Ophthalmology	1	311	311	1.21%	150	250	100	40.00%
Optometry	4	1-169	258	1.00%	148	382	234	61.26%
Cardiopulmonary *	7	49-184	875	3.40%	514	514	N/A	N/A
Mental Health *	3	1-464	470	1.83%	268	268	N/A	N/A
ENT	2	142-352	494	1.92%	286	472	186	39.41%
Totals:	67	1-3182	25717	99.99%	14016			

Source: - USAF Academy Hospital AQCESS Command Clinic Performance RECAP Report, August 1987
- USAF Academy Hospital Report of Patients, AF Form 235, August 1987
- USAF Academy Hospital AQCESS Clerk Workload Report, August 1987

* Clinic books 100% of their own appointments (Total Transactions = 4624 or 17.98%)
(Total Appointments = 2889 or 20.61%)

** Does not include the following areas not using AQCESS

1. Physical Therapy 1037 visits
2. Cadet Clinic 4964 visits
3. Allergy Clinic 188 visits
4. Emergency Clinic 1700 visits

7889 Total Visits

APPENDIX C

APPOINTMENT CLERK WORKLOAD STATISTICS

(SEPTEMBER 1987)

USAF Academy Hospital Appointment System
Workload Analysis
September 1987

Section	# Clerks	Workload Range Per Clerk	Total Transactions	% of Total Transactions	# of Appts Booked By Clinic	Total Clinic Visits	Estimated # of Appts Booked by Central Appts	Estimated % of Appts Booked by Central Appts
Hospital **	61	1-2453	33030	100.01%	14736			
Central Appts	5	1680-2453	9839	29.79%	3788	3788	N/A	N/A
Surgery	3	1-561	768	2.33%	350	441	91	20.63%
OB/GYN	7	2-787	2357	7.14%	1259	1512	253	16.73%
Nutrition	4	188-480	1274	3.86%	Not available	459	Not available	Not available
Neurology	1	344	344	1.04%	145	172	27	15.7%
Urology *	2	123-292	415	1.26%	231	231	N/A	N/A
Dermatology	1	625	625	1.89%	280	545	265	48.62%
Acute Care *	2	706-791	1497	4.53%	760	760	N/A	N/A
Family Practice	10	14-2448	5538	16.77%	2343	4283	1940	45.3%
Ortho/Podiatry *	5	296-706	2222	6.73%	1129	1129	N/A	N/A
Peds/Well Baby	2	16-1495	2000	6.06%	874	1466	592	40.38%
Internal Medicine	5	13-1002	2712	8.21%	1481	1790	309	17.26%
Nuclear Medicine *	1	236	236	.71%	139	139	N/A	N/A
Ophthalmology	1	270	270	.82%	115	207	92	44.0%
Optometry	1	227	227	.69%	135	196	61	31.12%
Cardiopulmonary *	6	109-249	940	2.84%	462	462	N/A	N/A
Mental Health *	3	1-1071	1098	3.32%	472	472	N/A	N/A
ENT	2	230-438	668	2.02%	314	582	268	46.05%
Totals:	61	1-2453	33030	100.01%	14736			

Source: - USAF Academy Hospital AQCESS Command Clinic Performance RECAP Report, September 1987
- USAF Academy Hospital Report of Patients, AF Form 235, September 1987
- USAF Academy Hospital AQCESS Clerk Workload Report, September 1987

* Clinic books 100% of their own appointments (Total Transactions = 6408 or 19.4%)
(Total Appointments = 3193 or 21.48%)

** Does not include the following areas not using AQCESS
1. Physical Therapy 1852 visits
2. Cadet Clinic 6952 visits
3. Allergy Clinic 191 visits
4. Emergency Clinic 1814 visits
10809 Total Visits

APPENDIX D

USAF ACADEMY AQCESS EQUIPMENT INVENTORY

USAF Academy Hospital
AQCESS Equipment Inventory

Location	# of Terminals	# of Printers	# of Line Printers	# of 3X5 Card Printers
Central Appointments	5	1	1	
Surgery	1			
OB/GYN	2			
Nutrition	1			
Neurology	1			
Urology	1			
Dermatology	1			
Acute Care	1			
Family Practice	2			
Ortho/Pod	2			
Peds/Well Baby	1			
Internal Medicine	2			
Nuclear Medicine	1			
Ophthalmology				
Optometry	1			
Cardiopulmonary	1			
Mental Health	1			
ENT	2			
Medical Systems	2	1		
Computer Room	1	1	1	
A & D	2	1		1
Quality Assurance	2	1		
Outpatient Records	1	1		
Chief Hospital Services	1			
Radiology	1			
Emergency Room	1	1		
Health Promotions	1			
Physical Therapy	1			
MSA Office	1	1		
Administrator	1			
Clinical Records	1			
Totals	42	8	2	1

APPENDIX E

USAF ACADEMY HOSPITAL APPOINTMENT SYSTEM

TELEPHONE EQUIPMENT CONFIGURATION

(18 NOV 87)

USAF Academy Hospital Appointment System
Staffing and Telephone Configuration

Clinic/Area	# Of Appointment Personnel	# Of Reception/ Secretarial Personnel	# Of Technicians	# Of Nurses	# Of Physicians	# Of Other Health Care Providers (PA, NP, Midwife, etc)	Inbound Telephone Lines	Outbound Telephone Lines	Comments
Central Appointments	5	-	-	-	-	-	9	1	Sequencer
Surgery		1	2	-	3		5138,5139	5140	Rotary
OB/GYN			3	2	3	1MW,2NP	5062,5063	5064	Rotary
Nutrition		1	4				5070,5071	5072	
Neurology			1	-	1		5037	None	
Urology			2		1		5060	5667	
Dermatology		1	1		1		5084	5230	
Acute Care		-	2		1	1PA	5209	5216	Shared
Family Practice		1	7	2	7	6PA	5203/4/7	4	Rotary
Ortho/Podiatry		1	5	-	5		5040,5041	5042	
Peds/Well Baby			3	1	2	1NP	5200,5201	5202	Rotary
Internal Medicine			4	1	6		5051,52, 53,54	5103/4/7	Rotary
Nuclear Medicine			2		2		5172,5173	5170,5171	Shared
Ophthalmology		-	1	-	1		5146	39,42,44	Shared
Optometry		-	1	-		2 Optom	5144	39,42,46	Shared
Cardiopulmonary			6	-	6		5038,39	None	Rotary
Mental Health	1	2	2		1	4	5177,5178	5154	Rotary
ENT			2		3		5142	39,44,46	Shared
Hospital Total	6	7	48	6	38	17			

Source: Survey 18 November 1987

APPENDIX F

USAF ACADEMY HOSPITAL

DECENTRALIZED APPOINTMENT STUDY

(5 August 1987)

STUDY ON DECENTRALIZATION OF THE APPOINTMENT SYSTEM
5 August 1987

Purpose of the Study: To examine the topic of decentralizing the appointments system at the USAF Academy Hospital.

1. Assumptions:

a. The primary objective of decentralization is to enhance patient access to, and satisfaction with, the appointment system.

b. No additional manpower authorizations are available to devote to the appointment system.

c. The major areas to be covered by decentralized appointment desks are the medical clinics, the surgical clinics, and the primary care (family practice, acute care, pediatrics) clinics.

d. The complexities of the appointment system are not fully understood by individuals working outside the system.

e. In accordance with AFR 168-4, the appointment system will remain the responsibility of Patient Affairs.

2. Factors bearing on the situation:

a. Patients calling in to the central appointments desk for a specific appointment (i.e., medical, surgical, or acute) must compete with all other patients to get through.

b. Many patients schedule more than one appointment when they call the central appointments desk.

c. The AQCESS system brings the various clinics and services closer to the appointment process than was previously possible.

d. The AQCESS system does not impact significantly on the final decision. System terminals can remain in place, or decentralized with relative ease.

e. Decentralization of the appointment system will provide patients with double access to the system--both walk-up and telephone.

f. Decentralization will require additional telephone lines and telephone call sequencers.

3. Positive Aspects of Decentralization:

a. Appointment clerks should develop a better rapport with the providers and clinic staff they serve. Appointments clerks should be better tuned to unique practices and policies in the various clinics.

b. Patients should be able to make follow-up appointments before leaving the clinical areas.

c. Training time of appointment clerks may be reduced as they will have a "narrower" area to learn.

d. The presence of appointment clerks may release clinic personnel for more direct patient care duties.

4. Negative Aspects of Decentralization:

a. The genuinely synergistic effect of a centralized appointment system would be lost. Currently, the various appointment clerks can provide immediate back-up for one another. Decentralizing the appointment system would leave an idle surgery appointments clerk unable to assist an over-taxed medicine appointments clerk.

b. Trained appointment clerks will not be readily available to assist newly hired appointment clerks. New clerks will depend on a roving supervisor and/or clinic personnel for training and assistance.

c. It will become much more difficult to cover employee absences. A supervisor who is covering for an appointment clerk on leave, or filling a vacant position, may be faced with an absent clerk at another desk. Clinic personnel, who must be fully trained on the system, will be required to pick up the slack. This problem would be greatly compounded on extremely high volume days, e.g., days when appointments are opened for the entire following month. Patient service within the clinic would decrease as clinic personnel are taxed to support the appointment system, and waiting time for call-in patients would no doubt increase due to the inefficiencies of the temporary clerk.

d. Patients needing appointments is different specialties may need to make additional phone calls.

e. Patients will be able to walk-up to the appointments desks. A patient present in person will generally command more attention than a patient on the phone. There is the potential for excessively long telephone waiting times to develop.

f. Appointment clerks will lose their familiarity with referral practices outside their specialty area.

g. Appointment clerks available to clinic personnel will no doubt be tasked to accomplish duties outside their appointments responsibilities (i.e., receptionist, typing, distribution, etc). This will be especially true in the absence of the service secretary. While it is prudent to make effective use of idle appointment clerk time, there appears to be real potential for appointment service to decline because of these additional demands.

5. Conclusions:

The patient service provided by the central appointments desk is highly satisfactory. The sequencer system generates a daily report which lists total number of calls, average waiting time on the sequencer, and average time before the patient abandons the call. A

large sample of these reports was analyzed for the annual appraisal of the appointment system. Average hold time for patients was 57 seconds, a very acceptable figure.

The undersigned see no true potential for improving patient service by decentralization of the appointment system. In fact, the distractions associated with placing the appointment clerk in the clinic, coupled with the loss of the synergistic effect of the centralized system, may impact quite negatively on patient service. The addition of administrative personnel to the clinic areas is an excellent move which will undoubtedly improve clinic administration. Assigning appointment clerks to the clinic areas will make the service secretaries appointment clerks, and the appointment clerks service secretaries, to the detriment of both areas. We recommend that no changes be made to the current appointment system.

KEVIN A. POLLARD, Capt, USAF, MSC
Director, Patient Affairs

DIAN L. ATKINS, Maj, USAF, NC
Nursing Supervisor
Ambulatory Care Services

APPENDIX G

CALL SEQUENCER MANAGEMENT SYSTEM REPORT

CALL SEQUENCER MANAGEMENT SYSTEM
AEC MODEL 1101 REPORTS
2-17 DECEMBER 1987*

DATE OF REPORT	TOTAL CALLS	OUTBOUND CALLS	INBOUND CALLS	DIRECTLY ANSWERED #	DIRECTLY ANSWERED %	SEQUENCED CALLS: TOTAL CALLS PLACED ON HOLD #	TOTAL CALLS PLACED ON HOLD %	ANSWERED #	ANSWERED %	ABANDONED #	ABANDONED %	HOLD TIME RANGE (IN SECONDS)	AVERAGE SEQUENCER HOLD TIME (IN SECONDS)	AVERAGE TIME BEFORE ABANDONED (IN SECONDS)
Wed 2 Dec 87	652	80	572	272	48%	300	52%	187	62%	113	38%	1-419	60	52
Thur 3 Dec 87	639	60	570	397	70%	173	30%	134	77%	39	23%	1-239	42	23
Fri 4 Dec 87	685	102	583	402	69%	181	31%	91	50%	90	50%	1-149	31	14
Tues 8 Dec 87	412	108	304	111	37%	193	63%	182	94%	11	6%	1-239	31	20
Wed 9 Dec 87	400	47	353	118	33%	235	67%	211	90%	24	10%	1-299	65	34
Thur 10 Dec 87	398	130	268	115	43%	153	57%	140	92%	13	8%	1-239	48	36
Fri 11 Dec 87	450	140	310	106	34%	204	66%	193	95%	11	5%	1-359	51	25
Mon 14 Dec 87	563	110	453	82	18%	371	82%	332	89%	39	11%	1-419	129	81
Tues 15 Dec 87	519	140	379	98	26%	281	74%	256	91%	25	9%	1-299	79	64
Wed 16 Dec 87	524	175	349	75	21%	274	79%	257	94%	17	6%	1-479	114	69
Thur 17 Dec 87	412	160	252	68	27%	184	73%	164	89%	20	11%	1-539	112	40
TOTAL:	5645	1252	4393	1844	42%	2549	58%	2147	84%	402	16%	1-4218	762	458
AVERAGE:	513	114	399	168	42%	232	58%	195	84%	37	16%	1-383	69	42
RANGE:	398-685	47-175	252-583	68-402	18-70%	153-371	30-90%	91-332	50-95%	11-113	5-50%	1-539	31-129	14-81

* *Represents 50% of the December 1987 workload in Central Appointments*
(11 of 22 duty days)

The call sequencer malfunctioned on Monday, 7 December 1987. This data was excluded from the reporting period

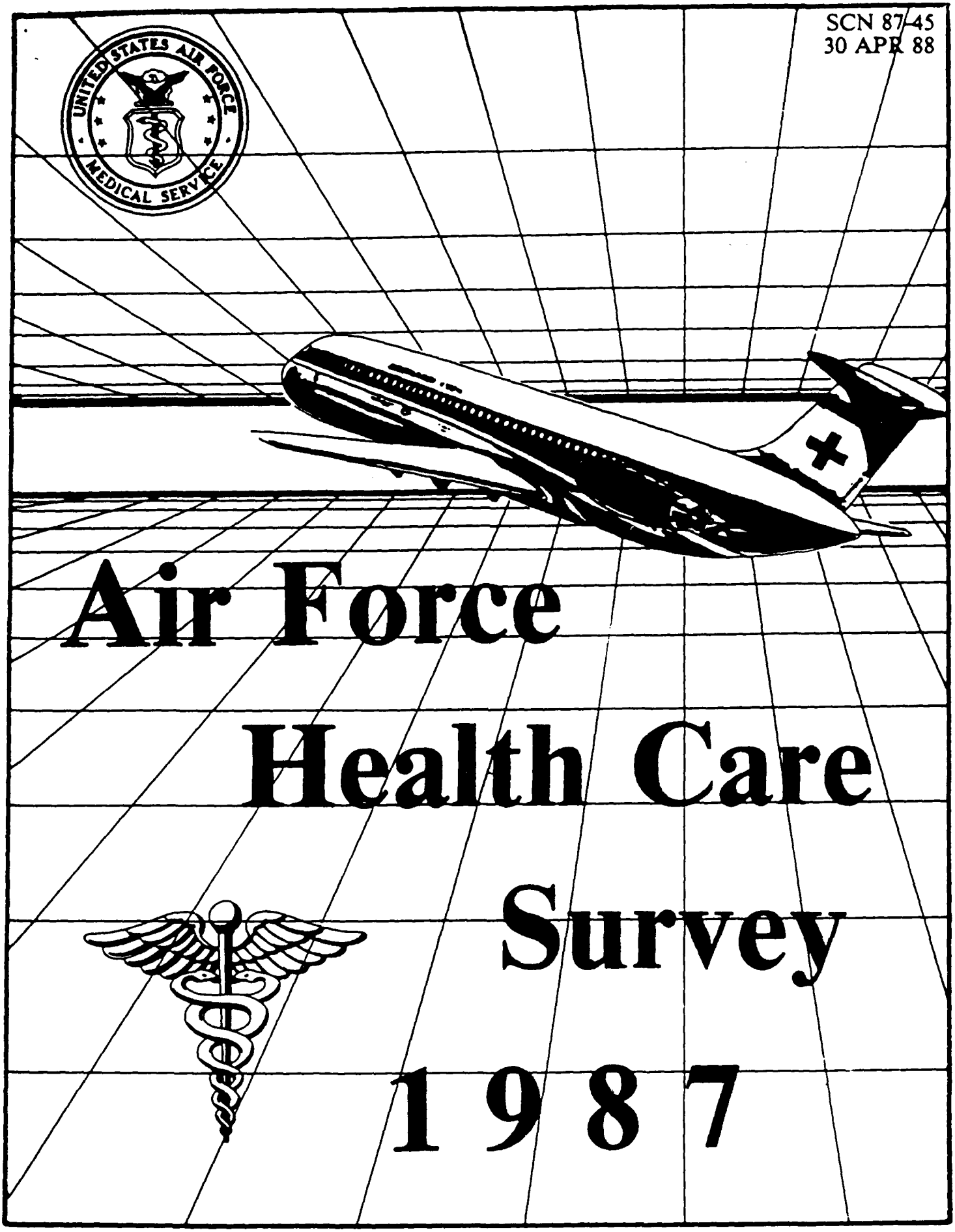
APPENDIX H

1987 AIR FORCE HEALTH CARE SURVEY

This survey was administered to 279 patients chosen at random from outpatient clinics throughout the hospital during December 1987 and January 1988.

Questions #1, #4, #31 and the written comments were used to provide a descriptive measure of patient satisfaction with the appointment system. This is not necessarily a statistically random sampling, and the survey instrument may not be statistically validated.

SCN 87-45
30 APR 88



Air Force Health Care Survey 1987

HEALTH CARE SURVEY

Please mark your answers on the attached answer sheet using a soft lead pencil. Please do not use pen or ink.

PERSONAL DATA

1. What is your beneficiary category?

   A. Active Duty
   B. Dependent of active duty
   C. Retiree
   D. Dependent of retiree or deceased member
   E. Other

2. What is your sex?

   A. Male
   B. Female

FACILITY INFORMATION

3. Do you receive the majority of your health care from an Air Force medical treatment facility (AF MTF)?

   A. Yes
   B. No

4. If you do not receive the majority of your health care from an Air Force medical treatment facility, which one of the following best explains why not?

   A. Not applicable
   B. The AF MTF lacks the services I need
   C. The AF MTF is not conveniently located
   D. I am not treated courteously
   E. Providers are not thorough in their examinations
   F. Providers don't explain my problems to my satisfaction
   G. It seems I see a different provider each time I have an appointment
   H. My schedule conflicts with the times the MTF offers care
   I. It is too difficult to get an appointment

5. If you do not receive the majority of your health care from an Air Force medical treatment facility, which one of the following do you use?

   A. Not applicable
   B. CHAMPUS
   C. Private insurance
   D. Employee programs (e.g., Health Maintenance Organization)
   E. Other federal facility (e.g., another military facility or VA)
   F. I pay for the care myself

A	B	C	D	E
Highly Agree	Agree	Neither Agree Nor Disagree	Disagree	Highly Disagree

14. The medical problems I've had in the past are ignored when I seek care for new medical problems.

15. The health care provider is warm and friendly.

16. The health care provider isn't as thorough as he/she should be.

17. In an emergency, it's hard to get medical care quickly.

18. Air Force medical treatment facilities are very conveniently located.

19. The health care provider does his/her best to keep me from worrying.

20. I see the same health provider just about every time I go for medical care.

21. Health care providers cause some people to worry a lot because they don't explain medical problems to them.

22. Generally, the amount of time I have had to wait (after arriving and before seeing the health care provider) during the last 12 months has been reasonable.

23. Hours available to get health care are good for most people.

24. This medical facility lacks some things needed to provide complete medical care.

25. Parking is a problem.

26. I often have to repeat tests or answer the same questions because I constantly see different providers.

PATIENT PERCEPTIONS OF SPECIFIC HOSPITAL/CLINIC SERVICES

Using the scale below, please tell us how satisfied you are with the following services:

A	B	C	D	E
Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied

27. X-ray

28. Pharmacy

APPENDIX I

APPOINTMENTS STRUCTURED INTERVIEW QUESTIONNAIRE

(Pre-test)

SOURCE: Alexander 1977, 39-42.

Badget 1987, Interview.

Clover 1987, Interview.

Raiha 1985, 87-90.

Stuart 1973, Appendix 2.

USAOECS 1983, 55-63.

USAF Academy Hospital Appointment System
Staff Interview Survey Questionnaire

PURPOSE: This study is being conducted to determine how you feel about the system used for making outpatient appointments at the USAF Academy Hospital. It should take you approximately 5 minutes to complete this survey. The results of this survey may have a significant impact on future policy/guidance and configuration of the appointment system.

All answers to the questions should be based on your experience with the appointments system at the USAF Academy Hospital and not any other experience you may have had with other appointment systems. Your answers will be combined with those of other staff members, and presented for analysis at the completion of the survey.

Your cooperation in completing this questionnaire will be greatly appreciated and will provide valuable information which may be used to make the outpatient appointment system serve you better.

LOWELL A. SCHUKNECHT, JR., Col, USAF, MC
Command Surgeon/Hospital Commander

PLEASE TURN TO THE NEXT PAGE AND FOLLOW THE INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE

1. Please place an "X" in the box in front of the statement which best describes your current status:

( ) Physician
( ) Optometrist/Ophthalmologist/Nutritionist/Audiologist
( ) Nurse Clinician
( ) Clinic NCO
( ) Appointment Clerk/Supervisor
( ) Department Manager (Non-clinical)
( ) Executive Management

2. How long have you been in your present position at the USAF Academy Hospital?

( ) Less than 6 months
( ) 6 months to 11 months
( ) 1 to 3 years
( ) More than 3 years

PLEASE TURN TO THE NEXT PAGE AND FOLLOW THE INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE

Please circle the number which best describes your feelings about each of the following issues related to the way in which the appointment system operates. High numbers indicate satisfaction and lower numbers indicate dissatisfaction. Please consider only the USAF Academy Hospital appointment system and not any other system you have had experience with.

	Very Satisfied	Satisfied	Neither Satisfied/ Dissatisfied	Dissatisfied	Very Dissatisfied
3. Your overall opinion of the appointment system used to make appointments.	5	4	3	2	1
4. Your ability to obtain information (patient and schedules) from the appointment system.	5	4	3	2	1
5. How satisfied are you that the central appointment clerk matches the patient with the proper clinic.	5	4	3	2	1
6. Your overall opinion on the responsiveness of the appointment system to your needs.	5	4	3	2	1
7. How satisfied are you with your ability to contact the central appointment clerk when you need to.	5	4	3	2	1
8. How satisfied are you with the number of appointment scheduling people in your area.	5	4	3	2	1
9. How satisfied would you be if all appointments were made in the clinic area (given no additional staffing).	5	4	3	2	1
10. How satisfied would you be if all appointments were made in the clinic area (given one additional full-time appointment clerk).	5	4	3	2	1

PLEASE TURN TO THE NEXT PAGE AND COMPLETE THE QUESTIONNAIRE

11. If you could change anything about the appointment system, what would it be?

12. How would one additional full-time appointment clerk affect the patient care provided in your area?

AFTER COMPLETING THIS PAGE PLEASE RETURN THE SURVEY TO THE SURVEYOR

THANK YOU VERY MUCH FOR YOUR TIME
IN COMPLETING THIS SURVEY

APPENDIX J

APPOINTMENTS STRUCTURED INTERVIEW QUESTIONNAIRE

(Post-test)

SOURCE: Alexander 1977, 39-42.

Badget 1987, Interview.

Clover 1987, Interview.

Raiha 1985, 87-90.

Stuart 1973, Appendix 2.

USAOECS 1983, 55-63.

USAF Academy Hospital Appointment System
Staff Interview Survey Questionnaire

PURPOSE: This study is being conducted to determine how you feel about the system used for making outpatient appointments at the USAF Academy Hospital. It should take you approximately 5 minutes to complete this survey. The results of this survey may have a significant impact on future policy/guidance and configuration of the appointment system.

All answers to the questions should be based on your experience with the appointment system at the USAF Academy Hospital and not any other experience you may have had with other appointment systems. Your answers will be combined with those of other staff members, and presented for analysis at the completion of the survey.

Your cooperation in completing this questionnaire will be greatly appreciated and will provide valuable information which may be used to make the outpatient appointment system serve you better.

LOWELL A. SCHUKNECHT, JR., Col, USAF, MC
Command Surgeon/Hospital Commander

PLEASE TURN TO THE NEXT PAGE AND FOLLOW THE INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE

1. Please place an 'X' in the box in front of the statement which best describes your current status:

( ) Physician
( ) Optometrist/Nutritionist/Audiologist
( ) Nurse Clinician
( ) Clinic NCOIC
( ) Appointment Clerk/Supervisor
( ) Department Manager (Non-clinical)
( ) Executive Management
( ) Other - Please Specify: _____

2. How long have you been in your present position at the USAF Academy Hospital?

( ) Less than 6 months
( ) 6 months to 11 months
( ) 1 to 3 years
( ) More than 3 years

3. In what clinic or appointment area do you serve in your present position?

( ) Central Appointments
( ) Surgery
( ) OB/Gyn
( ) Nutrition
( ) Neurology
( ) Dermatology
( ) Acute Care
( ) Family Practice
( ) Ortho/Podiatry
( ) Pediatrics
( ) Internal Medicine
( ) Nuclear Medicine
( ) Ophthalmology
( ) Optometry
( ) Cardiopulmonary
( ) Mental Health
( ) ENT
( ) Other - Please Specify: _____
( ) Not applicable - I do not work in a clinic or appointment area

PLEASE TURN TO THE NEXT PAGE AND FOLLOW THE INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE

lease circle the number which best describes your feelings about each of the following issues elated to the way in which the appointment system operates. High numbers indicate satisfaction nd lower numbers indicate dissatisfaction. Please consider only the USAF Academy Hospital ppointment system and not any other system you have had experience with.

	Not Applicable N/A	Very Satisfied	Satisfied	Neither Satisfied/ Dissatisfied	Dissatisfied	Very Dissatisfied
. Your ability to btain patient and chedule information rom the appointment ystem?	N/A	5	4	3	2	1
. How satisfied are ou that the central ppointment clerk atches the patient ith the proper ppointment slot?	N/A	5	4	3	2	1
. How satisfied are ou with your ability o contact the entral appointment lerk when you need o?	N/A	5	4	3	2	1
. How satisfied are ou with the number f appointment cheduling people n your area?	N/A	5	4	3	2	1
. How satisfied ould you be if all ppointments were ade in the clinic rea (given no dditional staffing)?	N/A	5	4	3	2	1
. Your overall pinion of the ppointment system sed to make ppointments?	N/A	5	4	3	2	1

PLEASE TURN TO THE NEXT PAGE AND COMPLETE THE QUESTIONNAIRE

10. If you could change anything about the appointment system, what would it be?

11. How would one additional full-time appointment clerk affect the patient care provided in your area?

AFTER COMPLETING THIS PAGE PLEASE RETURN THE SURVEY TO MAJOR SHIELDS

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*************************************************
*                                               *
*     THANK YOU VERY MUCH FOR YOUR TIME         *
*         IN COMPLETING THIS SURVEY             *
*                                               *
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APPENDIX K

HOSPITAL REGULATION 168-6 (13 July 1987)

HOSPITAL APPOINTMENT SYSTEM

DEPARTMENT OF THE AIR FORCE
Headquarters US Air Force Academy
USAF Academy Hospital
Colorado Srpings CO 80840-5300

HOSPITAL REGULATION 168-6

13 July 1987

Medical Administration

HOSPITAL APPOINTMENT SYSTEM

This regulation establishes policies and procedures for USAF Academy Hospital personnel in operating the hospital appointment system, particularly the Automated Quality of Care Evaluation Support System (AQCESS) Appointment Scheduling Module (ASM).

1. REFERENCE. HR 700-1, Hospital Information Systems.

2. RESPONSIBILITIES.

a. The Medical Systems Office (SGS) is responsible for planning, preparation, installation, implementation, maintenance (to include software and hardware) and training on automated appointment systems.

b. Clinic chiefs and/or NCOICs will be responsible for operation of automated appointment systems within their respective clinics/services. These responsibilities include:

(1) Site preparation within the clinic.

(2) Scheduling clinic personnel for required training.

(3) Developing, loading and updating provider schedules (templates).

(4) Operation of the system according to directives and prescribed standards.

(5) Ensuring that sufficient personnel are trained for continuous proper operation of the automated appointment system within the clinic.

(6) Advising the central appointment desk (CAD) supervisor of all changes at the clinic/service level that impact on appointments controlled and filled by the CAD.

c. The director, Patient Affairs, is responsible for operating the hospital's central appointment desk.

3. PROCEDURES.

a. Appointment schedules for a given month will generally be opened on the second working Friday of the preceding month. (EXAMPLE: Appointments for the month of June will be opened on the second working Friday of May). The precise date will be publicized by the CAD well in advance.

b. Provider templates will be constructed by the appropriate clinic, and forwarded to SGH for approval prior to loading them into the automated appointment system. Templates will not be changed or altered without the prior approval of SGH. To prevent inconvenience to patients, templates should not be altered within five (5) working days on a major appointment opening date (see paragraph 2.a. above).

c. Provider schedules for a given month must be loaded into the automated appointment system at least two (2) working days before the day they are opened. Advance loading allows review of the schedules and correction of any problems. Individual clinics are responsible for loading schedules. CAD does not have the required access codes, and cannot load schedules.

d. Clinics may control all, some, or no appointments at the clinic level. The CAD will control and book all appointments not reserved by the various clinics. Clinics that retain control over some or all of their appointments must clearly delineate those appointments to the CAD.

e. Whenever possible, the various codes used to identify types of appointments, such as routine, follow-up, physical exam, will be standardized for all clinics.

Supersedes HR 168-6, 23 June 1983(See signature page for Summary of Changes)
No of Printed Pages: 2
OPR: SGR (Capt Pollard)
Approved by: Col Robert O. Iott
Distribution: F,X (1 cy to DAPE)

f. Clinic appointments will not be cancelled by the provider without sufficient justifi on, such as emergency leave or hospitalization. All schedule changes or cancellations must be approved GH at the earliest possible point. All changes will have approval of the service chief prior to subm n to SGH.

g. The CAD will not accept requests for cancellations or changes from providers or cli personnel without an indication that SGH concurs.

h. Cancellation of appointments, when directed by SG, SGH or SGA, is the responsibility of the CAD. This applies only to appointments originally booked by the CAD. Clinic personnel may be tasked to perform this function if short notice or excessive workload leaves the CAD unable to make the cancellations. Such a requirement should be coordinated with SGA, SGH, SGHC and SGR. When the hospital initiates cancellation, patients will be rescheduled simultaneously. Patients will not be expected to reschedule their own appointments.

OFFICIAL

MATTHEW J. KELLY, CMSgt, USAF
Chief, Personnel & Admin Services

LOWELL A. SCHUKNECHT, JR., Col, USAF, MSC
Hospital Commander

Summary of Changes

This regulation has been completely revised.

APPENDIX L

USAF ACADEMY HOSPITAL CENTRAL APPOINTMENT SYSTEM

NON AQCESS WORKLOAD SUMMARY

(9 - 20 November 1987 Survey)

USAF Academy Hospital Central Appointment System
Non ACCESS Workload Summary
(9 - 20 November 1987 Survey) *

Date:	Mon, 9 Nov	Tues, 10 Nov	Thur, 12 Nov	Fri, 13 Nov	Mon, 16 Nov	Tues, 17 Nov	Wed, 18 Nov	Thurs, 19 Nov	Fri, 20 Nov	Total	Daily Average
Patient Information Calls (Inbound)	80	69	83	103	100	77	36	46	54	648	72
Conference Calls With Family Practice (Outbound)	6	9	5	2	3	9	6		8	48	5
Conference Calls With Other Clinics (Outbound)	3	11	5		11	2	5	2	8	47	5
Consultation Calls (SF 513) (Outbound)	17	11	23		21	27	22	3	37	161	18
Other Calls	13	17	2	1	29	23	8	8	6	107	12
Refer Patients to Clinics	46	49	45	50	49	54	25	35	30	383	43
Send out Patient Letters	26	2	13		17	22	71	64	22	237	26
Screening and Logging Consultation Requests (SF 513)	60 min	30 min	10 min	15 min	75 min	40 min	45 min	60 min	90 min	425 min	47 min
Printing/sorting Clinic Schedules	45 min	45 min	35 min	45 min	75 min	45 min	75 min	45 min	45 min	455 min	51 min
Delivering Clinic Schedules	15 min	15 min	15 min	15 min	15 min	15 min	15 min	15 min	15 min	135 min	15 min
Other Report Actions and Meetings	30 min	60 min	15 min	15 min	135 min	90 min		60 min	15 min	420 min	47 min
Patient Waiting List Actions (on/off list)	72	45	19	17	16	74	112	94	133	582	65
Total # of Daily Actions	263	213	195	173	246	288	285	232	298	2213	246
Total # of Additional Admin Minutes	150 min	150 min	75 min	90 min	300 min	190 min	135 min	180 min	165 min	1435min	159 min

*Wed, 11 Nov 87 - Holiday

APPENDIX M

USAF ACADEMY HOSPITAL APPOINTMENT SYSTEM

AVERAGE CLINIC/AREA TRANSACTION WORKLOAD

(Summary)

USAF Academy Hospital Appointment System
Average Clinic/Area Transaction Workload

Clinic/Area	Average* Monthly Patient Visits	Average* # of Total Hospital Appointment Transactions	Average* % of Total Hospital Appointment Transactions
Central Appointments	N/A	9558	32.93%
Surgery	466	732	2.52%
OB/GYN	1460.5	2052	6.97%
Nutrition	430.5	940.5	3.11%
Neurology	166	305	1.04%
Urology **** and **	231	370.5	1.27%
Dermatology	492	523	1.77%
Acute Care **	709.5	1265.5	4.28%
Family Practice	4241	4850	16.48%
Ortho/Podiatry **	1109	1993.5	6.80%
Peds/Well Baby	1225	1609	5.40%
Internal Medicine	1706.5	2174	7.29%
Nuclear Medicine **	133.5	195	.66%
Ophthalmology	228.5	290.5	1.02%
Optometry	289	242.5	.85%
Cardiopulmonary **	488	907.5	3.12%
Mental Health **	370	784	2.56%
ENT	527	581	1.97%
Hospital Total ***	14273	27324.02	100.04%

Source: - USAF Academy Hospital AQCESS Command Clinic Performance RECAP Report, August and September 1987
- USAF Academy Hospital Report of Patients, AF Form 235, August and September 1987
- USAF Academy Hospital AQCESS Clerk Workload, August and September 1987

* Based on appointment system data obtained from AQCESS and Report of Patients [(Aug 87 - Sep 87)/2]
** Clinic books 100% of their own appointments
*** Does not include the following areas not using AQCESS: Physical Therapy, Cadet Clinic, Allergy Clinic, and the Emergency Clinic
**** Clinic closed as of 20 Nov 87 - lack of physician staffing

APPENDIX N

CENTRAL APPOINTMENT SYSTEM ADVANTAGES

SOURCE: Alexander 1977, 17.

Brandler 1983, 29.

Dickinson 1979, 225.

Fishbacker & Robertson 1986, 283.

Madden 1976, 48.

O'Keefe 1985. 709.

Palmer, Wilson Hubble 1987, 355.

Pollard & Atkins 1987, 1-2.

Ratzer, Fletcher 1978, 167.

Reisman, Silva, Mantell 1978, 50.

Singer, Rossfeld, Hall 1976, 156.

Stuart 1973, 60-68 & 100.

Stuart 1976, 392.

Woerly 1986, 9.

Centralized Appointment System
Advantages

1. Centralized control and monitoring - easily shows bottlenecks or problem areas in service.

2. Standardized management/workload/productivity reporting is easier.

3. A single telephone number for patients to call and book all appointments - ease of access.

4. All appointment clerks have the capability of making multiple clinic appointments.

5. Telephone support and monitoring equipment is more easily affordable (calls on hold, music, sequencer, management reports).

6. Economics of scale - can take advantage of mechanization that would not be cost-effective on a decentralized basis.

7. Ability to handle peak workload requirements of one clinic due to increased numbers of co-located personnel.

8. Frees clinic receptionists, nurses, and other personnel from the need to be appointment clerks.

9. Decreases the noise by telephone and filing equipment in the clinic area.

10. Availability of full-time appointment personnel to answer telephones.

11. Availability of well-trained appointment supervisor to handle difficult, often hostile patients.

12. A central source of hospital information to the patient.

13. Multiple clerks provide service in depth, allowing the phones to be answered when one or more appointment clerks are absent.

14. Allows a separate telephone line to be prioritized for patients calling long distance.

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APPENDIX O

CENTRAL APPOINTMENT SYSTEM DISADVANTAGES

SOURCE: Alexander 1977, 17.

Brandler 1983, 29.

Dickinson 1979, 225.

Fishbacker & Robertson 1986, 283.

Madden 1976, 48.

O'Keefe 1985. 709.

Palmer, Wilson Hubble 1987, 355.

Pollard & Atkins 1987, 1-2.

Ratzer, Fletcher 1978, 167.

Reisman, Silva, Mantell 1978, 50.

Singer, Rossfeld, Hall 1976, 156.

Stuart 1973, 60-68 & 100.

Stuart 1976, 392.

Woerly 1986, 9.

Centralized Appointment System
Disadvantages

1. Lack of knowledge to properly screen patients for appointments.

2. Not designed to handle short notice, same day acute illnesses.

3. Lack of flexibility to handle emergencies, patients and treatment needed.

4. Increases the coordination and communication needed between CAS and the clinics - dedicated telephone lines.

5. Increases the amount of training needed by the appointment clerks - system is more complex.

6. Diminishing returns due to large scale operations - too large an operation in one area to manage efficiently.

7. Appointment clerks and telephone only service, is too impersonal.

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APPENDIX P

DECENTRALIZED APPOINTMENT SYSTEM ADVANTAGES

SOURCE: Alexander 1977, 17.

Brandler 1983, 29.

Dickinson 1979, 225.

Fishbacker & Robertson 1966, 283.

Madden 1976, 48.

O'Keefe 1985. 709.

Palmer, Wilson Hubble 1987, 355.

Pollard & Atkins 1987, 1-2.

Ratzer, Fletcher 1978, 167.

Reisman, Silva, Mantell 1978, 50.

Singer, Rossfeld, Hall 1976, 156.

Stuart 1973, 60-68 & 100.

Stuart 1976, 392.

Woerly 1986, 9.

Decentralized Appointment System
Advantages

1. Provides greater flexibility on appointments (overbooking schedule changes, time needed for patient treatment).

2. Clinic/Service chiefs have greater control over their clinic operations.

3. More personal service (allows patients to make appointments in person).

4. Ability to make follow-up appointments before departing the clinic.

5. Ease of obtaining same-day appointments.

6. Increased ability to triage patients - access to nurse/physician staff.

7. Increased accessibility by healthcare providers in the appointment process.

8. Ease of communications between the physician and the appointment clerk on special patient needs.

9. Personnel are more familiar with clinic standard operating procedures.

10. Reduced training time of appointment clerks - less complex system.

11. May increase the number of staff available to answer the telephone in the clinic area.

12. Patient's perceptions that decentralized systems are more responsive to their needs.

13. May increase appointment personnel morale, resulting in lower turnover by bringing them closer to the daily patient care demands in a clinic.

APPENDIX Q

DECENTRALIZED APPOINTMENT SYSTEM DISADVANTAGES

SOURCE: Alexander 1977, 17.

Brandler 1983, 29.

Dickinson 1979, 225.

Fishbacker & Robertson 1986, 283.

Madden 1976, 48.

O'Keefe 1985. 709.

Palmer, Wilson Hubble 1987, 355.

Pollard & Atkins 1987, 1-2.

Ratzer, Fletcher 1978, 167.

Reisman, Silva, Mantell 1978, 50.

Singer, Rossfeld, Hall 1976, 156.

Stuart 1973, 60-68 & 100.

Stuart 1976, 392.

Woerly 1986, 9.

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permit fully legible reproduction

Decentralized Appointment System
Disadvantages

1. Lack of depth with the number of appointment personnel (coverage when sick, on leave, absent, etc.).

2. Multiple telephone numbers for the patient to remember. Increased patient education needed to gain access to the appointment system.

3. Unfamiliarity with other clinic procedures - more difficult to properly refer a patient to another clinic's appointment area (minimal intra-departmental coordination resulting in excessive transferring of patient calls).

4. May decrease appointment clerk productivity. Appointing of walk-up patients requires more time than those requesting appointments by phone.

5. Increase in telephone and filing noise in the clinic areas.

6. May require more manpower due to diseconomies of scale.

7. May require additional telephone lines and call sequencers.

8. Appointment clerk may decrease physician productivity. The physician can more easily be interrupted for questions due to a co-located appointment area.

9. Possible reduction of synergistic unity and cohesion normally found in a central appointment area - reduces employee morale, increasing employee turnovers.

10. Patients may not cancel all their appointments resulting in increased no-shows due to the number of telephone calls needed to cancel multiple appointments.

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APPENDIX R

CLASSIFICATION OF STAFF RESPONSES

CLASSIFICATION OF STAFF RESPONSES

Clinic/Area	Physician	Psychologist P.A. Optom Nutri Adiol	Clinic Nurse	Clinic NCO	Appoint Clerk	Dept Mgr/Sup	Exec Mgr	Total #	Total %
Central Appointments					4	1		5	10.9
Surgery	1			1				2	4.3
OB/Gyn	1		1					2	4.3
Nutrition		1		1				2	4.3
Neurology	1			1				2	4.3
Urology (Service Closed)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dermatology	1			1				2	4.3
Acute Care		1		1				2	4.3
Family Practice	1			1				2	4.3
Ortho/Podiatry	1			1				2	4.3
Peds/Well Baby	1		1					2	4.3
Internal Medicine	2		1					3	6.5
Nuclear Medicine				1				1	2.2
Ophthalmology	1			1				2	4.3
Optometry		1		1				2	4.3
Cardiopulmonary				1				1	2.2
Mental Health		1		1	1			3	6.5
ENT	1	1		1				3	6.5
Other						5		8	17.4
Hospital Total #:	11	5	3	13	5	6	3	46	---
Hospital Total %:	23.9%	10.9%	6.5%	28.2%	10.9%	13.1%	6.5%	--	99.5%
									100%

APPENDIX S

COMPARISON OF STAFF SURVEY REPORTS

COMPARISON OF STAFF SURVEY REPORTS*

	Physician	Psychologist P.A. Optom Nutri Audiol	Clinic Nurse	Clinic NCO	Appoint Clerk	Depart Mgrs/Sup	Exec Mgrs
4. Your ability to obtain patient and schedule information from the appointment system?	27%=VS 55%=S 18%=N/A	20%=VS 80%=S	33%=VS 67%=S	46%=VS 31%=S 23%=D	50%=VS 33%=S 17%=N/A	60%=VS 20%=S 20%=N/A	33%=S 33%=D 33%=N/A
5. How satisfied are you that the central appointment clerk matches the patient with the proper appointment slot?	36%=S 36%=N 18%=VDS 9%=N/A	40%=VS 20%=S 40%=N/A	67%=S 33%=D	15%=VS 39%=S 15%=D 31%=N/A	17%=VS 17%=S 66%=N/A	60%=VS 20%=N 20%=N/A	33%=VS 33%=S 33%=VDS
6. How satisfied are you with your ability to contact the central appointment clerk when you need to?	9%=VS 46%=S 9%=N 18%=D 18%=N/A	40%=VS 20%=S 40%=N/A	67%=VS 33%=S	39%=VS 31%=S 7%=N 23%=N/A	17%=S 83%=N/A	100%=VS	33%=VS 67%=S
7. How satisfied are you with the number of appointment scheduling people in your area?	27%=VS 9%=S 27%=N 18%=D 9%=VDS 9%=N/A	60%=VS 40%=S	67%=S 33%=VDS	39%=VS 15%=S 15%=N 15%=D 15%=N/A	17%=VS 83%=S	20%=VS 40%=S 40%=N/A	33%=VS 67%=N/A

* N/A = Not Applicable
VS = Very Satisfied (5)
S = Satisfied (4)
N = Neither Satisfied or Dissatisfied (3)
D = Dissatisfied (2)
VDS = Very Dissatisfied (1)

COMPARISON OF STAFF SURVEY REPORTS*

	Physician	Psychologist P.A. Optom Nutri Audiol	Clinic Nurse	Clinic NCO	Appoint Clerk	Depart Mgrs/Sup	Exec Mgrs
8. How satisfied would you be if all appointments were made in the clinic area (given no additional staffing)?	18%=VS 9%=S 18%=N 27%=D 18%=VDS 9%=N/A	40%=VS 20%=N 20%=D 20%=N/A	33%=N 67%=VDS	23%=VS 7%=S 7%=N 7%=D 46%=VDS 7%=N/A	17%=VS 17%=N 17%=D 50%=VDS	20%=D 60%=VDS 20%=N/A	67%=D 33%=VDS
9. Your overall opinion of the appointment system used to make appointments?	55%=S 9%=N 27%=D 9%=VDS	20%=VS 60%=S 20%=N	33%=VS 67%=S	23%=VS 54%=S 16%=N 7%=D	33%=VS 50%=S 17%=N	60%=VS 40%=S	33%=S 33%=N 33%=D

* N/A = Not Applicable
VS = Very Satisfied (5)
S = Satisfied (4)
N = Neither Satisfied or Dissatisfied (3)
D = Dissatisfied (2)
VDS = Very Dissatisfied (1)

APPENDIX T

COMPARISON OF CLINIC SURVEY REPORTS

COMPARISON OF CLINIC SURVEY REPORTS *

	Cent Appts	Surg	OB/ GYN	Diet	Neur	Derm	Acute Care	Fam Prac	Orth Pod	Peds
4. Your ability to obtain patient and schedule information from the appointment system?	40%=VS 40%=S 20%=N/A	100%=VS	100%=S	50%=VS 50%=S	50%=S 50%=D	100%=S	100%=S	50%=VS 50%=S	50%=VS 50%=S	100%=VS
5. How satisfied are you that the central appointment clerk matches the patient with the proper appointment slot?	20%=VS 20%=S 60%=N/A	50%=S 50%=D	50%=S 50%=VDS	50%=VS 50%=S	100%=S	50%=VS 50%=N	100%=N/A	50%=VS 50%=S	100%=N/A	50%=S 50%=N
6. How satisfied are you with your ability to contact the central appointment clerk when you need to?	20%=S 80%=N/A	50%=VS 50%=S	50%=VS 50%=D	100%=VS	50%=VS 50%=S	50%=VS 50%=S	50%=S 50%=N/A	50%=VS 50%=D	100%=N/A	50%=VS 50%=S
7. How satisfied are you with the number of appointment scheduling people in your area?	20%=VS 80%=S	100%=VS	50%=S 50%=N	100%=VS	100%=VS	50%=D 50%=VDS	50%=VS 50%=N	50%=VDS 50%=N/A	50%=VS 50%=S	50%=S 50%=D
8. How satisfied would you be if all appointments were made in the clinic area (given no additional staffing)?	20%=N 20%=D 60%=VDS	50%=VS 50%=N	50%=S 50%=VDS	50%=D 50%=VDS	50%=N 50%=VDS	50%=D 50%=VDS	50%=VS 50%=S	50%=D 50%=VDS	50%=VS 50%=N/A	50%=D 50%=VDS
9. Your overall opinion of the appointment system used to make appointments?	20%=VS 60%=S 20%=N	100%=S	50%=S 50%=D	100%=VS	100%=S	50%=S 50%=D	100%=S	50%=VS 50%=S	50%=VS 50%=S	50%=VS 50%=S
Total # of Personnel: 46	5	2	2	2	2	2	2	2	2	2

* N/A = Not Applicable
VS = Very Satisfied (5)
S = Satisfied (4)
N = Neither Satisfied or Dissatisfied (3)
D = Dissatisfied (2)
VDS= Very Dissatisfied (1)

COMPARISON OF CLINIC SURVEY REPORTS*

	Int Med	Nuc Med	Opth	Opto	Card Pul	Men Hlh	ENT/Audiology
4. Your ability to obtain patient and schedule information from the appointment system?	33%=VS 33%=S 33%=N/A	100%=VS	50%=S 50%=D	100%=S	100%=VS	33%=VS 33%=S 33%=D	33%=VS 33%=S 33%=N/A
5. How satisfied are you that the central appointment clerk matches the patient with the proper appointment slot?	33%=S 33%=N 33%=D	100%=N/A	50%=S 50%=N	50%=VS 50%=S	100%=N/A	33%=S 67%=N/A	33%=S 33%=D 33%=VDS
6. How satisfied are you with your ability to contact the central appointment clerk when you need to?	100%=S	100%=N/A	50%=S 50%=N	100%=S	100%=N/A	33%=N 67%=N/A	67%=VS 33%=N/A
7. How satisfied are you with the number of appointment scheduling people in your area?	33%=VS 33%=VDS 33%=N/A	100%=N/A	50%=S 50%=N	50%=S 50%=N	100%=D	100%=S	67%=VS 33%=N
8. How satisfied would you be if all appointments were made in the clinic area (given no additional staffing)?	33%=VS 33%=N 33%=VDS	100%=N/A	50%=D 50%=VDS	50%=N 50%=VDS	100%=VDS	33%=VS 33%=N 33%=N/A	100%=VS
9. Your overall opinion of the appointment system used to make appointments?	67%=S 33%=D	100%=N	50%=S 50%=N	100%=S	100%=S	33%=VS 33%=S 33%=N	33%=N 33%=D 33%=VDS
Total # of Personnel:	3	1	2	2	1	3	3

* N/A = Not Applicable
VS = Very Satisfied (5)
S = Satisfied (4)
N = Neither Satisfied or Dissatisfied (3)
D = Dissatisfied (2)
VDS = Very Dissatisfied (1)

APPENDIX U

SUMMARY OF STAFF RESPONSES

OVERALL SUMMARY OF STAFF RESPONSES

	N/A	Very Satisfied	Satisfied	Neither Satisfied/ Dissatisfied	Dissatisfied	Very Dissatisfied	Total Respondents
4. Your ability to obtain patient and schedule information from the appointment system?	5 10.9%	17 36.9%	20 43.5%	-0- -	4 8.7%	-0- -	46 100%
5. How satisfied are you that the central appointment clerk matches the patient with the proper appointment slot?	12 26%	9 19.7%	14 30.4%	5 10.9%	3 6.5%	3 6.5%	46 100%
6. How satisfied are you with your ability to contact the central appointment clerk when you need to?	12 26%	16 35%	14 30.4%	2 4.3%	2 4.3%	-0- -	46 100%
7. How satisfied are you with the number of appointment scheduling people in your area?	7 15.3%	14 30.4%	14 30.4%	5 10.9%	3 6.5%	3 6.5%	46 100%
8. How satisfied would you be if all appointments were made in the clinic area (given no additional staffing)?	4 8.7%	8 17.4%	2 4.3%	6 13%	9 19.7%	17 36.9%	46 100%
9. Your overall opinion of the appointment system used to make appointments?	-0- -	10 21.7%	24 52.2%	6 13%	5 10.9%	1 2.2%	46 100%

APPENDIX V

COMPARISON OF STAFF RESPONSES BY TENURE

COMPARISON OF STAFF RESPONSES BY TENURE *

	Less than 6 months	6 months to 11 months	1 year to 3 years	More Than 3 years
4. Your ability to obtain patient and schedule information from the appointment system?	25%=VS 75%=S	50%=VS 50%=N/A	38%=VS 46%=S 4%=D 12%=N/A	42%=Vs 25%=S 25%=D 6%=N/A
5. How satisfied are you that the central appointment clerk matches the patient with the proper appointment slot?	25%=VS 13%=S 13%=N 13%=VDS 37%=N/A	50%=S 50%=N/A	25%=VS 25%=S 17%=N 8%=D 8%=VDS 17%=N/A	8%=VS 50%=S 8%=D 34%=N/A
6. How satisfied are you with your ability to contact the central appointment clerk when you need to?	25%=VS 25%=S 13%=D 37%=N/A	50%=S 50%=N/A	42%=VS 33%=S 4%=N 4%=D 17%=N/A	34%=VS 25%=S 8%=N 34%=N/A
7. How satisfied are you with the number of appointment scheduling people in your area?	13%=VS 50%=S 13%=N 25%=N/A	50%=S 50%=N/A	33%=VS 17%=S 12%=N 8%=D 12%=VDS 17%=N/A	42%=VS 42%=S 8%=N 8%=D
8. How satisfied would you be if all appointments were made in the clinic area (given no additional staffing)?	13%=S 37%=N 13%=VDS 37%=N/A	50%=VS 50%=VDS	17%=VS 4%=S 8%=N 38%=D 29%=VDS 4%=N/A	25%=VS 8%=N 67%=VDS
9. Your overall opinion of the appointment system used to make appointments?	13%=VS 62%=S 13%=N 13%=D	50%=VS 50%=N	25%=VS 50%=S 8%=N 12%=D 4%=VDS	17%=VS 58%=S 17%=N 8%=D
Total # of Personnel: 46	8	2	24	12

* N/A = Not Applicable
VS = Very Satisfied (5)
S = Satisfied (4)
N = Neither Satisfied or Dissatisfied (3)
D = Dissatisfied (2)
VDS = Very Dissatisfied (1)

APPENDIX W

APPOINTMENT SYSTEM STAFF WRITTEN COMMENTS

SURVEY SUMMARY

If you could change anything about the appointment system, what would it be?

Cooperation and Interpersonal Communications:

1. Need more communications and cooperation between the clinics and the central appointment staff on policies, changes etc.

2. Change the staff opinion of the quality, expertise, and skill required of appointment clerks.

Training:

3. Reduce the double booking of patients which occurs at times.

4. Be sure appointments are confirmed in the system when booked.

5. Occassional active duty appointments show no patient on the system, but they were given an appointment.

6. Central appointment clerks sometimes don't follow clinic guidelines. Clerks should be familiar with clinic guidelines.

7. Have specific appointment clerks responsible for specific clinics and knowledgable about what questions to ask the patients.

8. Make sure all appointments to the surgery clinic are related to surgical problems.

9. Have more than one person in the MTF be able to access the appointment roster or patient history at the same time.

10. Be able to screen the physician appointment schedule at least 2 days in advance of the desired date.

11. AQCESS System is very slow taking the updates to the appointment templates. Changes taking more than a couple of minutes to be applied.

12. Have the ability to print the information appearing on the screen (i.e. address, phone number).

13. Need more access to other patient/clinic history and other information.

AQCESS Hardware Recommendations:

14. Need more access to printers.

Telephone Comments (Accessibility):

15. Increase access to the central appointment clerks by the staff.

16. More direct provider lines to central appointments (not enough at present).

17. We need 1-2 more telephone lines in Acute Care.

SURVEY SUMMARY

AQCESS Software Recommendations:

18. Better software for AQCESS.

19. More flexible Ad-Hoc reporting capability.

20. Eliminate one of the screens used to call up a patient.

21. Simplify computer program to less steps and enable the individual clinics to make appointment schedule modifications quicker.

22. Need to allow the clinics to show the patient as a cancellation (instead of a 'no-show') after the time of the appointment.

23. Have the system computed weighted workload values.

24. Mechanism to prioritize appointments by patient severity of illness.

Policy Recommendations:

General

25. Need more copies of the appointment rosters for clinic personnel use.

26. Allow patients to call anytime and be scheduled or waitlisted (open appointment books daily).

27. Increase the number of patient appointment slots.

28. Make Family Practice patients go to Family Practice for pediatric ear rechecks, well baby checks, and GYN needs. This will free up Peds and GYN appointments.

29. Be able to spend more time with the patients on the phone making appointments.

30. Don't let patients book routine follow-ups before the physician recommended time (i.e. return in 2 weeks).

31. Standardize the system of referrals (using SF 513 consult) between the clinics. Different clinics have different procedures and places to send the 513.

32. More accessibility of providers to the system. I would like the ability to schedule patients myself.

33. Put all OB/GYN patient appointments in the computer and get rid of the manual appointment books used.

34. Get rid of the whole system, it makes my work 2-3 times as hard.

35. Eliminate AQCESS from the Mental Health Clinic - the system is confusing.

SURVEY SUMMARY

Centralize the System

36. Have central appointments book acute appointments.

37. Continue the trend toward centralizing the appointment system.

Decentralize the System

38. Decentralize the appointment system and put the clerks near the clinics.

39. Allow the clinic to do scheduling, but provide an extra person due to the high volume of appointments.

40. Decentralize the appointment process so I can increase my patient count, and the patient accessibility to the clinic. Then I can flexibly manipulate the schedule as needed, and match the proper patient to the proper provider.

41. Allow the OB/GYN clinic to make their own appointments. The clinic personnel are trained to screen problems and match the right patient with the right provider.

42. Specialty clinic appointments should be booked by the clinic only.

43. I would rather have a clinic 902X0 technician schedule clinic appointments.

SURVEY SUMMARY - POSITIVE COMMENTS

How would one additional full-time appointment clerk affect the patient care provided in your area?

General:

1. Very helpful.

2. Wonderful.

3. It would improve patient care.

4. It would improve (75-100%) the service we are able to deliver.

Appointment Accessibility/Administrative/Clinical

5. Help to provide better patient appointment services during employee absences.

6. It would make it easier for patients to contact the appointment clerk.

7. Help to answer the phones more rapidly.

8. It would help to give sufficient time to call the patient.

9. Would help us immensely with administrative items during busy hours.

10. Allow the 902X0 clinic technician to devote more time to clinical activities.

11. It would allow one person to schedule patients, file paperwork and forms fulltime. It is now difficult to make appointments at the convenience of walk-in patients.

Grouping of Co-located Clinics:

12. Great, I'll support the appointment clerk with a technician when the clerk is on leave. I would also support a grouping of clinics under one appointment clerk located nearby.

13. A grouping of clinics (i.e. ENT and Ophthamology) under one clerk. It would allow the clinic NCOIC to perform numerous other duties (screening, visual fields, etc.).

14. Would improve the present system if the clerk was physically near and only scheduled our appointments.

15. OK, but not grouped with anyone.

Contingent Comments (Space, Clerk Competence):

16. Ideal situation, but no space to put them.

17. It would depend on the competence and interest of the clerk (medical terminology and understanding).

SURVEY SUMMARY - NEGATIVE COMMENTS

How would one additional full-time appointment clerk affect the patient care provided in your area?

1. Waste of time in small clinics.
2. One appointment clerk would not be very busy.
3. Cause more problems and work in the long-term.
4. We don't want to make our own appointments.
5. It would be worse.
6. No affect at all.
7. N/A - we presently make all our own appointments.

APPENDIX X

1987 AIR FORCE HEALTH CARE SURVEY - RESULTS

1987 AIR FORCE HEALTH CARE SURVEY - Results *

Written Patient Comments **

The survey was administered to a total of 279 persons with the following results:

- 73 persons (26.2% of those surveyed) chose to make written comments

- A total of 118 separate comments were made

  -- 48 comments were positive in nature (41%)

    --- General Courtesy and Treatment: 43 comments (90%)
    --- Pharmacy: 1 comment (2%)
    --- Facility: 1 comment (2%)
    --- Family Practice: 2 comments (4%)
    --- Appointment System: 1 comment (2%)

  -- 70 comments were negative in nature (59%)

    --- General: 4 comments (6%)
    --- Pharmacy: 5 comments (7%)
    --- Courtesy and Treatment: 7 comments (10%)
    --- Lack of Services: 6 comments (9%)
    --- Dental: 1 comment (1%)
    --- Facility: 2 comments (3%)
    --- Emergency Room: 2 comments (3%)
    --- Family Practice: 8 comments (11%)
    --- OB Ward: 3 comments (4%)
    --- Radiology: 3 comments (4%)
    --- Aerovac: 1 comment (1%)
    --- Appointment System: 20 comments (29%)
    --- Medical Records: 5 comments (9%)
    --- Peterson Clinic: 2 comments (3%)

* - Administered to 279 patients chosen from persons who presented for care at the USAF Academy Hospital during December 1987 and January 1988.
- Not necessarily a statistically random sampling.
- Survey instrument may not be statistically validated.
- Survey instructions mandated at least 60 persons per category or respondent.

** The survey question was as follows: Please use the space below to tell us what you think about the way we are providing medical care. Your comment will be compiled and will be used by the executive management of this medical treatment facility in making decisions for change.

1987 Air Force Health Care Survey - Results *

Appointment System Satisfaction **

Beneficiary Category	Total	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	No Response
Active Duty	66 24%	8 12%	13 20%	13 20%	22 33%	10 15%	
Dependent of Active Duty	67 24%	7 11%	25 37%	12 18%	17 25%	4 6%	2 3%
Retiree	79 28%	21 27%	28 35%	8 10%	14 18%	6 8%	2 2%
Dependent of Retiree or Deceased Member	67 24%	10 15%	21 31%	17 26%	13 19%	6 9%	
Total #:	279	46	67	50	66	26	4
Total %:	100%	17%	31%	18%	24%	9%	1%
		|----------| 48%			|----------| 33%		

* - Administered to 279 patients chosen from persons who presented for care at the USAF Academy Hospital during December 1987 and January 1988.
- Not necessarily a statistically random sampling.
- Survey instrument may not be statistically validated.
- Survey instructions mandated at least 60 persons per category of respondent.

** Survey Question #31: Please tell us how satisfied you are with the Appointment System Services?

1987 Air Force Health Care Survey - Results*

Survey Question #4 **	Category of Survey Respondent: Beneficiary Active Duty	Dependent of Act. Duty	Retiree	Dependent of Retiree or Deceased Mbr
A. Not Applicable	57 86%	49 74%	59 75%	34 51%
B. Lack of Services	3 5%	1 1%	3 4%	3 5%
C. Not Convenient				1 1%
D. Lack of Courtesy				
E. Provider Not Thorough		1 1%		1 1%
F. Lack of Explanation				1 1%
G. Different Providers			1 1%	1 1%
H. Schedule Conflict				
I. Difficult to get an Appointment	1 1%	3 4%	6 7%	4 6%
No Response	5 8%	13 20%	10 13%	22 34%
Total #(279):	66	67	79	67
Total %(100):	100%	100%	100%	100%

* - Administered to 279 patients chosen from persons who presented for care at the USAF Academy Hospital during December 1987 and January 1988.
- Not necessarily a statistically random sampling.
- Survey instrument may not be statistically validated.
- Survey instructions mandated at least 60 persons per category of respondent.

** If you do not receive the majority of your health care from an Air Force medical treatment facility, which one of the following best explains why not?

1987 AIR FORCE HEALTH CARE SURVEY

Patient High Satisfaction Comments

The survey question was as follows: Please use the space below to tell us what you think about the way we are providing medical care. Your comment will be compiled and will be used by the executive management of this medical treatment facility in making decisions for change.

GENERAL COURTESY AND TREATMENT

1. If conditions remain as they are now, I will not complain.

2. Medical care is good and most doctors seem to care. They could be a bit more thorough but in general provide consistent quality care.

3. I have been more than satisfied with the quality of the personnel and facility here. It is better than most.

4. Medical care for me and my wife is outstanding. No complaints what so ever. Medical personnel stationed here are, in my judgment, of the highest professional caliber.

5. Medical care for myself and wife has been very good and reassuring - problems have been minor and are those associated with the normal aging process.

6. I am pleased with the care provided

7. I have been receiving medical care at the USAF Academy Hospital since the late 1960's. The care and concern of the staff (except for a short time in the 70's) has been exceptional. Each section should be listed and not just a few. I have received excellent care in ophthalmology, nuclear medicine, cardiopulmonary, on the wards, in surgery, and I'm sure I have missed some. There could not be a finer, considerate staff anywhere.

8. I have been receiving excellent care at this facility for 20 years. The care has been thorough and considerate.

9. Overall it is fine.

10. There is an atmosphere of caring and friendliness even in highly organized routines. My hospital visits (which have begun in the emergency room) are worthy of high praise. The followup appointments has been remarkably efficient - especially in Internal Medicine, Orthopedics and Physical Therapy. Earlier in Physical Therapy I did meet a physician who was rude and unkind.

11. I am well satisfied.

12. We have used the Air Force Academy Hospital for 15 years. Generally we have had excellent care and attention in all areas. It has always been our wish to have dependent dental care for the wife and children. I really like family practice. Our

family has had good medical care. My husband is retired at 22 1/2 years. We have eight children.

13. My wife and I have been using this facility since returning from the Navy in 1959. We are both in agreement that we have received the best treatment we could receive anywhere and are very appreciative and thankful for what we have received. Thank you very much.

14. Most care has been adequate.

15. I think this facility is very good compared with other military and civilian facilities. Thank you!

16. I have had excellent medical care from the doctors and aides in this facility.

17. Service has been highly satisfactory within resources. Vacant specialist positions have necessitated appointments at other facilities (Army and VA), on several occasions.

18. I believe the USAF Academy Hospital is a top notch facility. PA Malone is thorough, competent and pleasant to deal with. I am fortunate to enjoy the services of this hospital.

19. Excellent facility, dedicated personnel, professional care.

20. Excellent, keep up the good work.

21. I find, for the most part, that the Air Force Academy Hospital does a very good job. I have been treated very well here for eight years now.

22. I think that the care provided here is very good, as far as I can see.

23. Health care providers did everything possible to get to the root of my problem, and I'm very grateful for it.

24. I am delighted with the Air Force Academy Hospital in every respect.

25. I have received very good care especially in 1987. The parking has greatly improved. The doctors and clinic workers are caring and helpful.

26. I've been using this medical facility since 1964. My son was born here and he was diagnosed a moderately severe asthmatic at approximately 8 weeks of age. I have had several surgeries here and all I can say is that we have been given the very best of care at all times by everyone. My thanks to all for such fine care. Makes me proud to have been in the Air Force.

27. I have been truly satisfied.

28. I live in Penrose County (by choice) and I prefer using the Academy Hospital because of the superior care I receive here versus Fort Carson. Thank you.

29. The medical personnel are polite.

30. Overall this facility does provide good care.

31. Recently I was admitted on an inpatient basis for GYN surgery. The hospital and clinic staff were excellent. Dr Berryman is one of the most competent Air Force physicians that I have seen in the 22 years I have been an Air Force dependent. The pre operative care, laboratory work, was also excellent. I appreciate the care I received very much.

32. This past week my son had surgery. The surgeon explained everything to me and was extremely supportive of the family and was concerned about the fears that we had.

33. I've recently moved to this area and have used this facility twice. I am familiar with military facilities and I know that of all the facilities in the Colorado Springs area I will continue to make the 45 minute drive to get here.

34. I receive my major care (neuro surgery) and followup at Fitzsimons. I am very satisfied.

35. Most people are nice and also thorough.

36. I had surgery done by Dr Mediavilla and found him to be caring, professional and very competent!

37. Physical Therapy personnel have always been great.

38. Our familiy feels that care is more easily obtained here than at any place we have been stationed in 16 years. Parking is no problem and we see the same provider almost all the time.

39. I am extremely satisfied with the Pediatric Clinic. The doctors and staff are very friendly and caring. They answer any questions when I call in with a problem.

40. I am satisfied with the treatment I received in the clinics.

41. No complaints, every service is excellent and highly appreciated.

42. By having a choice between the Army facility and the Air Force, I selected the Air Force for overall service performance, attitude, and care. The Air Force provides more personal contact, not "robotic" and the cold treatment I have witnessed and experienced at the Army facility. If anything I can say that I've experienced here that caused me inconvenience was while an inpatient. There appears at that time to be a manpower shortage, other than that, excellent. Your services are excellent.

43. The Air Force Academy clinic has been outstanding. Due to personnel shortages in some areas, I have had to go to other facilities for some consultations and service.

FACILITY

44. The parking situation is now improved.

PHARMACY

45. The most efficient department is the Pharmacy.

APPOINTMENT SYSTEM

46. The appointment personnel are wonderful and very courteous.

FAMILY PRACTICE

47. We are an active duty Air Force family enrolled in the Family Practice Clinic. I generally see PA Schlachter and am always pleased with his professionalism and the quality of our care.

48. The Family Practice operation is great, try not to change it and don't reassign all the people. Leave it alone. I've noticed that each time new management comes in, they reorganize, not always for the best. I realize reorganization is a "must" if you're working for a promotion, but from a patient's point of view - it's start over with a new system, a new doctor, and a new PA.

1987 AIR FORCE HEALTH CARE SURVEY

Patient Dissatisfaction Comments

The survey question was as follows: Please use the space below to tell us what you think about the way we are providing medical care. Your comment will be compiled and will be used by the executive management of this medical treatment facility in making decisions for change.

GENERAL

1. Of concern tho, as one gets older, might be some confusion on future needs as regards to the procedures to obtain care at 65 (medicare). Also, what should be done in the event of an emergency - at home - on the road etc. Do we call 911 and request to be transported to the Air Force MTF? I guess I am thinking of an education program for distribution - maybe print outs in the waiting room brochure rack.

2. Active duty personnel should have higher priority to minimize the work impacts.

3. We should be able to talk directly with the clinic doctors on the telephone about our problems.

4. When someone has had back pain for three months and is finally referred by their PA to orthopedics, they shouldn't have to wait four months for a consult!

PHARMACY

5. Getting prescriptions takes too long.

6. Getting prescriptions filled takes too long.

7. Getting prescriptions is perhaps the most frustrating time.

8. The pharmacy policy conflicts with the doctors prescription policy. Their refusal to issue long-term prescriptions necessitates multiple visits for the same refill and causes a waste of their time (going repeat refills), and the patient's time and lost work time.

9. The pharmacy needs help. Nobody should have to wait 30-45 minutes (or longer) for a prescription!

COURTESY AND TREATMENT

10. Some people are not nice, they are abrupt and seem to rush you out without thorough checks.

11. The personnel can stand to be more polite and considerate of individual needs.

12. The doctors are so busy, there is often not enough personal care - especially in orthopedics.

13. The capability of being able to see the same doctor is great. She's very friendly and helpful - but the complaints and symptoms are still there or vary just slightly after four years. It seems to me they should be able to get to the root of the problem by now. I'm at the point of desperation. I feel like nobody is really listening to what I have to say, as it gets repeated visit after visit, then all at once, it's like she finally heard some of it and actually sounds surprised that I had that symptom.

14. Customer service is at times poor.

15. When one waits to see a physician, it appears like there are too many personnel standing around, not looking busy - discussing last nights bowling etc. You wouldn't do this in a private hospital.

16. Doctors do not look for out of the ordinary medical problems, especially after they find one thing wrong. Doctors in most cases, are uncaring and if they find nothing wrong in the routine test results they tend to give up and tell the patient they "just think" they are ill. Almost lost a loved one because of this problem twice in three years.

LACK OF SERVICES/PERSONNEL

17. There are not enough specialists. If one is needed, the individual must seek civilian care. This is true not only at this base, but many others. Using CHAMPUS to help defray the costs is still not enough.

18. As a dependent who wears a hearing aid there are no services for me to get batteries or maintain my hearing aid. I got the hearing aid while I was on active duty. Why is it so hard. When I asked, no one seemed to know exactly what I was entitled to, not even the NCO or Captain in charge.

19. I realize that the Academy Hospital does not compare with Fitzsimons Army Medical Center in size or equipment, but, I must give them a better rating on courtesy and efficiency. For example, on my first visit to Fitzsimons I was seen by five departments on the same day, in effect saving me five 140 mile trips.

20. I see a chiropractor downtown and I am unable to get CHAMPUS to pay anything. You need to have a chiropractor here on base. I have to spend a lot of money on this when others let their insurance companies pay.

21. I get tired of waiting sometimes. The hospital doesn't seem to be large enough to handle all the Air Force Academy, Peterson AFB and Space Command personnel. It is a long drive for the Peterson people to come here.

22. I believe the hospital is under staffed for the numbers needing health care.

DENTAL

23. It is difficult to obtain dental care.

FACILITY

24. The Air Force Academy Hospital desperately needs a facelift.

25. It is difficult to obtain parking.

EMERGENCY ROOM

26. During a recent emergency my son was refused treatment and had to go by ambulance to Penrose Community Hospital from Black Forest. Black Forest residents are always refused when the volunteer rescue squad calls the Air Force Academy Hospital.

27. I have a 12 month old daughter who had a respiratory virus. I tried Carson, Peterson, and the Academy for open appointments and none were available. I called the emergency room and they said they would not treat her because it wasn't a bonified emergency. To me it was and I was quite upset that I could not get care for her.

FAMILY PRACTICE

28. Have had difficulty getting adequate care for my knee problem until now due to inability to see physical therapy and orthopedics due to Family Practice not referring me.

29. Family Practice has sure been a nicer place since the male civilian normally at the front desk has been absent. I as well as other people I've talked with, found him overbearing and a little difficult to deal with.

30. The referral system needs to be explained. I brought my son to family practice at the start of a complexion problem. Family Practice looked at him several times as the problem got worse. I finally asked for referral to dermatology. They said I didn't need referral. My son now has permanent scarring because of this! Family Practice should have referred me to Dermatology at the beginning. However, had I understood the system, I would have gone there in the first place.

31. Very difficult to get into Family Practice.

32. Suggest that routine blood pressure checks be available in a central location. It takes too long when it has to be done in Family Practice on a "last priority" basis.

33. I have not been able to enter the Family Practice Service.

34. The Family Practice clinic could use a shot in the arm. The medical technicians could be more helpful and friendly. I am not certain they even enjoy what they do. I have never seen anyone wash their hands after taking vital signs or change the paper on the table when vital signs have been taken.

35. An area where this survey can have an impact is with the discourteous Family Practice office staff. While the quality of technical medical care is very good, the technicians seem to take joy in being noncooperative in areas that simply should not matter. Why, for instance, should I be told by an enlisted man that it is "against policy" to drop off a note for my family physician? According to the enlisted man, I

should go back to my office, and place a phone call. Do you really encourage this counterproductive, institutionalized stupidity?

OB WARD

36. I feel that the personnel on the maternity ward are less than caring, concerned or interested in their patients based on my experiences there in July 1985. The absolute bare minimum of attention was paid to me as a first time mother and absolutely nothing in the line of explanations or advice or encouragement was offered and when help was requested, it was given in a very perfunctory and bored manner. I am grateful that I had a normal delivery and a normal baby but I'm not impressed with the attitude of the entire maternity ward.

37. I did not enjoy my stay in the maternity ward. The people were nice for about the first day - then you were more or less on your own. I had to ask three times for my bed sheets to be changed. We were also expected to use the pay phone down the hall, instead of hooking up the phone in our room.

38. Recently I delivered my second child here at the Academy. I was very dissatisfied with the nurses in the delivery room. I feel their care was very unprofessional! I don't expect all the thrills other hospitals offer but I do expect professional care for myself and my baby. The suction wasn't hooked up and the wrong instruments were on the tray, even the doctor was upset. My baby was left unattended after birth on the warmer, on her back!

RADIOLOGY

39. Radiology needs more waiting rooms for people who are undressed waiting for X-rays or other tests.

40. I was scheduled for two different X-ray procedures at early morning appointments and I arrived and was made to wait 45 minutes for each appointment. I was anxious about the tests anyway and the long wait sitting in a paper gown in a cold waiting room didn't help.

41. My husband's set of lower back X-rays had to be retaken because they "lost" them, and it took a long time to get them read.

AEROMEDICAL EVACUATION

42. I am TDY here for medical reasons. Thus far the hospital staff have been very helpful and friendly. The problem I have noticed is getting here. I was flown from Grand Forks AFB to Buckley Field (on a Saturday) with no problems, but then I was more or less on my own to find my way here. Thus far this trip has cost me an unexpected amount of money for hotels, taxies, and a Greyhound bus from Denver to Colorado Springs. I understand that I will be reimbursed for these expenses. My concern is for the lack of coordination to get a person from Buckley Field to here. The weekdays might be different than the weekend. I was flown in on a Saturday night and no one was available. Possibly when patients have an appointment here they can be flown to Peterson AFB.

APPOINTMENT SYSTEM

43. Getting appointments through Central Appointments doesn't meet our needs - have had to call Family Practice to be seen on several occasions.

44. I am very annoyed at the fact that it is almost impossible to get through to make an appointment.

45. The appointment system is trouble. It changes so much I'm not sure where to call to get an appointment.

46. The waiting time for OB appointments is too long.

47. I would like to see a faster means of getting an appointment by phone. Many times it takes 30 minutes to 1 hour of calling before getting through and then sometimes I have to "hold" - this is poor for long distance calls.

48. Difficulty with the appointment system.

49. I find it very difficult to get an appointment with most clinics.

50. There must be a better appointment system!

51. Getting appointments takes too long.

52. Too long to wait for doctors appointments.

53. If you are not fortunate enough to belong to Family Practice it is too difficult for dependents to get an appointment.

54. Getting appointments is most frustrating.

55. One of the biggest reasons we don't use the facility is the wait to get an appointment.

56. I am not delighted with the telephone system used for making appointments.

57. It is very difficult to know what part of the month to call for an appointment. Also, unless you call for an appointment using a direct appointment phone in the clinic it is impossible to get through.

58. The central appointment phone system is terrible! At least five times in the past seven months my family and I have had to make an appointment just to call to make the actual appointment with the appropriate clinic. The appointment people should be fired! The system is very frustrating and discouraging.

59. We live in Canon City and waiting (on hold) for central appointments to answer is a toll call. At the last base they had an appointment cancellation number that long distance could call so they didn't have to wait.

60. The appointment system needs to be looked at. When my wife has needed urgent appointments, its either in 10 minutes or 10 days - 10 minutes is not a player given our off-base residence.

61. In my 12 years in the service, I have never seen an appointment system that didn't cause considerable delay to the person trying to phone in. The Academy Hospital is among the worst, (including Ellsworth AFB, Wright-Patterson AFB, Vandenberg AFB, and Peterson AFB). I'm truly skeptical that this survey will have a significant impact.

62. The appointment method needs help. There are times it takes me 40 minutes of constant dialing to get the appointment desk and there is no guarantee of an appointment.

MEDICAL RECORDS

63. Twice during the past couple of months when coming in for an appointment, my medical records have not been at the proper clinic. Thus I was sent around to the clinics searching for them, wasting my time and delaying my seeing the doctor at the scheduled time.

64. The records section sometimes keeps people waiting unnecessarily. I think they seem to have their youngest, most inexperienced airmen on the front desk. I sometimes have had to wait numerous times because someone in front of me had a problem that was not routine. The airman handling the situation often lacked the expertise to handle the problem quickly.

65. Our medical records have disappeared for weeks on end and after many phone calls and inconvenience they are suddenly found.

66. The hospital needs a different way of handling laboratory and X-ray reports. They loose half of them.

67. Since the Family Practice Clinic moved it has become difficult to obtain records especially when you are elderly or have a sick child, you must walk back and forth to get the chart.

68. Records are not always available at the Family Practice Clinic for scheduled appointments.

PETERSON CLINIC

69. I am normally seen at the Peterson AFB Clinic. Their system for appointments is a disaster and the whole place should be discontinued.

70. Additional personnel and facilities have to be provided at Peterson Field so people don't have to travel all the way to the Air Force Academy.

APPENDIX Y

IMPLEMENTATION PLAN

Decentralized Appointment System
Implementation Plan *

Appointment Hub Clinic/Group	Average Clinic WKLD	Total Appt WKLD	Total Appt Clerks	Total Appt Lines	Total CRTs	Total Cost	Comments
Internal Medicine/ Neurology	2174 305	2479	1 **	2 ***	1	$ 180.00	60-Day Pilot Test Starting 20 Jun 88
OB/GYN	2052	2052	1 **	2 ***	1	$ 180.00	Space constraints in clinic
Family Practice	4850	4850	2 **	3 ***	1	$ 180.00	Space constraints in clinic
Mental Health */	784	784	1	-	-	-	No change
Cardiopulmonary */	907.5	907.5	-	-	-	-	No change
Nuclear Medicine */	195	195	-	-	-	-	No change
Acute Care */	1265.5	1265.5	-	-	-	-	No change
Orthopedics & Podiatry */	1993.5	1993.5	-	-	-	-	No change
Urology */	370.5	370.5	-	-	-	-	No change, clinic opens Jun 88
Central Appts *& Pediatrics Nutrition Surgery Dermatology Ophthalmology Optometry	- 1609 940.5 732 523 290.5 242.5	4337.5	2	6	2	-	Four inbound patient lines One outbound appt. clerk line One inbound physician line Consolidation of small clinics due to physical space limits.

* Clinic workload from appendix M. Staff patterns and telephone configurations obtained from appendix E. Approximately 2000 transactions per appointment clerk. CRT requirements were based on appendix D.

** Relocate one CAS clerk to the clinic appointment hub.

*** Relocate one CAS telephone line to the clinic appt. hub at a cost of approximately $180.00

*/ Clinic currently books their appointments (decentralized).

*& Much of the non-telephone workload outlined in appendix L, would be redistributed to the decentralized hubs. A total of two CAS clerks would be needed because the clinics supported by CAS book a mix of their own appts.

APPENDIX Z

PILOT TEST EVALUATION PLAN

PILOT TEST EVALUATION PLAN
(60-Day Test)

This is the evaluation plan for the 60-day pilot test of a decentralized appointment system hub established in the Internal Medicine/Neurology clinic. This pilot test began on 20 June 1988. The post-test evaluation consists of four main components:

1. Clinic health care provider productivity: comparing the HCP productivity prior to the test period, with productivity during the test period. This will be monitored by Resource Management (SGM), and the Chief of Hospital Services (SGH).

2. Clinic and CAS staff satisfaction: this will be measured using the questionnaire shown in attachment one.

3. Clinic patient satisfaction: this will be measured using the questionnaire shown in attachment two.

4. CAS patient satisfaction: this will be measured using the questionnaire shown in attachment three.

This evaluation plan was agreed upon by all personnel involved with this test. It was also briefed to the Hospital Commander, and approved by the hospital Executive Committee.

3 Attachments
1 Staff Satisfaction Questionnaire
2 Clinic Patient Satisfaction Questionnaire
3 CAS Patient Satisfaction Questionnaire

USAF Academy Hospital Appointment System
Staff Interview Survey Questionnaire

PURPOSE: This study is being conducted to determine how you feel about the system used for making outpatient appointments at the USAF Academy Hospital. It should take you approximately 5 minutes to complete this survey. The results of this survey may have a significant impact on future policy/guidance and configuration of the appointment system.

All answers to the questions should be based on your experience with the appointment system at the USAF Academy Hospital and not any other experience you may have had with other appointment systems. Your answers will be combined with those of other staff members, and presented for analysis at the completion of the survey.

Your cooperation in completing this questionnaire will be greatly appreciated and will provide valuable information which may be used to make the outpatient appointment system serve you better.

LOWELL A. SCHUKNECHT, JR., Col, USAF, MC
Command Surgeon/Hospital Commander

PLEASE TURN TO THE NEXT PAGE AND FOLLOW THE INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE

Atch 1

1. Please place an "X" in the box in front of the statement which best describes your current status:

( ) Physician
( ) Optometrist/Nutritionist/Audiologist
( ) Nurse Clinician
( ) Clinic NCOIC
( ) Appointment Clerk/Supervisor
( ) Department Manager (Non-clinical)
( ) Executive Management
( ) Other - Please Specify: _____

2. How long have you been in your present position at the USAF Academy Hospital?

( ) Less than 6 months
( ) 6 months to 11 months
( ) 1 to 3 years
( ) More than 3 years

3. In what clinic or appointment area do you serve in your present position?

( ) Central Appointments
( ) Surgery
( ) OB/Gyn
( ) Nutrition
( ) Neurology
( ) Dermatology
( ) Acute Care
( ) Family Practice
( ) Ortho/Podiatry
( ) Pediatrics
( ) Internal Medicine
( ) Nuclear Medicine
( ) Ophthalmology
( ) Optometry
( ) Cardiopulmonary
( ) Mental Health
( ) ENT
( ) Other - Please Specify: _____
( ) Not applicable - I do not work in a clinic or appointment area

PLEASE TURN TO THE NEXT PAGE AND FOLLOW THE INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE

Please circle the number which best describes your feelings about each of the following issues related to the way in which the appointment system operates. High numbers indicate satisfaction and lower numbers indicate dissatisfaction. Please consider only the USAF Academy Hospital appointment system and not any other system you have had experience with.

	Not Applicable N/A	Very Satisfied	Satisfied	Neither Satisfied/ Dissatisfied	Dissatisfied	Very Dissatisfied
4. Your ability to obtain patient and schedule information from the appointment system?	N/A	5	4	3	2	1
5. How satisfied are you that the central appointment clerk matches the patient with the proper appointment slot?	N/A	5	4	3	2	1
6. How satisfied are you with your ability to contact the central appointment clerk when you need to?	N/A	5	4	3	2	1
7. How satisfied are you with the number of appointment scheduling people in your area?	N/A	5	4	3	2	1
8. How satisfied would you be if all appointments were made in the clinic area (given no additional staffing)?	N/A	5	4	3	2	1
9. Your overall opinion of the appointment system used to make appointments?	N/A	5	4	3	2	1

PLEASE TURN TO THE NEXT PAGE AND COMPLETE THE QUESTIONNAIRE

10. If you could change anything about the appointment system, what would it be?

11. How would one additional full-time appointment clerk affect the patient care provided in your area?

AFTER COMPLETING THIS PAGE PLEASE RETURN THE SURVEY TO MAJOR SHIELDS

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*********************************************
*                                           *
*     THANK YOU VERY MUCH FOR YOUR TIME     *
*         IN COMPLETING THIS SURVEY         *
*                                           *
*********************************************
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INTERNAL MEDICINE/NEUROLOGY CLINIC
OUTPATIENT QUESTIONNAIRE

PURPOSE: This study is being conducted to determine how you feel about the system used for making outpatient appointments at the USAF Academy Hospital Internal Medicine/Neurology Clinic. It should take you approximately 3 minutes to complete this survey. The results will be used to give you the best appointment system possible.

Please place an "X" in the spot that best indicates your answer.

1. In what clinic were you seen?

   ( ) Internal Medicine ( ) Neurology
   ( ) Other - Please specify: _____

2. Did you have an appointment? ( ) Yes ( ) No

3. What is your beneficiary category?

   ( ) Active Duty ( ) Retiree
   ( ) Dependent of Active Duty ( ) Dependent of retiree or deceased member
   ( ) Other - Please specify: _____

PLEASE TURN TO THE NEXT PAGE AND
COMPLETE THE QUESTIONNAIRE

Please circle the number which best describes your feelings about each of the following issues.

	Not Applicable N/A	Very Satisfied	Satisfied	Neither Satisfied/ Dissatisfied	Dissatisfied	Very Dissatisfied
4. Your ability to contact the appointment clerk when you need to?	N/A	5	4	3	2	1
5. Were appointment personnel courteous and helpful?	N/A	5	4	3	2	1
6. Your overall opinion of the Clinic Appointment System used to make your appointment.	N/A	5	4	3	2	1

Other Comments

AFTER COMPLETING THIS PAGE PLEASE RETURN THE SURVEY TO THE CLINIC TECHNICIAN. IF YOU PREFER TO MAIL THE SURVEY, PLEASE SEND IT TO:

USAF ACADEMY HOSPITAL/SGHM
USAF ACADEMY, CO 80840-5300

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*********************************************
*     THANK YOU VERY MUCH FOR YOUR TIME     *
*         IN COMPLETING THIS SURVEY         *
*********************************************
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USAF ACADEMY HOSPITAL
OUTPATIENT QUESTIONNAIRE

The USAF Academy Hospital personnel want to give you the best medical care possible. To ensure we are providing quality care, we invite your comments. Please take a few minutes to give us your honest opinion of the medical care and service you received. Recognition of good employees helps ensure continued top performance, so please identify individuals (physicians, nurses, medical and administrative technicians, etc.) by name whenever possible. Please comment on "No" answers at the end of this questionnaire.

CLINIC INFORMATION

A. In what clinic were you seen? _____.
B. Did you have an appointment? ___Yes ___No
C. Who was your health care provider? _____.
D. Were you seen at your scheduled appointment time? ___Yes ___No
E. Were all clinic personnel courteous and helpful? ___Yes ___No

APPOINTMENT SYSTEM INFORMATION

	Yes	No
F. Were you able to make an appointment without difficulty?	___	___
G. Did you use the central appointments system?	___	___
H. Were central appointments personnel courteous and helpful?	___	___

OUTPATIENT RECORDS INFORMATION

	Yes	No
I. Were your records available in the clinic?	___	___
J. Did you handcarry your records?	___	___
K. If you visited the outpatient records desk, were the technicians prompt and courteous?	___	___

ANCILLARY SERVICE INFORMATION
(Laboratory, Pharmacy, Radiology)

L. How long did you have to wait for service:

	0-30 min	30-60	over 60	Not used
Laboratory	___	___	___	___
Pharmacy	___	___	___	___
Radiology (X-ray)	___	___	___	___

M. Were ancillary personnel courteous and helpful?

	Yes	No
Laboratory personnel	___	___
Pharmacy personnel	___	___
Radiology personnel	___	___

(continued on reverse)

PATIENT INSTRUCTIONS AND FOLLOW-UP

	Yes	No
N. Were you given medication(s)?	___	___
O. Were you given instructions on the use of medication(s)?	___	___
P. Were you given instructions on follow-up care?	___	___
Q. Were questions regarding your medical condition and treatment answered to your satisfaction?	___	___

INFORMATION ABOUT YOU
(Optional)

NAME/RANK _____ SEX: ____Male ____Female

AGE GROUP: ___Under 18 ___18-30 ___31-40 ___41-50 ____Over 50

STATUS: ___Active Duty ___Cadet ___Cadet Candidate ___Retired ___Civilian
___Dependent of Active Duty ___Dependent of Retired/Deceased

ADDRESS/OFFICE SYMBOL: _____

HOME PHONE: _____ WORK PHONE: _____

COMMENTS
(Please comment on all "No" answers)

_____

_____

_____

_____

_____

_____

_____

_____

Thank you for completing this questionnaire. Please return it to the Outpatient Records Desk or the Patient Affairs Office before you leave the hospital. If you care to mail the questionnaire, please send it to: USAFA Hosp/SGR, USAFA, CO 80840-5300.

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