

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

DESIGN AND IMPLEMENTATION OF A
TELEPHONE TRIAGE/ADVICE SERVICE:
AN INSTRUMENT OF DEMAND MANAGEMENT AT
USA MEDICAL DEPARTMENT ACTIVITY-HEIDELBERG

A GRADUATE MANAGEMENT PROJECT SUBMITTED TO
THE FACULTY OF THE U.S. ARMY-BAYLOR GRADUATE DEGREE PROGRAM
IN CANDIDACY FOR THE DEGREE OF
MASTERS IN HEALTH CARE ADMINISTRATION

BY
PRISCILLA H. HAMILTON, DMD, CHE
LIEUTENANT COLONEL, DENTAL CORPS

HEIDELBERG, GERMANY

JUNE, 1997

20000111 132

DTIC QUALITY INSPECTED 4

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE June 1997	3. REPORT TYPE AND DATES COVERED FINAL REPORT (Jul 96-Jul 97)		
4. TITLE AND SUBTITLE DESIGN AND IMPLEMENTATION OF A TELEPHONE TRIAGE/ADVICE SERVICE: AN INSTRUMENT OF DEMAND MANAGEMENT AT USA MEDICAL DEPARTMENT ACTIVITY-HEIDELBERG		5. FUNDING NUMBERS		
6. AUTHOR(S) PRISCILLA H. HAMILTON, DMD, CHE LIEUTENANT COLONEL, US ARMY DENTAL CORPS				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) US ARMY MEDICAL DEPARTMENT ACTIVITY-HEIDELBERG UNIT 29223 APO, AE 09102		8. PERFORMING ORGANIZATION REPORT NUMBER 40-97		
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) US ARMY MEDICAL DEPARTMENT ACTIVITY-HEIDELBERG UNIT 29223 APO, AE 09102		10. SPONSORING / MONITORING AGENCY REPORT NUMBER		
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED		12b. DISTRIBUTION CODE		
13. ABSTRACT (Maximum 200 words) Demand management has emerged as a strategy for health care organizations to reduce costs by encouraging appropriate use of health services. Demand management systems may involve health care "gatekeepers," prevention and wellness programs, self-care instruction, and frequently employ telephone triage and advice capabilities. Telephonic triage at military installations in Europe is in its infancy. The financial pressures of the newly fielded TRICARE-Europe, and the cessation of the CHAMPUS demonstration project provided an opportunity to implement a telephone triage and advice service as part of an integrated demand management system at a medium sized, military community hospital in Germany. This project discusses the design and implementation of a telephone triage and advice system as part of an emerging demand management strategy, supporting the TRICARE primary care manager as it applies to the United States Army Medical Department Activity-Heidelberg, Germany. The paper describes various systems under consideration, outlines the decision making process using the Judge model decision support instrument, and discusses pertinent personnel, procurement, facility, and legal and ethical issues involved in implementation.				
14. SUBJECT TERMS DEMAND MANAGEMENT, TELEPHONE TRIAGE, TELEPHONE ADVICE, MANAGED CARE, TRICARE, JUDGE MODEL			15. NUMBER OF PAGES 106	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT N/A	18. SECURITY CLASSIFICATION OF THIS PAGE N/A	19. SECURITY CLASSIFICATION OF ABSTRACT N/A	20. LIMITATION OF ABSTRACT UL	

ACKNOWLEDGMENTS

This project would not have been possible without the outstanding Integrated Service Network/Patient Access and Advice Line work group. Their diligence and hard work through the past year are leading U.S. Medical Department Activity-Heidelberg into the future. I especially want to thank CPT Gerald Ledlow for his vision and support during this project, and my preceptor, LTC Barbara Wright, for constructive criticism and guidance throughout the residency. Most importantly, sincere gratitude goes to my husband and life mate, Bob Gibson, for the well-spring of support, personally and professionally, in all endeavors. Thank you.

Priscilla H. Hamilton, DMD, CHE
Lieutenant Colonel, U.S. Army Dental Corps
Baylor Administrative Resident -
Heidelberg, Germany 1996-1997

ABSTRACT

Demand management has emerged as a strategy for health care organizations to reduce costs by encouraging appropriate use of health services. Demand management systems may involve health care "gatekeepers," prevention and wellness programs, self-care instruction, and frequently employ telephone triage and advice capabilities. Telephonic triage at military installations in Europe is in its infancy. The financial pressures of the newly fielded TRICARE-Europe, and the cessation of the CHAMPUS demonstration project provided an opportunity to implement a telephone triage and advice service as part of an integrated demand management system at a medium sized, military community hospital in Germany.

This project discusses the design and implementation of a telephonic triage and advice system as part of an emerging demand management strategy, supporting the TRICARE primary care manager as it applies to the United States Army Medical Department Activity-Heidelberg, Germany. The paper describes various systems under consideration, outlines the decision making process using the Judge model decision support instrument, and discusses pertinent personnel, procurement, facility, and legal and ethical issues involved in implementation.

TABLE OF CONTENTS

ACKNOWLEDGMENTS	ii
ABSTRACT.....	iii
CHAPTER 1: INTRODUCTION.....	1
Conditions Which Prompted the Study	3
Statement of the Problem	8
Literature Review	9
Purpose of the Study.....	11
CHAPTER 2: METHODS AND PROCEDURES	12
CHAPTER 3: RESULTS.....	19
CHAPTER 4: DISCUSSION.....	20
National Health Enhancements, Inc.	20
Healthwise, Inc.	22
Informed Access, Inc.	25
Multi-Media Data Systems, Inc.	26
Justification for Healthwise Purchase.....	27
Procurement.....	29
Ethical and Legal Issues	31
Personnel	32

Facilities and Equipment	34
Marketing Plan	36
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS	38
APPENDIX	
A. GLOSSARY	43
B. "VON STEUBEN HEALTH CARE SYSTEM" INTEGRATED SERVICE NETWORK.....	47
C. INTEGRATED SERVICE NETWORK/PATIENT ACCESS AND ADVICE LINE WORK GROUP MEMBERS	64
D. USAMH: DEMAND MANAGEMENT SYSTEM DECISION BRIEFING.....	65
E. CRITERIA FOR EVALUATION OF COMMERCIAL TELEPHONE TRIAGE SYSTEM	74
F. JUDGE MODEL	75
G. TELEPHONE TRIAGE SYSTEM EVALUATION	76
H. JUDGE MODEL EVALUATION.....	77
I. AUDIENCE COMMENTS ON VENDOR DEMONSTRATIONS.....	78
J. DECISION BRIEF: PAAL	81
K. SOLE SOURCE JUSTIFICATION	84
L. JOB DESCRIPTIONS	89
M. PAAL MARKETING PLAN.....	96
WORKS CITED	105

CHAPTER 1

INTRODUCTION

Managed health care is defined by three parameters: quality, cost and access. The military health service system (MHSS) faces challenges in implementing these tenets of managed care while maintaining high quality medical treatment and improving access in an era of dwindling financial resources. Strategies for implementing managed care must address health care providers, payers and patients in order to affect positive and long lasting change.

Congressional scrutiny of the MHSS forced the Department of Defense (DoD) to explore various means to cost effectively manage the provision of medical care. Fielded in 1993, TRICARE became the current DoD vehicle for managed health care change, charged with improving beneficiary access to high quality care while containing growth of MHSS costs (GAO Report 1995).

The beneficiaries of military medical services have had near carte blanche on-demand access to the health care system. Access has not been well controlled, and evidence indicates that many beneficiaries access the MHSS system through episodic acute care contacts. The ability to effect patient demand for health care services is one way of addressing the access portion of the managed care triangle.

Demand management systems are described as “a loosely structured compendium of concepts designed to encourage people to seek beneficial medical services with appropriate frequency” (Wolcott 1995). Demand management systems take many forms. Health risk appraisals, medical gatekeepers, and “triage out” are but a few examples. Telephonic triage and advice systems offer another method of managing patient demand. This method has been employed by several civilian health care businesses and, on a more limited basis, in military health care settings. The most common structure requires the patient to call the designated advice line where the patient’s concerns are addressed by a health care provider, usually a registered nurse. Using an approved algorithm or treatment protocol, the nurse guides the patient through a series of questions to elicit the details of the health care concern. The patient may be advised to seek care immediately at the nearest participating health care facility, make an appointment to see his/her primary care physician, or be instructed with home care. Some phone advice systems offer banks of taped instruction on a variety of health care subjects that are available to the caller. More sophisticated systems allow the advice nurse to actually appoint the patient, when appropriate, in a timely manner with the indicated primary care provider. Assessments by various companies report dramatic reductions in inappropriate care giving episodes with resultant cost savings and increased quality in patient/provider encounters.

Demand management may have a broader definition encompassing a wide variety of strategies and programs working in concert. Prevention and wellness programs, patient education in self-care, chronic disease management and early intervention

programs are examples. The general objective is to improve health behaviors, provide preventive services, empower patient self-care, and use the health care system wisely and cost effectively when needed (National Health Information, LLC 1995).

Telephone triage and advice systems appear to be a relatively untapped resource for the military services, especially in Europe. The introduction of TRICARE into the theater provides a ready environment in which to explore demand management systems. This project will discuss the design and implementation of a telephonic triage and advice system as part of an emerging demand management strategy, supporting the TRICARE primary care manager as it applies to the United States Army Medical Department Activity-Heidelberg, Germany. Appendix A provides a glossary of terms referenced throughout this study.

Conditions Which Prompted the Study

The United States Army Medical Department Activity-Heidelberg (USAMH) is one geographical and command entity under the European Regional Medical Command (ERMC), supporting the United States Army Europe (USAREUR). USAMH describes a military health care system comprising nine outlying clinics and a community hospital. The catchment area encompasses 6,216 square miles in central Germany. The community hospital itself is a fifty-six bed, fifteen bassinets facility located on Nachrichten Kaserne in Rorbach, on the southern edge of Heidelberg. This hospital provides support to all outlying clinics, some of which are located quite some distance from the hospital. The Stuttgart clinic is seventy-four miles southeast, while the

northernmost clinic, Butzbach, is seventy-nine miles away. Total beneficiary population in the USAMH area of responsibility totals 72,928 (SIDPERS TPF dated 24 Oct 1996, USAREUR demographic profile 1995, and DEERS data March 1996).

Each outlying clinic and the hospital have primary care departments. At the hospital, patients not assigned to the Family Practice clinic obtain routine care through the Outpatient Department. Military members use the sick-call system, which operates from 6:30 A.M. until 9:00 A.M. daily. Some clinics, like Family Practice, operate their own sick call system for those patients assigned to their service.

USAMH uses a central appointment system staffed by five individuals. Appointment clerks rely on the patient's own assessment of need to generate an appointment with a provider. Some patients request appointments with a specific provider, especially if they have been assigned a provider in the Family Practice, Internal Medicine or Pediatric clinics. Those patients without assigned providers are appointed with the first available practitioner. Each clinic develops an appointment template indicating available providers and times. Central appointments receives the templates and appoints patients up to six weeks ahead of time.

In addition to the central appointments system, another point of access is the toll free number to the Emergency Room (ER). A patient may request to speak with a health care provider, and usually a nurse handles the call. Patient demographic information and the substance of the call is recorded on Department of the Army Form 5008. The original copy of the form is eventually filed in the patient's outpatient medical treatment record, and the second copy is kept on file in the ER for one year. To assist the patient, the nurse

may consult the phone triage book available at the front desk. Some nurses use the book as a personal self instruction manual to occupy their time during slow periods. There is no requirement to use the triage book for all telephone consults, and there is no standardization of triage in any of the nine outlying clinics.

Some nurses enter a note on the Composite Health Care System (CHCS) electronic record in order to capture workload as a telephone consult. A recent audit of ER usage over nineteen months determined an average monthly workload of 2,148 visits, including phone calls (Draper 1996). There was an average of 515 monthly phone calls between February 1996 and July 1996 (Draper 1996). The actual patient disposition after contacting the ER by phone is not known. Patients may seek care at a local national facility, at the hospital itself, or at a later time with a clinic health care provider. There is no consolidation of information or continuity of care. As a result, care rendered in the ER and on sick-call is episodic and not coordinated with the patient's primary care provider.

The hospital maintains an ER with twenty-four hour coverage. However, emergency rooms or acute care clinics in the outlying medical treatment facilities close at 4:00 P.M. Patients seeking care after normal duty hours have three options: use the American military community hospital in Heidelberg, use a local national facility (Krankenhaus) near their geographical location, or delay care until normal operating hours.

Anecdotal remarks, and interviews with primary care/emergency room providers indicate that patients inappropriately access the health care system through the ER and outpatient sick call. A 1995 Survey of Emergency Room Utilization conducted at

USAMH determined that of those surveyed, nearly 78% used the ER two to five times or more in the preceding year. A vast majority of the patient encounters (86%) were considered "non-emergent" or "non-urgent" (Cardy 1996). In a recent comparison of utilization of the ER and the Outpatient Clinic, which provides care on an appointment basis, the ER accounted for 68.7% of 33,989 visits (Deardon 1997). These findings are similar to those reported in the literature.

According to ER personnel, most of the telephone calls pertain to pediatric situations. The USAMH population includes 32,793 family members, many who are young spouses with small children. A recent study of USAMH emergency room service determined that 23.8% of patients treated in the emergency room were under five years old (Draper 1996). Current military operations demand frequent deployments of the military member, varying in duration, leaving the spouse and family with a limited support group in a foreign country. Stress and confusion is very common in this population, adding to the propensity to access the health care system for reassurance as well as treatment.

In an era of restricted budgets, the U.S. Army Medical Department Activity-Heidelberg is actively seeking ways to optimize their economic resources. The impetus is even more urgent with the discontinuance of the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) demonstration project in July 1997. This demonstration allowed patients to access care with local national providers with no cost share or deductible. The current CHAMPUS bill for in- and out-patient treatment in the USAMH area is approximately twelve million dollars (minutes of the Integrated Service

Network meeting, 11 Sep 1996). Effective 1 October 1997, USAMH becomes fiscally responsible for any patient referred to a local national provider receiving CHAMPUS reimbursement.

A method for containing costs is managing patient demand for health care services, both routine and perceived "emergency" access. Cost evaluation of ER care determined an average variable cost of \$16.82 per visit (Deardon 1997), compared to the average variable cost of a Family Practice Clinic visit of \$13.65 (Ledlow 1996).

Other military services recognized the need to moderate patient demand for health care services, especially in geographically remote areas where facilities are limited. In November 1995, the United States Air Force Europe (USAFE) contracted for services with a telephone advice company, Access Health. Access Health provides telephone advice services to many health care organizations, including military installations in TRICARE Regions 8, 9, 10 and 11. The Air Force established this "Ask-a-Nurse" capability at their facilities at Spangdahlem/Bitburg in the Eifel Region of Germany, and Aviano Air Force Base in Italy. This service provides only advice to the estimated 21,400 involved beneficiaries, and received an average of 197 calls per month over the last ten months (Sickafoose 1996 and Hill interview 1996). The company's self assessment reports indicate 53% of patients who accessed their system were redirected to a lower cost health care alternative (Access Health 1996). Outside of the self-report, there is no supporting data to reflect actual patient action. This system is also unable to make an appointment for the patient at a designated clinic.

During the strategic planning conference in June 1996, ERMCI identified twenty goals. One goal, based on a cost-benefit analysis, was to establish a health care information line integrated with the appointment system. USAMH was identified as the test site for this initiative.

In June 1996, the Chief of the the Health Systems Management Division (nee Clinical Support Division) proposed a business plan for the "Von Steuben Integrated Health Care Network" to the hospital executive committee (Appendix B). This plan outlined the economic advantage for creating a telephone advice/triage line integrated with the appointment system. Based on that proposal, first year cost savings were an estimated \$736,658 (see appendix B). The Executive Committee established a work group to study and implement such an integrated system. The work group, dubbed the Integrated Service Network (ISN) Work Group, was established in August 1996. The author served as a consultant to the work group.

Statement of the Problem

How can USAMH effectively manage patient demand for medical treatment while ensuring high quality and controlling costs? What role does a telephone advice and triage system have in the demand management system? What is the best telephone triage/advice system that will meet the needs of USAMH? How will the system be implemented? What are the personnel, training and resource needs? Can a commercial "off-the-shelf" system seamlessly integrate with CHCS to allow patient appointment capability? This paper will deal with the selection of a telephone triage/advice system as

part of managing patient demand for medical services at USAMH, and will describe the implementation process.

Literature Review

The concept of telephone advice and a triage capability has been used in several settings. Usually, the concept has been employed in emergency rooms and physician offices, especially during after normal office hours. The idea behind the French word triage is "to sort." In telephonic triage a health care provider, usually a nurse, responds to a patient's call by assessing the symptoms and advising the patient's disposition. This may result in the patient reporting to the health care facility directly for urgent/emergent care. More often, the patient receives advice in self-care procedures, or may be referred for care with a more appropriate level of provider rather than the emergency room.

The nurse may rely upon his/her own experience and knowledge to perform triage. More recently however, physician-approved protocols and algorithms have been standardized and implemented in various health care settings. These medical decision making tools may be generated locally at the health care facility itself or commercially obtained. They may or may not be computerized.

The field of telephone triage nursing is evolving into its own subspecialty. In 1995, the American Academy of Ambulatory Nursing created a Special Interest Group for Telephone Triage Nurses (Webster 1996). Most recently, an electronic magazine (an e-zine) offering a newsletter for and about telephone nursing services was created in August 1996 (Webster 1996).

Telephone triage systems are not without some problems. Rupp, Ramsey and Foley (1994) cited several studies where phone triage was often incomplete and inappropriate, and in their own study found 37% of clinics giving inappropriate advice. Proper training of advice/triage personnel is paramount to the success of the system (Glasper 1993). Farr (1993) recommends using critical care nurses as telephone advice nurses based on their ability to discern critical versus non-critical situations, even if using the benefits of a protocol or algorithm.

Liability issues are still being questioned, especially across state lines. This area is the subject for discussion on-line and in telephone advice/triage nursing conferences. (Webster 1996 and Gobis 1996). The Joint Commission and Accreditation of Health Care Organizations (JCAHO) may find triage/advice services an item of interest and examination. The National Committee for Quality Assurance (NCQA) has already included some triage centers based in health maintenance organizations (HMOs) in their accreditation surveys (Webster 1996).

Telephone triage is an important element of demand management. In addition to triaging health problems, the advice nurse can provide information to callers and create more knowledgeable health care consumers. This is the basis for the Healthwise Communities Project in Idaho, funded in part by the Robert Wood Johnson Foundation. This four million dollar demonstration project uses a self-care manual, self-care classes to the community, physician training to support self-care manual use, books, information and videos at self-care resource centers; and a toll-free confidential telephone consultative service staffed by nurses (Cantor 1995).

Purpose of the Study

The purpose of this study is to describe the complexities of defining and designing a telephone triage and advice service as part of a demand management system that meets the needs of USAMH, and to describe the implementation process. Implementing a demand management system is very complex and involves numerous functional areas: primary care providers and clinics, patient appointments, information management, department of nursing, contracting and logistics, resource management, education and training, and personnel. The community at large is a very important stakeholder in the operation. The command climate creates the environment for change. The peculiarities of living in a foreign country provide additional challenges, as does the question of liability. The author will describe the process of selecting a telephone/triage system, and identify and evaluate the critical issues involved in the implementation of a demand management system.

CHAPTER 2

METHODS AND PROCEDURES

The Executive Committee established a work group to study and implement a health care information line integrated with the appointment system. A telephone advice line married with the appointment system could form elements of a demand management system effecting the overall demand for medical services at USAMH. The ISN work group began its efforts in late August 1996.

The work group was multi-disciplinary, including representatives from Central Appointments, Department of Nursing, Outlying Clinic Command, Information Management, Community Health and Primary Care Medicine; in short all of the functional areas that would be directly impacted by the institution of a telephone triage system. The Chief, Information Management Division and the Baylor Administrative Resident originally functioned as technical advisors to the group. The work group became the research and recommendation arm of the Executive Committee. Team members are listed at Appendix C.

The working group met weekly. Over the next two months, the ISN work group reviewed literature pertaining to demand management and triage call centers, and discussed the structure of the ISN using the concept proposed by CPT Ledlow, the Chief, Health Resources Management Division (formerly the Clinical Support Division) in the

Von Steuben Integrated Health Care Delivery System (Appendix B). There was frequent communication with TRICARE-Europe as the higher oversight body, and with the USAFE Surgeon's office.

The work group defined the demand management concept to fit the environment at USAMH. Telephone triage nursing as an instrument of demand management emerged as a viable concept to move toward an integrated health care delivery system.

Triage capability needed to be refined. Some form of telephone triage had been in use for a few years in the ER using a triage book, Telephone Triage Protocols for Primary Care by Woodke, dated 1994. This manual had not been reviewed or approved by the USAMH Credentials Committee. Outlying clinics within the USAMH region were interested in ordering similar books to use in their facilities.

The work group defined the limits of telephone triage. The call center would not become a "911" emergency service, crisis hot-line or poison control center. Such calls would be transferred to the ER or the caller would be instructed to report to the nearest German hospital for emergent care. The work group recognized the value in being able to identify (by name and location) and give directions to the nearest local national facility to the caller, and to be able to notify the on-call Patient Liaison for assistance. Patient Liaisons are bilingual representatives of military medical activities that coordinate patient care in local national health care facilities, provide translation, and reduce anxiety for beneficiaries receiving care in such facilities.

Three courses of action emerged as methods to standardize the triage system within the USAMH area: develop an USAMH specific triage book, purchase a book for use USAMH-wide, or automate the triage system with an off-the-shelf system. The work group agreed that to create a triage system de novo, either hard copy or automated, with in house resources would be too time consuming and cost prohibitive. Using a book USAMH-wide limited the ability to keep medical information current and interject information for widest dissemination on a short time schedule. Research then focused on available off-the-shelf software systems.

Sources of information included the Internet, products discussed in the literature, and personal experience from others in the hospital. The Deputy Commander for Nursing supplied the work group with an information packet from Informed Access obtained while attending the Interagency Institute for Federal Health Care Executives Conference, in September 1996. Others members of the command had experience with other commercial call centers using the Healthwise product.

In order to effect the most control on patient demand behavior, the most desirable system required near seamless integration with an appointment capability. Therefore the system would need to employ CHCS, which was fielded in USAMH within the previous eight months, as the appointment vehicle. The work group devised a plan for a demand management system based on the use of an off-the-shelf commercial software triage system integrated with CHCS.

The work group presented a decision briefing to the hospital Executive Committee on 30 October 1996 (Appendix D) with a tentative implementation goal of 1 February 1997 to coincide with TRICARE-Europe activation. The working group received approval to proceed with the process of selecting a software system, developing a staffing plan and identifying needed resources. The Executive Committee agreed to fence \$60,000 of core budget for the project. The Executive Committee also voiced concern for appropriate marketing, both internal and external. The Executive Committee determined the timetable to be unrealistic, with a March-April 1997 implementation more likely. The implementation timetable was changed several times. TRICARE activation was rescheduled for 1 April 1997, and contracting delays forced a more pragmatic implementation schedule. USAMH is now working toward an 1 August 1997 activation of the call center.

The plan called for an initial test period of the telephone triage system in the immediate Heidelberg hospital area for three months, then extending the service to one of the smaller outlying clinics (Babenhausen) for another three months. Outcomes measurement and data analysis with continuous improvement in processes would occur throughout the test period before expanding the service to the entire USAMH area of interest.

The author proffered the use of the Judge model decision making instrument to the ISN work group as an objective instrument in evaluating triage software systems. The ISN work group determined the desired features in a telephone triage/advice system. To

be most objective, a set of criteria needed to be defined prior to extensive knowledge of a particular product. The work group developed a set of criteria and assigned weights to each (Appendix E) for use in the Judge model (Appendix F). Compatibility with CHCS was integral for effective control of patient appointments at the appropriate level of care. Hardware requirements fed into procurement and computer support. Ease of training and operation directly involved personnel issues.

The work group decided that the best method of evaluation would have the various software companies provide on-site demonstrations. This offered exposure to the widest audience and afforded immediate feedback on the system's capabilities. Each member of the audience would be involved with the evaluation process.

As the need for on-site demonstrations became apparent, contracting and procurement issues were identified as potential "mine fields." The Chief of Medical Materiel Branch, most familiar with this arena, became an ad hoc member of the work group. The work group solicited information from several companies offering computerized triage systems. Three vendors were needed for objectivity in unbiased procurement procedures. After consultation with the Regional Contracting Office, requests for no-cost demonstrations were submitted to vendors in early January 1997. The demonstration period ran from mid-January to mid-March. Detailed descriptions of the software systems initially considered appear in Chapter 4.

Invitations to the demonstrations were extended to over thirty members of USAMH staff from all departments and services, including direct users of the system, clinicians,

administrators, the clinic commander and chief nurse of the first test site (Babenhausen), and the Executive Committee. The TRICARE-Europe Health Promotions Coordinator and the USAFE Surgeon's representative, both actively involved with telephone triage and demand management from a strategic level also participated. All invitees received a criteria evaluation sheet with verbal instructions for completion (Appendix G).

Evaluation of the systems occurred during the vendor on-site demonstrations. This same audience was also invited to test prototypical software offered by the various companies. Fifteen people attended the Healthwise demonstration and twenty-two attended the NHE demonstration. Not all attendees completed an evaluation form. Only three people elected to test demonstration software from the three vendors that was available ad lib in the Managed Care Branch.

Other users of commercially available products under consideration provided valuable insight into the practical application of the products. Members of the ISN committee and the author consulted current users of telephone triage systems in the continental United States (CONUS). Users' experiences balanced advertising promoted by the vendors, and allowed vicarious evaluation of the reliability, validity and application of the various systems.

To evaluate Healthwise, I spoke with Captain Fudge-Morris at Weed Army Community Hospital at Fort Irwin, and Captain Amick at Mountain Home Air Force Base in Idaho. I personally conducted an evaluation of National Health Enhancements by observing their own call center in operation in Phoenix, Arizona and the advice nurse line

at Providence Hospital in Sandusky, Ohio. I also observed the call center/advice nurse telephone centers in other health care institutions that did not use any of the systems under consideration.

In January 1997, the ISN Working Group determined that the term "Integrated Service Network" did not adequately describe the telephone triage/advice line service. A new name, Patient Access and Advice Line or PAAL, offered a more customer friendly, operative term for the service. Subsequently, the work group was known as the PAAL work group. The PAAL concept was presented during the USAMH Strategic Planning conference in February 1997, and became an integral part of the planning for business operations throughout the hospital system. The demand management concept, including the PAAL, self-care classes and beneficiary self-care manual use, was briefed to Major General Gray, the USAREUR Deputy Commander in Chief, Personnel on 13 March 1997. General Gray was very supportive of the demand management initiative.

CHAPTER 3

RESULTS

The numerical results of the Judge Model evaluation of National Health Enhancements, Healthwise and Multi-Media Data Systems are presented in Appendix H. A compilation of the subjective comments of NHE and Healthwise is at Appendix I.

The Healthwise and National Health Enhancements products were nearly equitable in numerical comparison. Final selection eventually became a more subjective assessment of the products based on the commentary of the test audience, reputation of the product from other users, and from the presentation by the company representative.

The MDS software did not receive the same group scrutiny. The company provided a demonstration software disk that was evaluated by select members of the PAAL working group rather than provide an on-site presentation. The software was made available for the larger evaluation audience to test, but no others provided input.

The author assisted in the development and presentation of a decision briefing for the Executive Committee on 12 March 1997, recommending the selection of the Healthwise System (Appendix J).

CHAPTER 4

DISCUSSION

This chapter addresses the specific features of the telephone triage software systems under initial consideration, and provides background for the quantitative evaluation described in the preceding chapter. In addition, this chapter describes the considerations involved in the implementation of a demand management system at USAMH.

National Health Enhancements, Inc.

National Health Enhancements, Inc. (NHE) is a publically owned corporation based in Phoenix, Arizona. Their primary products are the Centramax™ knowledge base and data tracking software and the Voicemax™ pre-recorded health information libraries. Major managed health care plans employ NHE products, such as the Henry Ford Medical Center, CIGNA Health Plans, Mount Sinai Medical Center, and the Children's Hospital of Denver.

NHE features a very sophisticated product. NHE depends on the expertise of medical industry leaders, most notably Dr. Barton Schmitt of the Denver Children's Hospital, whose algorithms are used exclusively for pediatric medicine. The company also has an exclusive relationship with Micromedex®, with its extensive advisory board of over four hundred physicians, to provide the information underpinning the adult

medicine algorithms. The protocols are continually updated and delivered to customers annually upon receipt of the annual maintenance fee.

The Centramax™ knowledge base includes a highly sophisticated and fully integrated call manager system. The protocols have codes in the lower right hand of the screen that alert the triage nurse to the urgency of the symptoms. The call manager automatically records the information given to the patient and indicates the protocol employed and the nurse's initials/name. The software has the capability of faxing information to six different locations, to notify payers, providers and facilities of the disposition of the patient. Each screen has active "buttons" that allows the triage nurse to switch from function to function with a mouse.

The data base can be searched by name, age, patient number, or health plan. Centramax™ is not completely integrated with CHCS, and would require batch loading of information into CHCS. NHE employs the Oracle data base, designed to handle over five hundred thousand individual entries.

The Voicemax™ option allows the caller to select from a library containing pre-recorded tapes on over twelve hundred health education topics. The software is not paired with any self-care text, nor is any self-care text recommended as the audio-library replaces the text. The triage nurse can route the caller to the library, or the caller can select the subject him/herself through a touch-tone phone. Many civilian communities employ such a medical audio-library. The audio library text is identical to the information that the triage nurse has available to verbally relay to the patient, and to the

hard copy text that can be printed and mailed to a patient that desires additional information. The data collection and report generation is considered the gold standard in the industry.

In addition to providing demonstration software disks, NHE conducted an on-site demonstration on 24 January 1997. The author was also able to visit the NHE offices in Phoenix and observe an active call center in operation.

NHE has a keen interest in developing overseas markets. They proclaim themselves to be the industry leader in telephone triage software and demand management systems. They are working closely with Blue Cross/Blue Shield of Western Europe and are establishing business relationships in England.

The initial license fee quoted for the Centramax™ and the Voicemax™ was \$69,500 and \$59,500 respectively. The annual license and support fees totaled \$34,500 for both. The training and implementation team came at a cost of \$30,000. A bundled package of software and training approached \$90,000 not including the annual maintenance support. The company has approximately fifty individuals available for technical assistance and a professional training team.

Healthwise, Inc.

Healthwise, Inc. founded in 1975, is a non-profit corporation based in Boise, Idaho. Their mission is "to help people do a better job of staying healthy and taking care of their health problems" (Healthwise 1997). The company has won numerous awards from the Centers for Disease Control, U.S. Department of Health and Human Services and the

World Health Organization. Healthwise has numerous clients in managed care organizations (e.g., Kaiser Permanente, Group Health of Puget Sound, and Sentara); employer groups (e.g., JCPenney, Westinghouse, Coca-Cola Bottlers); and public and Department of Defense sectors.

The company is a partner in the Healthwise Communities Project involving 250,000 residents in four southwestern Idaho counties, underwritten by several businesses, insurers and industries, and a grant from the Robert Wood Johnson Foundation. The purpose of the project is to inform and empower consumers to take care of their health problems in partnership with their health care providers.

The company publishes five self-care books, most notably the Healthwise Handbook self-care manual, in its 12th edition, which addresses over 180 health care problems, and the Healthwise for Life self-care manual tailored to the older adult. The Healthwise Handbook is already used by the Region 11 Managed Care Contractor for TRICARE Prime enrollees (Carpenter 1997). The handbooks are also printed in Spanish and German.

The Healthwise Knowledgebase™ is a comprehensive health information resource written in consumer-friendly language and organized around medical decision points. A nineteen member Medical Review Board led by a family practitioner develop and update the Knowledgebase™. Some seventy other medical specialists provide topic review. The Knowledgebase™ is a Microsoft® Windows™-based system that can be used by triage/advice nurses, loaded on the local area network for availability to patients and

health care providers, and placed on the Internet for on-line users. The Knowledgebase™ can be added to an organization's website server for an estimated cost of two cents per member per month (Carpenter 1997).

The Knowledgebase™ Symptom Manager is the triage application with over 170 symptom-based health topics that allow a trained health care professional to assess the severity and urgency of a health problem, and make a decision regarding the appropriate level of care. The Call Manager™ application is the tracking and reporting system used by the advice nurses. The Health and Disease Manager™ application provides some 20,000 pages of comprehensive information on over 125 complex medical problems organized around medical decision points. There are several extensive electronic information resources available through the Symptom Manager™ and the Health and Disease Manager™, such as electronic versions of the Healthwise Handbook, drug reference and the Consumer's Self-Help Clearinghouse.

Healthwise does not sell a service, but sells software, trains personnel to use the system, installs software that interfaces with existing client information systems. The cost quoted for the software was \$27,000 and \$15,000 for training. The cost of the Healthwise Handbook is approximately four dollars per book with a cover customized for the organization.

The Healthwise representative, Mr. Tad Arnt, provided demonstration software for thirty day use, and an on-site demonstration on 6-7 February 1997.

Informed Access, Inc.

Dr. Barry Wolcott, former Army physician and current executive director of Informed Access, Inc. (IAS) provided a briefing to assembled military leaders at the 89th Interagency Institute for Federal Health Care Executives Conference, Washington, DC in September 1996. The Deputy Commander for Nursing supplied the working group with a videotape and information packet that included several published articles on demand management. The videotape provided an excellent background for educating group members and the Executive Committee on the power of a triage system.

Informed Access uses the proprietary FirstHelp™ algorithm-based system featuring 562 clinical algorithms and 1,169 sets of self-care instructions integrated with the FirstHelp™ logic. IAS claims a meaningful degree of demand management through thorough documentation and consistent information from call to call and from nurse to nurse. The system is a UNIX-based operating system, but the company was working on an IBM version that was to be available in early spring 1997.

FirstHelp™ is licensed on a per terminal per month basis with a minimum of four terminals. The licensure rate plus the startup fee exceeded \$100,000 which is the ceiling for non-competitive contracts. Informed Access did not respond to requests for an on-site demonstration. The cost of the product, non-PC based system, and anecdotal reports from other military installations that changed from IAS systems to another company lowered the priority for consideration of their product.

Multi-Media Data Systems, Inc.

Multi-Media Data Systems, Inc. (MDS) was founded in 1993 with the objective to provide software solutions and services for the healthcare marketplace. Their proprietary Patient Encounter and Records Information System (PERIS®) Health Advice Line software is based on the work of Shiela Q. Wheeler, considered a pioneer in triage nursing and author of Telephone Triage: Theory, Practice and Protocol Development. Wheeler's text primarily assists health care organizations in developing their own triage protocols. Audio tapes designed to provide initial and sustainment training for triage personnel are also available. The PERIS® Resource Scheduler mimics the CHCS Patient Appointment Scheduler and Managed Care Program modules, and the PERIScript® allows electronic prescription and laboratory ordering similar to the laboratory and pharmacy functions in CHCS.

As of December 1996, none of the triage algorithms were automated. However, an automated product was in the works (electronic mail message, Eilermann to the author, March 1997). The work group contacted Mr. Eilermann regarding the potential for an on-site product demonstration. The company provided a demonstration software disk for initial evaluation. The author and CPT Ledlow, Chief of the Health Resource Management Division, evaluated the MDS software and briefed the rest of the working group. The software was available for others to test at their convenience, but no one else evaluated the product.

The MDS software system was very rudimentary compared to the other software products available and contained many typographical errors. The author noted that the software forced the triage nurse to proceed through each protocol screen before indicating the urgency of the situation and recommending advice. The default information was always referral to the medical facility emergency services. Information captured after the call was completed was not protected, and could be altered after the fact. This feature posed a potential compromise of medical information necessary for risk management and quality improvement evaluation. The work group did not pursue pricing information based on the assessment of the product.

Justification for Healthwise Purchase

The decision to implement the system using Healthwise has some distinct advantages. The company produces an award winning self-care book that has been rated the best through focus group evaluation. Self-care information is mandated by the TRICARE Europe Regional Health Services Plan. Coupling use of a self-care manual with locally available self-care classes fulfills this mandate considering the limited telecommunications infrastructure in Europe. Other companies under consideration did not use a self-care book.

The use of one book reduces the cost and overhead burden of handling two books currently used in theater, Take Care of Yourself and Take Care of Your Child. The software supports information covered in any of the self-care texts, so there is little conflict with assets currently available. Over 13,000 self-care manuals have already been

purchased for Heidelberg by USAMH Preventive Medicine and TRICARE-Europe combined, and stocks of those texts will be used prior to purchase of the Healthwise text. TRICARE Europe Support Office is prepared to support USAMH in future purchases of the Healthwise text.

Supporting the self-care manuals and self-care classes with complementary automated triage software provides reinforcement of the self-care capability. The ability to appropriately appoint patients with their TRICARE PCM completes the demand management triad.

Healthwise has extensive experience with DoD clients and is familiar with CHCS. The company's innovations are continuously trying to improve the connectivity with CHCS to satisfy DoD customers. They are currently working with some of their larger clients at Wright-Patterson AFB and Okinawa Naval Base in using CHCS as the tracking database instead of their own Call Manager (Arnt, electronic message to the author, 1 May 1997). Military facilities are familiar in using CHCS to generate various reports. However, DoD(HA) is developing other reporting requirements to measure effectiveness of managed care initiatives. It remains to be seen if the CHCS generated reports will satisfy the new requirements.

Lastly, cost of the software, licensing and training package was of concern. The Healthwise product was the most affordable quality product available.

Procurement

From the outset, the Executive Committee and Resource Management Department were committed to pursue a demand management instrument. An initial rough estimate of \$60,000 was "fenced" during deliberations of the quarterly Program Budget Advisory Committee (PBAC) meeting to be applied to the purchase of the desired system. USAMH pursued grant funding for its demand management initiatives from DoD(HA), but was unsuccessful. Cost obviously played an important role in the decision of which system to buy. Unfortunately, resources are limited, and the committee had to bear this in mind when making their recommendation to the Executive Committee.

The author and the Chief of the Medical Materiel Branch met with representatives of the Regional Contracting Office (RCO) in December 1996 and again in March 1997 to lay the groundwork for sole-source justification purchase of the product. Many of the key players in the PAAL were new to the procurement process. Meeting with contracting representatives insured that the committee was in compliance with procurement regulations and laws early on, and that we were assured of obtaining the product we wanted.

Although the author felt that many of the procurement pitfalls were avoided, not everything went smoothly. Apparently, a well-meaning contracting representative, unaware of the desire for sole-source procurement, alerted NHE, Healthwise and MDS for a competitive bid process. This created a lot of confusion and generated ill-will between the companies and the indicated purchase Point of Contact, which was the

author. Several phone calls to the RCO involving the supervisory chain rectified the situation, however the confusion raised the specter of a contested procurement action. The author, the Chief of the Medical Material Branch, RCO legal counsel, and the contracting supervisor met on 4 April 1997 to discuss damage control and devise a plan of action.

Legal counsel explained the process of a contested action, in which an aggrieved bidder had ten working days to respond upon notification of the award of a contract. The Government Accounting Office becomes involved, and has the authority to delay a contracting action for up to one hundred days pending an investigation (Tudor 1997). This would have delayed implementation of the call center until at least September 1997. Counsel advised the author on statements to improve the sole source justification clearly making the Healthwise system the product of choice. The RCO accepted the responsibility of contacting each of the three companies offering an explanation for the erroneous competitive bid process. The sole source award became effective 15 April 1997. As of 22 May 1997, the author was still receiving inquiries about the contracting confusion from NHE, however the contract with Healthwise went uncontested. The original and amended sole-source justifications are at Appendix K.

Ethical and Legal Issues

There are many ethical issues surrounding demand management. Perceived limitation or rationing of medical care provides grit for medical ethicists discussing autonomy, non-maleficence, beneficence and justice in medical treatment, especially

through emergency departments (Iserson 1992). Patient confidentiality and information security are of concern. Electronic records permit easy retrieval and storage, plus fast transmission and electronic sharing for authorized users. Safeguards must be implemented to avoid unauthorized access to sensitive, personal medical information.

Posting the progress notes of patient telephone advice transactions in the patient's CHCS record provides a measure of security in that users must gain access through the use of protected codes. Only authorized users of CHCS information are granted access codes. Most recent modifications of the Healthwise system emulator allow automatic posting of advice to the patient's CHCS record. Numerous military clients of the Healthwise system makes this modification financially beneficial to the company, and strengthens its market position for government agencies.

Tape recording dialogue between callers and the advice nurses would provide a method to monitor the call center, and could be used for quality assurance and risk management. However, tape recordings of toll-free lines violate German communications regulations. Germany has very strict privacy act laws. Obtaining patient consent for recording conversations is paramount. Other methods must then be employed to protect both the patient and the organization for risk management purposes. Organizations must balance the need for patient confidentiality, and adequate monitoring for quality improvement and peer review. The working committee elected to implement other methods to evaluate quality of the triage call center.

Telephone triage studies show few adverse outcomes. However, this may increase as "teletriage" becomes more universally applied and patient acuity increases. Studies show that up to 25% of visits on advice to be seen immediately were unnecessary in retrospect (Gobis 1997). Risk areas of liability in telephone triage include assessment errors, timeliness of intervention, and documentation errors (Gobis 1997). Mindlessly following a protocol will not absolve the nurse of liability. The telenurse must use protocols conscientiously, document completely and adhere to standards and quality assurance guidelines of the institution (Wheeler 1993).

Personnel

Personnel requirements for the PAAL were determined based on the literature and on the population served in the USAMH area. The literature supported the use of registered nurses vice licensed practical nurses or lesser trained individuals as advice personnel. The committee determined the required nursing staff and appointments clerks to operate the call center twenty-four hours a day. USAMH experience indicates minimal number of phone calls and emergency room visits during the night shift, that is after 11:00 P.M. until 7:00 A.M. the next morning. Call center operations would be forwarded to the emergency department staff during the night shift. The emergency department would have the same access to the triage and appointment system as the day and evening shifts.

Staffing for the test period (six months) required six registered nurses. For the entire USAMH area, an estimated thirteen nurses are required with ten appointment

clerks. Three full-time equivalent (FTE) clinical nurses at a grade of GS-9, with a nursing supervisor at the grade of GS-10, would staff the call center from 7:00 A.M. to 11:00 P.M. during the test period. One clinical nurse FTE would be responsible for the evening shift from 2:00 P.M. to 11:00 P.M. and one clinic nurse FTE would handle the weekend. Six appointment clerks were required for the day shift, and two clerks were required for the evening shift and weekends/holidays. Since appointment clerks are a lower GS grade, usually younger with less experience, it was decided to hire to the full ten requirements at the outset of the operation to improve the training and retention of appointment clerks.

The budgetary policy regarding personnel at USAMH established personnel levels at the Table of Distribution and Allowances (TDA) level with no overhires authorized. The working group, with the assistance of the Resource Management Manpower Officer, identified open and available positions and impending manpower changes within the USAMH system, including the nine outlying clinics, that could be made available to staff the PAAL. Therefore, there were no additions to the bottom line TDA for USAMH; all the positions came from in-house shifts.

Members of the PAAL working group staffed the personnel working document through each of the Deputy Commanders with personnel identified in their area of responsibility for comment. The final personnel document was approved by the Executive Committee.

The Assistant Deputy Commander for Nursing, a member of the PAAL working group, developed the job descriptions for the nursing positions, with input from the group members. The job descriptions were forwarded to the Civilian Personnel Office for grading and advertisement with a mid-May availability date. The final job descriptions for the clinical nurses are included at Appendix L.

A physician assigned to the Health Resources Management Division in April 1997 was a fortuitous addition to the management of the PAAL. The physician was already familiar with USAMH having served as the former Deputy Commander for Clinical Services prior to deployment to Operation Joint Endeavor. The physician provides clinical oversight for the PAAL, medical consultative backup to the triage nurses, and is primarily responsible for the Quality Improvement/Risk Management of the PAAL. Working closely with the nursing supervisor of the PAAL, the physician functions as an effective spokesperson for the program, especially to other physicians.

Facilities and Equipment

Central appointments clerks were located on the second floor of Building 3609 on Nachrichten Kaserne, essentially co-located with the Managed Care Branch of the Health Systems Management Division. This arrangement was advantageous for functional oversight and physical plant, as the area was newly renovated and had room for expansion. The PAAL call center would occupy the additional space in the Central Appointments area. Furniture was ordered to configure the work area into two concentric circles, advice nurses on the inside and appointment clerks on the outside ring. Each

advice nurse and appointment clerk would have a partitioned cubicle with line-of-sight visibility with other PAAL personnel.

Obviously a critical part of a telephone triage/advice line is the telephone network. As with other organizations in Germany, much of the communications infrastructure is quite old, installed in the early post-World War II era. The kaserne relies upon the 5th Signal Group to provide communications cabling and switches, which is the limiting asset for growth.

The current phone system used by the central appointments clerks is a quasi-digital system employing a digital switch on an analog cable which allows several phone numbers to be displayed on a single telephone instrument. Unlike an analog system, the digital system can not accommodate peripherals such as fax/modems or answering machines. This capability is essential for the PAAL. The planned flow of information during an advice call involves the nurse posting the patient's disposition in the CHCS electronic record. The CHCS network includes all of the outlying clinics, with the server located at ERMIC in Landstuhl some ninety miles away. Interruptions in CHCS are not uncommon, forcing the clerks to record appointments manually. The ability to fax information to outlying clinics or to clinics within the hospital is crucial during the periods when CHCS is inoperable.

A call center will not be considered value-added if the customers can not access it. The telephone system must have roll-over capability to alert the next available clerk/nurse of an incoming call. An answering machine, or recorded message to be able to queue

patients is essential to handle the surge periods. Over time, peak calling periods will moderate as patients realize they have access to the call center, and appointments if necessary, twenty-four hours a day, seven days a week instead of the current thirty-six hours a week. Leaders, staff, and the community must recognize that the initial period of call center operation will be frustrating for all concerned.

Three toll-free lines were installed in anticipation of the call center operation. Future plans feature dividing the USAMH geographical region into thirds and offering a toll free line to each region.

The Information Management Division addressed hardware support for the PAAL system by the purchase of five additional Zenith Pentium, 166 Mhz, 16 MB RAM computers. The computers are slated to be delivered in July, in time to conduct training with PAAL personnel. The hospital is poised to temporarily rearrange computer assets to support training, in the event of delivery delays.

Marketing Plan

An integral element in the success of the PAAL is an effective marketing and communication plan. The Managed Care Branch includes a Health Information Specialist, Mr. Huckfeldt, who was involved with the working group throughout its deliberations. Mr. Huckfeldt developed a marketing plan (Appendix M) with input from the working group, and designed a pamphlet for widest dissemination.

Other communication assets such as the Stars and Stripes military newspaper, the Herald Post (Heidelberg area local area newspaper), Armed Forces Network Radio and

Television stations, community briefings, and self-care classes were identified as venues to reach external customers and target audiences. Internal marketing is on-going through Super Training Day assemblies, clinical staff conferences, outlying clinic nursing meetings, morning reports, officer professional development classes, and various committee meetings.

Internal and external marketing must be continuous and on-going to compensate for the rapid turnover of the population. As the demand management system matures, continuous information keeps customer audiences informed of the impact on quality, access and cost of their health care.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

What role does a telephone advice and triage system have in the demand management system and what is the best telephone triage/advice system that will meet the needs of USAMH? The literature supported the use of some triage mechanism to modulate patient access, especially at emergency departments, for non-emergent maladies. USAMH approached demand management in an integrated, synergistic way focusing on empowerment and education versus denial of services. This philosophy was implemented through patient education with use of a self-care manual, reinforced with self-care classes and supported by a telephone triage/advice call system linked to the patient's PCM through CHCS.

The strength in this project was the committee/work group approach. The various company representatives commented positively at the inclusion of such a diverse group that had functional interest in the implementation and execution of the telephone triage system. A single project officer/decision maker would have excluded the many ideas concerning structure, personnel, policy and methods that surfaced during the working group deliberations. The audience of users and concerned parties provided valuable input in the decision process.

The author found the Judge model of limited use in this situation. The criteria may have been too broad and ill-defined to warrant a numerical rating from the participants. A practice run with the audience in grading a similar product may have increased the reliability of the instrument and would have identified incongruities of the criteria definition. Ensuring the same audience participants would also increase the reliability and validity of the instrument. The invitation to participate was extended to the same individuals, but participation was variable for the two sessions.

The audience at large had not been thoroughly briefed on the entire demand management concept, except through various other informal forums and committee meetings in the hospital. The letter of invitation explained the need for a telephone triage system, but the concept was so new and foreign to most of the attendees that the value of this method of evaluation was diminished.

Our decision to centralize the triage/appointment capability was recognized as a control issue and was also driven by limitations in information management network development. The nine outlying clinics do not share the same network as the hospital proper. If this were the case, the Knowledgebase™ software and the triage algorithms could be made available at each outlying clinic, with a dedicated triage nurse at each facility. This would keep the health care capability in the “back yard,” more accessible, familiar and valued by supported unit commanders.

The demand management system will require continuous evaluation and modification, using customer satisfaction as the benchmark for improvement. Efforts are

underway to develop customer satisfaction surveys, implementing Healthwise proprietary instruments and tailoring questions to meet USAMH's needs. Eventually, such measures may be incorporated into organizational report cards evaluated at DoD(HA) level.

The defining feature of the demand management system at USAMH is the ability to integrate the telephone triage process with the appointing process, within the TRICARE primary care manager structure. This capability would not exist were it not for the months of work by dedicated others to establish empaneled providers, identify local national providers and facilities, and educate the beneficiary population. In addition to the telephone triage capability to modify patient care-seeking behavior, demand for health services is affected through empowering beneficiaries using self-care classes and self-care manuals, reinforcing use of the accepted triage protocols at every access point, and one-on-one patient education during any provider encounter. Immediate cost savings may not be realized, and the systemic effect on the "bottom line" may occur several years in the future as patients reclaim their health care decision making power.

USAMH's decision to implement a demand management system, using computerized telephone triage as an integral component of that system, demonstrates a proactive approach to controlling health care costs while providing improved quality health care. Decreased costs for the organization can be realized only if the fixed costs of the operation are reduced. Currently, over 58 % of the USAMH budget is apportioned to the fixed costs of personnel (Abdullah 1996).

The creation of a demand management system provides the ground work for future studies measuring outcomes, patient satisfaction and cost savings through reduction of inappropriate visits. When operating as designed, USAMH should see a reduction in inappropriate visits to the ER and outpatient clinics, and a reduction in sick-call visits. Acuity of each visit to a health care provider should increase as those non-urgent/information only patients will be handled through the advice line nurses and self-care.

Integration of the triage/advice line will allow more complete documentation of patient encounters and close the information loop that now exists with the current phone call systems. Nurses and primary care managers can follow-up on patient calls, and providers will have better and more timely information available regarding their patients. Patients should experience better continuity of care. Patients may at first perceive a decrease in access to health care as the point of access changes. Instead of the on-demand face-to-face encounter with a health care provider, access to the health care system utilizes the triage/advice nurse via the telephone. However, a highly sophisticated demand management system will ultimately improve access to an appropriate health care provider at the right time, improving quality and continuity of care, and therefore patient satisfaction with their health care at USAMH.

Expansion of the demand management system throughout USAMH will allow the most remote clinics to have access to quality information and education through the advice line nurses, afford prompt appointment capability with the PCM at each outlying

treatment facility, and pinpoint referral to a local national provider in the immediate area should circumstances warrant.

An added benefit of the demand management system will be the ability to more timely coordinate the services of the Patient Liaison with the patient in need at the local national facility. The demand management system can modulate beneficiary access to the local national facility while coordinating the services of the Patient Liaison. This ability will make the health care encounter less formidable for the patient, thereby improving quality of care and increased patient satisfaction.

Utilization management for both military and local national facilities can be better defined, controlled and quantified through an integrated demand management system. A utilization management system is in its infancy at USAMH. Although the effort primarily addresses in-patient service, expansion into out-patient services is anticipated.

USAMH leads the European Regional Medical Command in this initiative and is proving to be the test bed for the tri-services in Europe. Eventually, a unified European-based demand management system will be able to address the needs of tri-service beneficiaries serving in the European theater. The issues described in this study become magnified as the demand management system attempts to encompass DoD beneficiaries located in some sixty-three countries, and the infrastructure involved in the three services.

APPENDIX A

GLOSSARY

Algorithm - a branch-chain logic comprised of binary answered questions (yes or no) leading through the logic.

Beneficiary - A legal beneficiary includes active duty service member (Army, Navy and Air Force), family member of active duty service member, and civilians eligible for care. Those civilians include Appropriated Fund, Army and Air Force Exchange Services personnel, Department of Defense School employees, Non-Appropriated Fund employees/sponsors and their family member.

Civilian Health and Medical Program of the Uniformed Services

(CHAMPUS) - The medical insurance program for military family members and retirees under age sixty-five that covers medical care delivered outside of military treatment facilities.

Composite Health Care System (CHCS) - the Department of Defense integrated health care information system. The system is comprised of several modules designed to

streamline processes in patient appointment and scheduling, physician and nursing orders, laboratory and radiology requests and data reporting, and a managed care program for empaneled beneficiary populations.

General Schedule (GS) - a civilian employee of the Department of Defense, usually in clerical, clinical or supervisory roles. GS employees are placed and advanced through levels of accomplishment and responsibility, beginning with level four through level fourteen, with incremental steps within each grade level for remuneration.

Health Maintenance Organization (HMO) - an organized system of health care that provides a defined, comprehensive set of services to a defined population for a fixed, periodic per-person or per-family fee.

Joint Commission on Accreditation of Health Care Organizations (JCAHO) - the regulatory body responsible for accrediting health care organizations, to include military hospitals. On-site surveys occur every three years.

National Committee on Quality Assurance (NCQA) - the leading accreditor of managed care organizations.

Patient Access and Advice Line (PAAL) - the title and acronym referring to the telephone triage/advice entity at USAMH.

Patient Liaison - a bi-lingual employee of the military treatment facility that coordinates medical care for a patient referred to a local national medical treatment facility.

Primary Care Manager (PCM) - an individual or team of primary care providers who manages a patient's total health care. A PCM is a licensed physician, physician's assistant or nurse practitioner. The PCM makes referrals for tests/specialty care and monitors adequacy/continuity of care while avoiding unneeded care.

Protocol - a list of questions describing a frequently occurring situation; a plan of action that has been approved by an organization or governing body.

Table of Distribution and Allowances (TDA) - the document that delineates staffing of a military fixed-facility organization (as compared to a military combat unit) by position/job title and grade.

TRICARE - a comprehensive Department of Defense medical program for active duty, retired and family members of all military services, designed to expand access to care, maintain quality of care, control medical costs for patients and taxpayers alike, and improve medical readiness. It is a managed care system supported by regional civilian contractors. TRICARE in Europe differs from TRICARE in the Continental United States in that there are only two options available : TRICARE Prime and TRICARE Standard. TRICARE Prime is the HMO option with assigned primary care managers, no deductible

and no cost-shares for authorized medical care delivered by host-nation providers in Europe. TRICARE Standard is the traditional CHAMPUS benefit, including cost-shares and deductibles. Beneficiaries retain full freedom of choice in selecting host-nation providers.

**U.S. ARMY MEDICAL DEPARTMENT ACTIVITY -
HEIDELBERG
"Von Steuben Health Care System"
Integrated Service Network**

25 MAY 1996

Business Plan Copy Number [3 of 3]

Prepared by CPT Gerald R. Ledlow

This document contains confidential and proprietary information belonging exclusively to the United States Army Medical Department Activity, Heidelberg, Germany.

COL Hamlin
Commanding
Chief Executive Officer
HMEDDAC Unit 29223
APO AE 09102

*This is a business plan.
It does not imply an offering of Securities.*

Table of Contents

Executive Summary	1-1
Vision and Mission	2-1
Present Situation	2-1
Vision and Mission	2-4
Goals	2-5
Performance Measures	2-7
Additional Coordination Required	3-1
Workload (Visits).	4-1
ISN Staff Required.	5-1
Cost Avoidance.	6-1
Sample ISN Work Schedule.	7-1
Proposed Implementation Timeline.	8-1
Supporting Documents. <i>Not Included</i>	9-1

Executive Summary

Recommendation: Implement a centralized Integrated Service Network (ISN) at the U.S. Army Hospital - Heidelberg.

ISN Defined: A staff of trained Registered Nurses, supervised by Nurse Practitioners and/or Physicians Assistants, that provides phone triage and appropriate appointments by algorithm, patient advise, appropriate use of over-the-counter (approved) pharmaceuticals (limited prescribing by NPs and PAs), and patient education to the 77,281 beneficiaries in the HMEDDAC area of responsibility. The ISN will operate 24 hours a day and 7 days a week.

Resources Required:

Staff: 18.6 Full Time Equivalents

13 RNs and 5-6 NPs/PAs

2-3 Administrative Personnel (from Central Appts)

Equipment/Tools: 5 CHCS Terminals

5 Algorithm Manuals

5 Telephones Connected to Recording Device

5 DSN Telephone Lines

1-3 Toll Free 0130 Lines

Most of the resourcing requirements will come from internal reorganization (staff) or redistribution (equipment).

Background

For many years our beneficiaries have called Central Appointments or simply walked into the Emergency Room. The call-in appointment system does not lend itself to customer, or staff satisfaction. ER walk-ins are high cost care with limited continuity of care. As managed care beneficiary enrollment and empanelment are implemented, a higher level of clinical expertise at the triage/appointment point of access is needed.

Managed Care Organizations have been highly successful with ISNs. Enclosed are articles that discuss ISNs.

The "state of the art" of the health care industry today enforces the use of an ISN.

Financial Issues: An ISN will cost avoid, based on a 30% reduction in inappropriate outpatient visits, the following:

First and Second Year: \$736,000+/year (variable cost = \$13.65/visit).

Third through Fifth Year: \$2 million/year (estimate) based on cost avoidance from reduced outpatient visits (variable, semi-fixed, and some fixed costs).

Vision/Mission

Present Situation

The Von Steuben Health Care System (the HMEDDAC Catchment Area) provides prevention, primary, secondary, and limited rehabilitation outpatient and secondary (to include surgical) inpatient health care services through an internal (organic) network of nine outlying clinics that stretch over 6,200 square miles from Butzbach to Stuttgart, Germany and a sixty bed hospital. We utilize, an external system for referrals for tertiary and specialized health services, the Landstuhl Regional Medical Center and the German Local National Health Care System to extend our services throughout the continuum of care. We are responsible for approximately 77,281 covered lives in our catchment area. Most of our services are provided in the areas of Health Promotion, Prevention, and Primary Care. Our system produced over 510,000 outpatient visits in Fiscal Year (FY) 1995 that was resourced with over \$55 million. Inpatient (organic) services were resourced with approximately \$14.5 million. CHAMPUS, Civilian Health & Medical Program for the Uniformed Services, is at the end of a demonstration project that allowed eligible (dependant family members are primarily the users) beneficiaries to use the German Health System with no out-of-pocket cost to the beneficiary. Historically CHAMPUS required a copay and a deductible. Due to the demonstration project, moral hazard potential and lack of quality control is of concern. Managed care, the implementation of the Composite Health Care System (CHCS), and TRICARE will give our beneficiaries two options: Enroll & empanel into a "gatekeeper" system, called TRICARE Prime, and when authorized, access CHAMPUS with no copay or deductible. If the beneficiary chooses not to enroll, this option is called TRICARE Standard, they can use either the organic services with no out-of-pocket cost or CHAMPUS with a copay and deductible. A January 1997 target date has been set to enroll and empanel all active duty beneficiaries and their family members. Our system falls under a capitated system on 1 October 1996. This requires that we aggressively pursue cost containment initiatives, state-of-the-art managed care practices, and economies of scope and scale. An Integrated Service Network (ISN) is an initiative to provide quality access, triage, and self-care to our 77,281 beneficiaries in a cost effective manner.

The driving force in our operation is our ability to provide primary care services to our beneficiaries. This ability will be enhanced by our automation upgrades that are currently underway (Local Area Network, CHCS, CC:Mail), and future enhancements.

HMEDDAC can best be described as currently being in the business of Primary Care, Secondary Care, and Promotion/Prevention Health Care Services. In recent times our key strengths have been our ability to be customer-oriented and our team work style of management. We strive to use managed care programs as a cost effective way to add

value to our health care system.

Management

Most of our management team is in place, however, we require hiring actions or in-house reorganization to staff the Integrated Service Network (ISN) (13 Registered Nurses & 5 Nurse Practitioners/Physician's Assistants) and the Managed Care Branch (2 Health Information Specialists, 1 Case Manager/Utilization Manager, and 1 Administrative Assistant). Currently, only an Branch Chief/Analyst is assigned to the Managed Care Branch. The Commander has overall responsibility of the ISN that is delegated to members of the Executive Committee at his discretion.

Products and Services

At present our ISN is in the design/early development stage. Our current service, patient appointment system and self care protocols, are in need of analysis, reorganization, and integration into the continuum of care services HMEDDAC provides.

Market Environment

The marketplace is undergoing rapid changes for the last 3-5 years. We are now poised to aggressively enter into the capitated environment with integrated managed care. An ISN is one of several initiatives.

The ISN should be operational by 1 November 1996 for a three month test (Butzbach, Mannheim and Heidelberg areas), phased into the other outlying clinics starting 1 March 1997, and fully implemented throughout the HMEDDAC Area of Responsibility by 1 June 1997.

Fiduciary Responsibility & Cost Avoidance

FY 1995 Outpatient Costs exceeded \$55 million and Inpatient Costs exceeded \$14 million. The ISN attempts to reduce unnecessary outpatient visits (especially to the Emergency Room) by 25 to 30% in the first year and 30 to 40% in the out years. First and second year cost avoidance target goal is \$700,000/year. Out year target goal cost avoidance is \$2 million per year for years 3 - 5. Some of the cost avoidance dollars, however, must be reinvested into the ISN and integrated managed care program for updated algorithms, enhanced automation, marketing, over-the-counter pharmaceuticals, and self-care publications and services. Current costs are projected to hold or increase slightly while budgeted (capitated) funds will reduce moderately.

Customers

Current customers, 77,281 beneficiaries, are using our Outpatient services (510,000 visits in FY95) for Primary and Secondary Care. Capitation and managed care, mandated by DoD Health Affairs and USAMEDCOM require that we make improvements to existing processes and introduce new models to deliver health care services while reducing costs without jeopardizing quality.

Distribution

We will have 1 centralized integrated service network center located in Heidelberg, encompassing our total catchment area of ten communities. Existing phone networks, DSN, civilian toll-free, and civilian lines, will allow ISN access to our beneficiaries. The centralized ISN will be staffed 24 hours per day every day. Eighteen to nineteen individuals (13 RNs and 5 NP/PAs) will staff the ISN.

Financial Status

The ISN will Cost the HMEDDAC the following:

a) Staff

- i) Registered Nurses at (GS 10) = \$67,500/year
- ii) Nurse Practitioners/Physician Assistants at (GS 11) = \$72,000/year
- iii) Computer Equipment (Estimate) = \$100,000 (one time cost)
- iv) Algorithm and Misc. = \$10,000

TOTAL Cost = \$1,347,500

Recurring Cost = \$1,237,500

Current cash available is N/A.

Our Current Ratio is: Assets/Liabilities = N/A.

Our Quick Ratio is: N/A.

(Cash and Equivalents + Accounts Receivable + Notes Receivable) divided by
Total Current Liabilities = N/A.

The ISN will Cost Avoid the HMEDDAC the following:

a) First & Second Year (Short Term) based on 30% reduction in inappropriate outpatient visits = \$ 736,658. Basically, reduction in variable cost of an outpatient visit. \$13.65 was used as the variable cost/outpatient visit from MEPRS based on Heidelberg's Family Practice Clinic (conservative variable).

b) Third through Fifth Year (Long Term) based on 30% reduction in inappropriate outpatient visits = \$2,000,000 (estimate). This avoidance considers reduction in variable, semi-fixed, and some fixed costs.

Refer to the Spreadsheet enclosures for a breakdown of costs and cost avoidance potential.

Vision and Mission

The ISN will provide quality phone triage, appointment, self-care instruction, and limited prescription pharmaceutical (limited to OTCs for RNs and limited formulary for NPs/PAs) services for the 77,281 beneficiaries of the HMEDDAC catchment area in order to appropriately manage access to care in a quality yet cost effective manner. While increasing beneficiary access to high quality, trained health care professionals of the ISN will assign beneficiaries to the appropriate level of health care within a primary care manager framework.

The ISN will develop into a state-of-the-art operation utilizing automated algorithms, patient records, and peer review systems to further increase efficiency and improve health care service value to beneficiaries and staff.

The driving force for ISN development and implementation is capitated budgeting, the need to appropriately triage and appoint beneficiaries to outpatient services, and ability to utilize technology to realize efficiency.

Vision

By June 1997, HMEDDAC will be a highly visible organization known as the best Integrated Service Network in the DoD Health Care industry. We will have developed a quality and cost effective way to triage, appoint, and provide self-care instructions to our beneficiaries and marketed these products to our beneficiaries in the Armed Forces Radio & Television Network, the Stars & Stripes, the Herald Post and other community papers, town hall meetings, and other media channels, becoming the leader in Managed Care. Market penetration will exceed 75% by 1 May 1997 and HMEDDAC will continue to actively promote the ISN. Our goal is by 1 September 1997 to have 98% market penetration. This will be measured by beneficiary calls for appointments outside of the ISN.

In the private sector, managed care organizations have realized significant cost savings without jeopardizing quality by initiating an ISN. Literature from our research is enclosed.

Mission Statement

In order to achieve our Vision, HMEDDAC commits to the following:

HMEDDAC ISN's Mission is to provide innovative, practical and top-quality patient triage, appropriate appointments, self-care instructions, and limited pharmaceuticals that save time, use resources more efficiently, and improve the way people access our health care system. We believe our first responsibility is to the beneficiaries who use our health care services. Our financial position and by utilizing existing resources and technologies will enable us to design and fully implement an ISN by June 1997. In carrying out our day-to-day business we strive to:

1. Treat our beneficiaries, employees, and visitors with professionalism, concern, and dignity.
2. Follow the philosophy that our customers (our beneficiaries) are individuals with situational needs that we must serve.
3. Be considered as the most important access point for health care services in our communities.

Through a long-term commitment to this mission, we will be known as a company that considers individual and family needs, regards quality health care as a necessary component to a high quality of life, and that we enjoy caring for our Army and their families. Our customers, vendors, and employees see the ISN as offering several benefits, quick health care knowledge, and quality results.

Goals

- * *Decrease inappropriate outpatient services, by proper triage and instructions, by 30%.*
- * *Increase patient access to outpatient services to Same Day or Next Day appointments.*
- * *Increase beneficiary patient satisfaction with the appointment system.*
- * *Free resources (current appointments personnel throughout the area) for other duties. This pertains to outlying clinics, Hospital Central Appointments Personnel will augment the ISN and perform internal referral appointment scheduling from Primary to Secondary Care.*
- * *Increase provider (primary care manager) information about their patients.*
- * *Increase the quality of our health system by proper triage and active use of Health &*

Wellness Promotion Programs.

** Reduce costs attributed to outpatient services by 30% attributed to Variable Cost in Years 1 - 2 and Variable, Semi-Fixed, and some Fixed Costs in Years 3 - 5.*

In order for the HMEDDAC ISN to attain its vision in the manner described in our mission statement, the following primary strategic goals need to be achieved:

Corporate: By 1 July 1996 the Executive Committee must approve the formation of the ISN and support training needs and resource needs. The Credentials Committee will review and approve use of algorithms and ISN protocols by 1 August 1996.

Training: By 15 October 1996, HMEDDAC must have a core (26 RNs and 7 NPs/PAs or equivalent) trained on the algorithm system, the CHCS Patient Appointment System, the CHCS Managed Care Module and HMEDDAC protocols that are associated with the ISN. All nursing staff will be trained by 1 March 1997. Medical Staff will be oriented and trained by 1 November 1996.

Market: By 1 September 1996, HMEDDAC will begin an aggressive marketing program for the ISN to reach 75% of beneficiaries in Butzbach, Mannheim, and Heidelberg areas by 15 October 1996. 98% of our beneficiaries in these areas will be reached by 15 November 1996. We will have an active customer base, in these areas, of over 24,000. To reach these customers we plan to add the two Marketing (Health Information Specialists) to the Managed Care Branch and educate, train, and distribute information packets to outlying clinic staff and hospital staff. We will expand our marketing efforts to the other communities of HMEDDAC's area of responsibility according to the ISN Phase In Plan (to be developed) to realize a 98% market penetration by 1 September 1997.

Operations: The plan is a two part approach:

1) A three month test period in Butzbach, Mannheim, and Heidelberg:
By 31 January 1997 the HMEDDAC ISN will have serviced over 80,000 calls. This trial period will give us a good feel for future operations.

2) After the trial period, the other outlying clinics will be phased into the ISN.

Initially, the ISN staff will use automated CHCS terminals (appointments and patient records) and manual algorithms. As the vision states, the ISN will "upgrade" to automated algorithms when possible.

Refer to the enclosure for CHCS installation. CHCS installation should not be an obstacle to ISN implementation.

Finance: By 1 August 1996 the HMEDDAC ISN will be inserted into the FY97 budget. We will carefully evaluate and plan future investments and budget expenses to generate a consistent 30% outpatient visit (variable cost years 1-2, other costs years 3-5) cost avoidance (profit). Based on a 98% market penetration rate for our ISN by 1 June 1997, we estimate our return on investment to be 65%. FY95 & 96 will be our base for pre-ISN to ISN comparisons based on outpatient visits.

By October of 1997 the HMEDDAC ISN will:

1. *Better understand our customers.*
2. *Increase service quality to our customers.*
3. *Promote Health & Wellness Programs.*
4. *Increase Staff Job Satisfaction.*

We feel confident that the above goals can be reached. We have a great team of "can do" people.

Performance Measures

The following are possible measures of ISN success (these will have to be adopted by the HMEDDAC staff & leadership):

1. Acuity upon patient physical presentation. This data must be captured starting 1 August 1996 (3 months prior to ISN implementation) by the Butzbach, Mannheim, and Heidelberg clinics. We must use an agreed upon common measure that is valid and reliable. We must continue to capture the data during the ISN test phase and compare the two "states" by a repeated measures methodology (ANOVA & Pair-Wise t Test). This test helps us see if the reduced visits methodology actually hurts our system.
2. Number of past calls/appointments compared to number of ISN calls/appointments. This measure allows us to see if beneficiaries have less, same, or better access to appointments and shows if we are reducing inappropriate visits.
3. Patient satisfaction survey by phone. We should sample 5% - 10% of all beneficiaries who call the ISN. We should use a survey instrument that is simple (4-5 questions) and is valid and reliable. This shows if our beneficiaries see the ISN as a quality improvement to our system.
4. Staff satisfaction survey. We should test the population (not sample) with the same methodology as in #3 above.
5. Peer Review, QI & Potentially Compensable Event Analysis. The QA/QI

office and the Credentials Committee should use their established methodology to evaluate clinical appropriateness. The ISN will have the ability to record calls.

Additional Coordination Required

1) The HMEDDAC Deputy Chief for Nursing must develop a plan to resource (staff) the ISN. Also, the HMED (Education Department) must develop a training plan for the ISN staff and for the medical staff orientation.

2) The HMEDDAC IMO must develop a plan to place CHCS terminals near/in the ER (5 terminals) near the recording equipment. Also, the IMO should look into the possibility of a one system algorithm, CHCS, and PC setup for 5 stations.

3) The Managed Care Branch Marketing Section must develop a marketing plan to meet the ISN goals as shown in the business plan. This includes presentation, media, and information packet methodologies.

HEIDELBERG AREA of RESPONSIBILITY: Workload Data

CLINIC	VISITS per MONTH: FY1996														TOTAL VISITS (FY96)
	October	November	December	Actual Visits	January	February	March	April	May	Estimated Visits	June	July	August	September	
Babenhausen	697	734	606	694	700	624	676	676	676	676	676	676	676	676	8,111
Buedingen	1902	905	1123	1093	1056	1093	1195	1195	1195	1195	1195	1195	1195	1195	14,342
Butzbach	1434	1547	1635	1919	1513	1207	1543	1543	1543	1543	1543	1543	1543	1543	18,513
Coleman	1083	1656	954	1198	796	707	1066	1066	1066	1066	1066	1066	1066	1066	12,790
Darmstadt	2546	2682	2780	2468	2185	2287	2491	2491	2491	2491	2491	2491	2491	2491	29,894
Friedberg	1075	1221	1088	1397	1287	862	1152	1152	1152	1152	1152	1152	1152	1152	13,822
Hanau	4116	2645	3851	4902	3760	5042	4053	4053	4053	4053	4053	4053	4053	4053	48,634
Heidelberg*	20290	20338	17539	21344	19513	20523	19925	19925	19925	19925	19925	19925	19925	19925	239,097
Mannheim	6889	6983	6571	5705	6571	6366	6511	6511	6511	6511	6511	6511	6511	6511	78,131
Stuttgart	3782	2458	2475	3361	3125	2052	2876	2876	2876	2876	2876	2876	2876	2876	34,509
TollFree Advise Line (HD)	586	586	623	553	583	586	586	586	586	586	586	586	586	586	7,025
Monthly Totals	44,380	41,755	39,245	44,634	41,069	41,349	42,072	42,072	42,072	42,074	42,074	42,068	42,073	42,073	
* = Includes Outpt & Inpt Visits Estimated Numbers															

FY96	Grand Total	504,866
------	-------------	---------

FY95 Actual Total 510,288

Visit Data from MEPRS (21-24 May 1996)

COST AVOIDANCE: VARIABLE COST

Based on a 30% Reduction in Visits

CLINIC	October	November	December	January	February	March	April	May	June	July	August	September
Babenhäusen	\$2,854	\$3,006	\$2,482	\$2,842	\$2,867	\$2,555	\$2,768	\$2,768	\$2,768	\$2,768	\$2,768	\$2,768
Buedingen	\$7,789	\$3,706	\$4,599	\$4,476	\$4,324	\$4,476	\$4,895	\$4,894	\$4,894	\$4,894	\$4,894	\$4,894
Butzbach	\$5,872	\$6,335	\$5,695	\$7,858	\$6,196	\$4,943	\$6,317	\$6,319	\$6,319	\$6,319	\$6,319	\$6,319
Coleman	\$4,435	\$6,781	\$3,907	\$4,906	\$3,260	\$2,895	\$4,364	\$4,365	\$4,365	\$4,365	\$4,365	\$4,365
Darmstadt	\$10,426	\$10,983	\$11,384	\$10,106	\$8,948	\$9,365	\$10,202	\$10,201	\$10,201	\$10,201	\$10,201	\$10,201
Friedberg	\$4,402	\$5,000	\$4,455	\$5,721	\$5,188	\$3,530	\$4,716	\$4,717	\$4,717	\$4,717	\$4,717	\$4,717
Hanau	\$16,855	\$10,831	\$15,770	\$20,074	\$15,397	\$20,647	\$16,596	\$16,597	\$16,597	\$16,597	\$16,597	\$16,597
Heidelbergr	\$83,088	\$83,284	\$71,822	\$87,404	\$75,906	\$84,042	\$81,591	\$81,593	\$81,593	\$81,593	\$81,593	\$81,593
Mannheim	\$28,429	\$28,595	\$26,908	\$23,362	\$26,908	\$26,069	\$26,662	\$26,663	\$26,663	\$26,663	\$26,663	\$26,663
Stuttgart	\$15,487	\$10,066	\$10,435	\$13,763	\$12,797	\$8,403	\$11,775	\$11,777	\$11,777	\$11,777	\$11,777	\$11,777
TOTAL COST AVOIDANCE	\$179,336	\$160,597	\$158,157	\$180,512	\$165,750	\$166,924	\$169,884	\$169,893	\$169,893	\$169,893	\$169,893	\$2,038,658
												\$1,302,000
												\$736,658

COST of ISN Staff (GS10+) @ \$70,000
 FIRST YEAR COST AVOIDANCE

*includes Outfit & Inpt
 Tollfree Advise Line Removed

Toll-Free Advice Line Removed
includes Output & Input

**VARIABLE COST of \$13.65 Used
MEPRS, Family Practice Clinic**
This is a conservative estimate

HEIDELBERG AREA of RESPONSIBILITY: Sample Schedule for ISN

SAMPLE ISN SCHEDULE

SHIFT	Time	Number of Staff
1	0700-1500	5
2	1500-2300	4
3	2300-0600	2
4	0700-1800	3
5	1800-0600	2
6	0700-1800	2
7	1800-0600	1

TOTAL 19

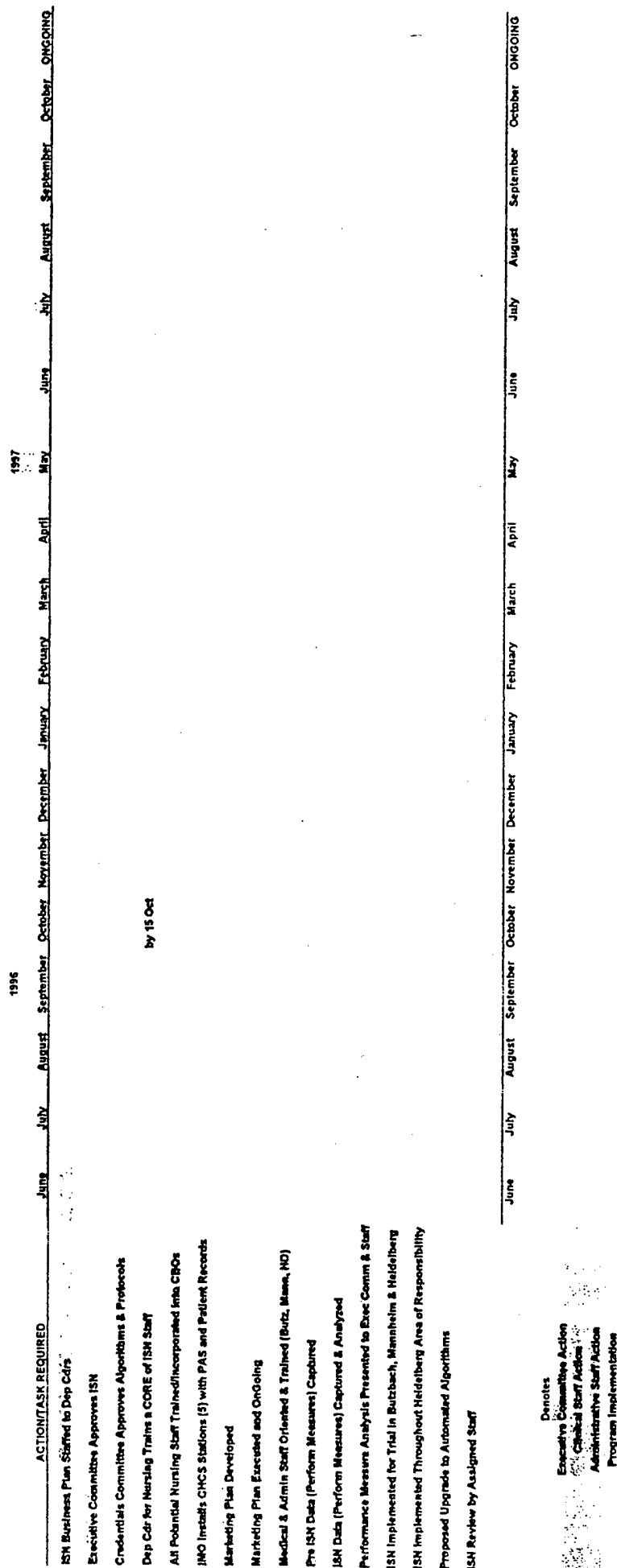
24 hours per Day; 7 Days per Week

WEEKDAYS
WEEKENDS

0600-0700
is Maintenance Time.

Prepared by: CPT Ledlow

HEIDELBERG AREA OF RESPONSIBILITY: Proposed Implementation Timeline



APPENDIX C

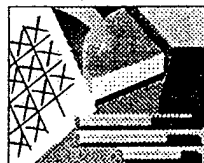
Integrated Service Network/Patient Access and Advice Line Work Group Members

CPT Jerry Ledlow - Chief, Health Services Management Division
Ms. Anita Puterbaugh - Chief, Managed Care Branch
LTC Carolyn Bernheim - Assistant Deputy Commander for Nursing, USAMH
LTC Ann Richardson - Chief Nurse, Department of Outlying Clinics
Mr. Paul Huckfeldt - Marketing Director, Managed Care Branch
Mr. Jeff Wisnom - Chief, Information Management Division
MAJ Beverly Maliner - Chief, Primary Care
LTC O'Donnell - Chief Nurse, Mannheim Health Clinic
Ms. Donna Ellis - Community Health Nurse
*LTC Lynnelle Rockwell - Chief, Preventive Medicine Activity
*MAJ Rodriguez-White - Acting Chief, Preventive Medicine Activity
SFC Alice Rorrer - Non-commissioned officer in charge, Managed Care Branch
Ms. Lisa Williams - Central Appointments Supervisor
MAJ Tempsie Jones - Utilization Management
*LT Linda Romanski - Acting Chief Nurse, Family Practice
*MAJ Chapman - Utilization Management
*CPT Patrick Hogan - Chief, Medical Material Branch
LTC Priscilla Hamilton - Administrative Resident

* Indicates ad hoc members

USAMH: Demand Management System

**Information/Update/Decision
Executive Committee Briefing
for the Telephone Advice, Triage
& Appointment System**



Background & ISN Work Group

- ▲ First met on 28 August 1996
- ▲ Group met 6 Times
- ▲ Conducted Extensive Literature/Data Search
- ▲ Analyzed Literature, USAMH Data, & Options
- ▲ Group Members
 - LTC Bernheim & LTC O'Donnell
 - LTC Hamilton & LTC Richardson
 - Mr. Jeff Wisnom & Ms. Anita Puterbaugh
 - MAJ Rodriguez-White & Ms. Donna Ellis
 - SFC Rorrer, 1LT Romanski, & CPT Ledlow

Objectives

- ▲ Increase Quality of Beneficiary Telephonic Access at First Contact
- ▲ Increase Beneficiary Telephonic Access Opportunities
- ▲ Decrease Unnecessary/Inappropriate Visits
- ▲ Increase Probability of Appropriate Level of Care for Each Patient Encounter
- ▲ Provide High Quality Support to Primary Care Managers

Assumptions

- ▲ Command Support for Initiative
- ▲ TRICARE Implementation (31 January 1997)
- ▲ 2 am Trooper Program Continues
- ▲ Current System is Inadequate
 - ER used as Default Primary Care Access Point
 - Current ER Advice System
 - Algorithms/Protocols Used from 1991
 - QI and Data Acquisition not Formalized
 - Central Appts not Privileged to Triage

Constraints

- ▲ FY97 Budget; Scarce \$s
 - Seed Money +/- \$100,000
 - More Seed Money Requires ERM/DoD HA Approval
- ▲ No New Hires under Current Constraints
- ▲ TRICARE Prime Requires PCM Involvement

ISN Methodology

1 RN Supervisor per Shift

All Calls Go Through Advice Line Nurse

* 24 hrs on Sat/Sun/Holidays/Weekdays *

ISN: Everyday: 2 Shifts: 0700-1500 & 1500-2300

ER: Covers 2301-0659 with Same Protocols & Appointment Capability

On-Call Doc, ER Doc Provides Backup

ISN Methodology Continued

Advice Nurse Criteria: > 3 yrs Experience

Job Sharing & Part Time: Attractive Options

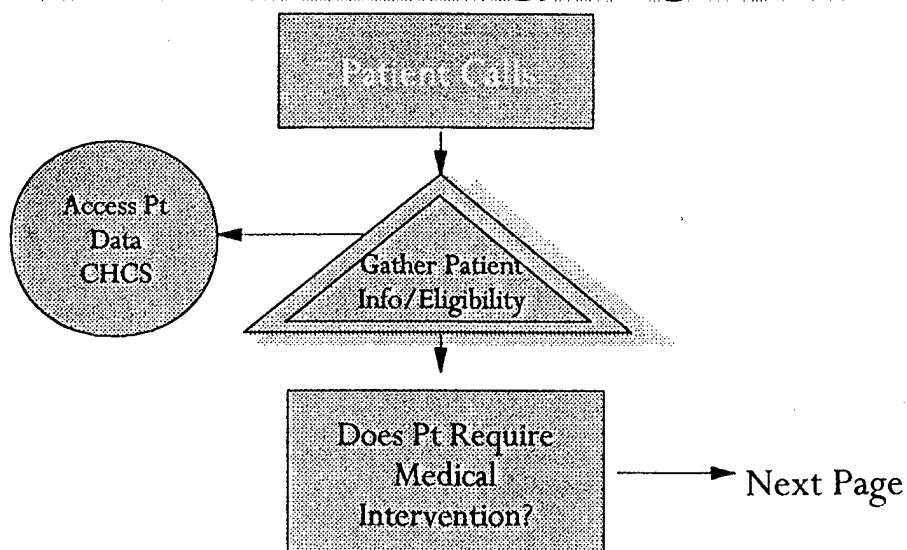
Current Appt Clerks: 5 Clerks

Handle 400 calls/day

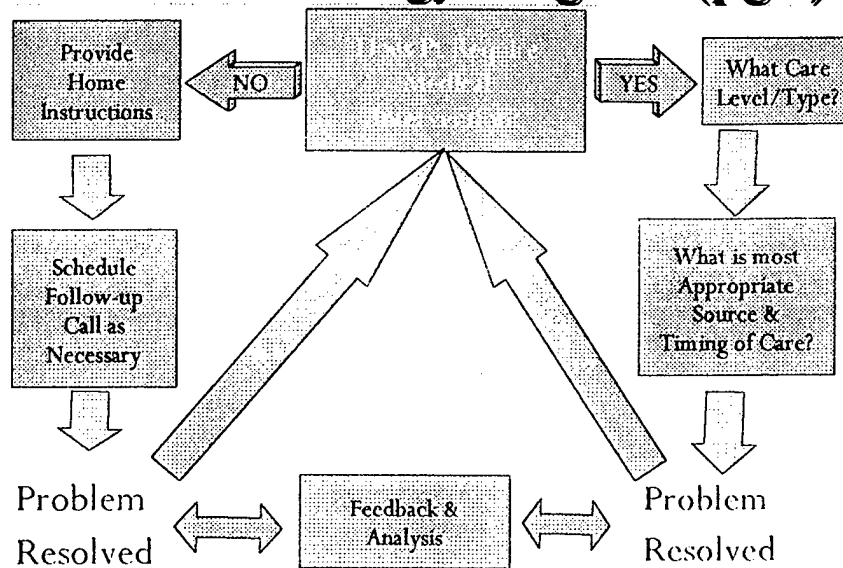
Immediate Tie Into On-Call Pt Liaison

Immediate Emergency Response: LN Ambulance Service
via local Military Police

ISN Methodology Diagram



ISN Methodology Diagram (pg 2)



ISN Structure

▲ Option 1

- 1.5 RNs : 1 Appt Clerk
 - USAMH-Wide: 13 RNs & 10 Appt Clerks
 - HD Test: 6 RNs & 4 Appt Clerks
- Relevant Cost = \$903,000/yr (USAMH Wide)

ISN Structure (*continued*)

▲ Option 2

- 1 RN : 1 LPN : 1 Appt Clerk
 - USAMH-Wide: 7 RNs, 7 LPNs, & 10 Appt Clerks
 - HD Test: 4 RNs, 3 LPNs, & 4 Appt Clerks
- Relevant Cost = \$700,000/yr approx (USAMH Wide)
- Use of LPNs can Increase as Algorithm Quality & Complexity Increase
- More Risk (Possible Physician Backup to Reduce Risk)

Protocol Availability

- ▲ Clinically Acceptable (Credentials Committee)
- ▲ Compatability with CHCS & Automation Assets
- ▲ Off the Shelf Versions
 - Clinically Acceptable
 - Cost Varies (Higher Quality & Complexity = More Cost but Less Experienced Nurses can Use)
 - Data Acquisition
 - Reliability & Validity
 - Performance Measures
 - Commercial Vendor Demonstration (Select Best)

Supervisory Control & Review

▲ Administrative

- Managed Care Branch
- Utilization Manager (MCB)
- C, Dept of Primary Care

▲ Clinical

- C, Dept of Primary Care
 - ER as Backup System

▲ Peer Review

- Integrate into Current Process

Timelines & Test Period

▲ Test Period

- 31 January 1997 - 31 July 1997
- Heidelberg Area with Babenhausen Phase-In
 - Babenhausen Start: 1 April 1997
- Performance Measures Captured Pre & Post ISN
 - Evaluation
 - Executive Committee Full Implementation Decision

▲ USAMH Phase In

- Start Adding Areas 1 August 1997
- Full USAMH AoR ISN Operation by 1 Nov 1997

Courses of Action Decisions

▲ Algorithm/Protocols

- Evaluate & Purchase Off-the-Shelf System
- Develop Our Own (Time & Resources)
- Use Current ER Advice Protocol (dated, acceptance)

▲ Staffing Models

- RN with Appt Clerks
- RN, LPN, & Appt Clerks
- Physician Backup

▲ Supervisory Control & Quality Assurance (QI)

Issues to Resolve

▲ Training

- RNs
- PCMs
- Leadership

▲ "Document" Trail

- electronic
- info collection, analysis, & evaluation

▲ Job Description Development

▲ Resources to Staff Operation

- Hire vs. In-house Shift

Issues to Resolve (*continued*)

▲ Commercial Vendor Demonstrations

- Automated Package
- Training
- Data Collection

▲ Integration into USAMH System

Questions & Discussion

APPENDIX E

Criteria for Evaluation of Commercial Telephone Triage System

<u>Criteria</u>	(1 = little importance <u>Weight</u> 9 = very important)
Protocols/algorithms are computerized	9
Vendor has a self care book	5
Protocols/algorithms are tailorable to USAMH	7
Cost of the software, licensing	6
Warranty	8
Updates are provided	8
Vendor trains USAMH personnel	9
Algorithms/protocols are validated and tested	9
Decision points in the algorithm are flexible (nurse can exit easily to make an appointment/refer)	9
Software provides for outcomes measurement	8
Ease of data collection and records validation	8
Software requires a dedicated server	9
PC based hardware	7
Software is compatible with CHCS	8
Emergency back-up capability	7
Hardcopy record generated (need to file in the patients' record)	8
Voice record of transaction generated	7
Software is compatible with TCY/TCYC book	8

APPENDIX F

JUDGE MODEL

STEP 1: Specify Attributes

STEP 2: Make Attribute Ratings - importance of each attribute rated on a 1-9 scale, 1 being least desirable, 5 being neutral and 9 being most desirable.

STEP 3: Recode and Rescale Attributes - rescale the attributes with those rated 1 rescaled to -4, neutral becomes 0, and 9 rating becomes +4.

STEP 4: Identify the Alternatives - determined after on-site demonstration of products in response to the request for proposal.

STEP 5: Write the Alternative Equations in Linear Form - e.g.

$$\text{Alternative A: } Y^{(1)} = {}_1w_1 V^{(1)} + {}_1w_2 V^{(2)} \dots {}_1w_x V^{(x)}.$$

STEP 6: Judge the Utilities of the Alternatives - judge each alternative in relation to each attribute.

STEP 7: Compute the Decision Indices - calculation of utility ratio and weighted composite values of each alternative.

STEP 8: Evaluate and Make Adjustments - evaluate the matrix and make decision.

APPENDIX G

76

APPENDIX H

APPENDIX H

JUDGE MODEL EVALUATION														
What is the best telephone triage/advice software for USAMH?														
Attribute	9-point rating	Coded rating	Rescaled value	V _j	1w _j Y ⁽¹⁾	2w _j Y ⁽²⁾	3w _j Y ⁽³⁾	Weighted Composite			Double Check			
								NHE	Healthwise	MDS				
Protocols/algorithms are computerized	9	4	8	0	0.46	0.42	0.12	3.67	3.35	0.97	8.00			
Vendor has a self care book	5	0	0	0	n/a	1.00	n/a	-----	0.00	-----	0.00			
Protocols/algorithms are tailorable to USA	7	2	4	4	0.41	0.40	0.19	1.64	1.60	0.76	4.00			
Cost of the software, licensing	6	1	2	2	0.36	0.64	-----	0.72	1.28	-----	2.00			
Warranty	8	3	6	6	0.48	0.52	-----	2.89	3.11	-----	6.00			
Updates are provided	8	3	6	6	0.48	0.52	-----	2.90	3.10	-----	6.00			
Vendor trains USAMH personnel	9	4	8	8	0.51	0.49	-----	4.09	3.91	-----	8.00			
Algorithms/protocols are validated and tested	9	4	8	8	0.45	0.45	0.10	3.59	3.62	0.79	8.00			
Decision points in the algorithm are flexible (nurse can exit easily to make an appointment/refer)	9	4	8	8	0.47	0.48	0.05	3.77	3.81	0.42	8.00			
Software provides for outcomes measure	8	3	6	6	0.40	0.39	0.21	2.38	2.37	1.25	6.00			
Ease of data collection and records validation	8	3	6	6	0.48	0.52	-----	2.91	3.09	-----	6.00			
Software requires a dedicated server	9	4	8	8	0.39	0.36	0.25	3.09	2.90	2.01	8.00			
PC based hardware	7	2	4	4	0.33	0.33	0.34	1.31	1.32	1.37	4.00			
Software is compatible with CHCS	8	3	6	6	0.52	0.48	-----	3.12	2.88	-----	6.00			
Emergency back-up capability	7	2	4	4	0.40	0.60	-----	1.60	2.40	-----	4.00			
Hardcopy record generated (need to file in the patients' record)	8	3	6	6	0.34	0.38	0.28	2.04	2.26	1.70	6.00			
Voice record of transaction generated	7	2	4	4	0.68	0.32	-----	2.72	1.28	-----	4.00			
Software is compatible with TCY/TCYC box	8	3	6	6	0.43	0.57	-----	2.61	3.39	-----	6.00			
	sum =	50						45.06	45.66	9.28	100.00			
Scaling Factor = 2														
Linear expression of Alternatives:														
$NHE = Y^{(1)} = 1w_1V^{(1)} + 1w_2V^{(2)} + \dots + 1w_{18}V^{(18)}$														
$Healthwise = Y^{(2)} = 2w_1V^{(1)} + 2w_2V^{(2)} + \dots + 2w_{18}V^{(18)}$														
$MDS = Y^{(3)} = 3w_1V^{(1)} + 3w_2V^{(2)} + \dots + 3w_{18}V^{(18)}$														
w = the Utility weight, determined by the arithmetic average of numerical responses provided by the evaluation audience														
V = the valence, the coded rating multiplied by the scaling factor														

APPENDIX I

AUDIENCE COMMENTS ON VENDOR DEMONSTRATIONS

National Health Enhancements, Inc.

WOW!!(reference to cost) . . . training occurs in 3 phases (6-10 weeks prior to implementation, 1 week prior and 3 months after implementation to fine tune), download batch files, tape backup on demand, can modify the question sequence, cost can be manageable if broken into separate packages . . . 3 phases of training over 6 months, hard copy of algorithms to medical staff for approval prior to loading, own server is essential because 10GB needed for the application, good reporting - graphical and text, able to provide over the phone dial-in to server, etc., CHCS requires -7 for complete interface . . . validate the patient's follow through and customer satisfaction with training, get feedback from actual users of the system . . . it appears to be a workable system, not sure at this time how it will fit our needs . . . can add VS and use for on-site ER triage? Cost? (\$150,000 with \$34,000/year systems maintenance) . . . VoiceMax requires digital phones (can be overridden), modifiable algorithms, results can be faxed to 6 locations at one time, built-in surveys, likes the written follow-up to each call, briefing focused on money, felt like my investment was sought, up front selling of accessory services (VoiceMax), name dropping, lots of catch phrases and adjectives, need data to show benefit to doctor

and system - no patient outcome data . . . unlimited numbers of operators, used by large health care systems (e.g. Henry Ford).

Healthwise

Demo system was very user friendly . . . easy to use . . . informative presentation . . . not compatible with current version of CHCS . . . updates not answered fully . . . difficult to assess the breadth of the algorithms from the CD-ROM, or if identifies caller needing immediate care. Seems easy to use. One integrated book may work better than 2 (adult/peds version) . . . Quarterly updates with technical support, reasonable cost, good references, comparison of data difficult to validate, still must batch process until CHCS is HL-7 compatible, book at the system site with the nurse . . . Call Manager is Access based, book parallels the symptom manager algorithm, quarterly updates, training at high end is 7 days at \$15,000, software approximately \$27,000 to use however we want, point and click options on more frequently used phrases, 4-6 weeks total to implement, ICD-9 codes installed, a Medical Review Board reviews the current information, optimally requires Pentium 100 MB, 16 MHz RAM, 32 Mb RAM system, automatic documentation, can fax/e-mail to more than one location. The Family notes section can record PPIP information, need to train RN's to SHIP (Situation, History, Intervention, Plan), records the plan and nursing notes into the call notes, notes stay open until the nurse closes the case. All three versions included in the pricing, to include the html version for Internet operation, very familiar with military systems, color coded on urgency (red, yellow and green), can toggled to CHCS with the emulator and make the

appointment. . . References are available on-line, information from the People's Book of Medical Tests, no real quality improvement program demonstrated - will need to QI and verify that the advice nurses are using the program appropriately. . . number of available algorithms for pediatrics and adults? . . . Is this useable with the current system?. . . The demonstration software was a very good system and extremely user friendly. . . It was difficult for me to assess the CD-rom as I can't assess integration into existing system or the breadth of the algorithms. Nor can I tell if it rapidly identifies the caller needing immediate care. It seems easy to use. I like the book, and over the long haul, 1 integrated book may work better than the 2 books we use now. . . CHCS interface is still questionable. . . This appears to be a very good product/service; good experience; worked about many bugs,, and military clients are a big plus, BUT a great deal depends on how we integrate it into MEDDAC/TRICARE environs. We must have CHCS back and forth connection . We have spent a lot of money already on the current self-care books, programs, etc. This system should also support the PPIP initiative.

1 ☐ **Decision Brief: PAAL**

Patient Access & Advice Line

Presented By the PAAL Work Group

2 ☐ **PAAL Work Group Members**

- LTC Bernheim
- LTC Richardson
- LTC O'Donnell
- MAJ Rodriguez-White
- Ms. Donna Ellis
- MAJ Maliner
- Mr. Jeff Wisnom
- 1LT Romanski

3 ☐ **Facts**

- Demand Management Required
- ERMIC Demonstration Project
- Support TRICARE PCMs
- Enhanced Beneficiary Support & Outreach
- PAAL Personnel Costs Come From Existing Budget (\$s & Requirements)

4 ☐ **Assumptions**

- Automation Support
- Leadership Support
- Resources Available due to Shift
- Nursing Assets Available

5 ☐ **Course of Action I**

- Buy HealthWise Software/Support Package: 1 June 1997
 - » Advantages
 - Lower Cost
 - Access Database Information (PPIP) Format
 - Knowledge Base Information on LAN

6 ☐ **Course of Action I**

- » Disadvantages
 - Handbook Different from TCY/TCYC
 - Expansion Capability Theater-Wide
 - Less Structured Algorithm; Nurse Experience a Factor
 - Requires more USAMH Resources (Marketing, QI, Data Collection, etc...)
- NFP Philosophy Complements Military Approach

7 ☐ **Course of Action II**

- Buy National Health Enhancement CentraMax Software/Support

Package: 15 July 1997

» Advantages

- Mature Company/Sophistication
- World-Wide Expansion Interest
- Excellent Data Capture Capability
- Marketing Expertise
- Ability to Incorporate VoiceMax in Future

8 ☐ Course of Action II

» Disadvantages

- Higher Cost (Company Willing to Reduce < \$100,000)
- Algorithm Requires More Typing
- No Interface with TCY/TCYC

- FP Philosophy & Merger with HealthWise Possible (?)

9 ☐ Course of Action III

- Outsource Call Center Operation (Access Health or NHES):
1 June 1997

» Advantages

- Cost = \$0.50 - \$1.00 PMPM (\$440,000 - \$880,000)
- No In-House Personnel Required
- Similar to USAF System

10 ☐ Course of Action III

» Disadvantages

- Not Local (Perception of Communities)
- No Link to: German EMS, Pt Liaison, and MPs
- Cost of Call to Beneficiaries
- Inability to Interface with Appointment System (with Flexibility)
- Effect on Unscheduled Visits and ER Utilization Not Reasonable (May Increase)

11 ☐ Decision Matrix

- Refer to Enclosure in Your Packet

- » Quantitative Measurement
- » Qualitative Statements

12 ☐ Recommended Course of Action

- COA I: Buy HealthWise Software/Support Package:
1 June 1997 PAAL Start Date

13 ☐ Personnel Resources

- Test Phase Requirements (HD with Babenhausen Phase In)

- » 3 Months HD + 3 Months (HD + BBN) = 6 Months
- » 6 RNs Required
 - 4 Day Shift, 1-2 Evening Shift, 1 Weekend
- » 10 Appointment Clerks Required
 - 5 Day Shift, 2 Evening, 2 Weekend, and 1 Supervisor

- 14 ☐ Personnel Resources
 - USAMH-Wide Requirements
 - » 13 RNs
 - Determined During Test Phase Workload Study
 - » 10 Appointment Clerks (Fully Trained)
- 15 ☐ Refer to Handout
 - Input & Decision on Personnel & Budgeting Required
 - » C, DON
 - » C, DCCS
 - » C, DCA
 - » C, DCOC
- 16 ☐ Decision Required
 - Personnel Shift to PAAL; Date Set
 - Budgeting Shift to PAAL
 - Hiring Action Initiation Approval
- 17 ☐ Marketing Plan Overview
 - Paul Huckfeldt
 - » Timelines are Tentative Pending Decision & Start Date
- 18 ☐ Training Requirements
 - Contingent Upon Executive Committee Final Decision of Product
 - » LTC Hamilton & CPT Ledlow
- 19 ☐ PAAL: USAMH Moves Toward Integrated Health Care

APPENDIX K

DEPARTMENT OF THE ARMY
U.S. ARMY MEDDAC, HEIDELBERG
UNIT 29223
APO AE 09102

MCEUH-LO

24 March, 1997

MEMORANDUM FOR: Contracting Officer, RCO Seckenheim

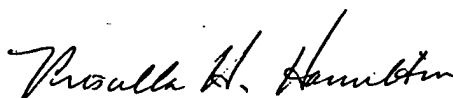
Subject: Sole Source Justification

1. Request that approval and contracting measures be taken to secure the Healthwise Medical Call Center Package for USAMH. Healthwise is the only responsible source of Medical Call Center software, services and supplies that will satisfy the unique USAMH requirements based upon specific functional and budgetary criteria.
2. The Healthwise Call Center package meets the minimum unique needs of USAMH. Those needs include
 - a) TRICARE standards require employment of educational systems to increase enrollees' knowledge and confidence to make appropriate decisions, such as when to initiate or continue self-care and when to seek care from a provider. Triage/advice lines, self-care handbooks coupled with patient education have shown to be effective methods in meeting this requirement. The phone infrastructure and cost to the beneficiary diminishes the use of pre-recorded health information accessible by phone only. The Healthwise product includes an integrated self-care handbook, and the system complements self-care books already purchased for use in the theater.
 - b) The Healthwise system, to include training, represents the best value in a severely fiscally constrained environment.
 - c) The medical review and development of algorithms and protocols is supported by sound and in-depth research by a team of physicians and specialists. No one school of thought or proprietary method is over represented.
 - d) The Healthwise product allows incorporation of Putting Prevention Into Practice (PPIP) information, the prevention and wellness initiatives linked to Healthy People 2000 as directed by TRICARE standards. The ability to effect and track prevention efforts directly reflects upon the readiness of the population.
 - e) The Healthwise software is rated more "user friendly" by the multidisciplinary representatives and potential users who assessed the comparative systems. The Red, Yellow, Green indicators of acuity parallel similar systems already employed by the military to reflect readiness posture.
 - f) The Healthwise product is already employed by several DoD agencies worldwide. The company has extensive experience dealing with the intricacies of the Composite Health Care System (CHCS) used for patient appointing and Primary Care Manager utilization.
3. USAMH made efforts to contact and review the services and products from three Call Center Vendors. A working group was formed to identify potential vendors, product and service evaluation criteria and conduct an evaluation of the products. Each vendor had the opportunity to either present its products for demonstration and discuss the unique needs of USAMH with members of the working group. The working group then made its recommendation to the USAMH Executive Committee for

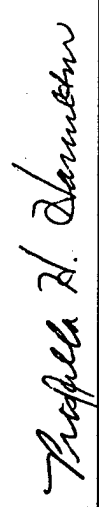
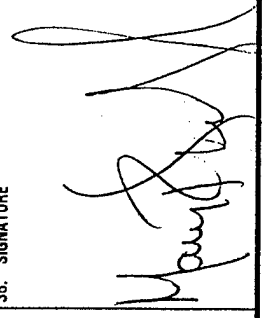
24 March, 1997

Subject: Sole Source Justification

3. decision. Healthwise was chosen based upon its ability to meet the specific and unique functional and budgetary requirements of USAMH.
4. USAMH reviewed Call Center Software from the following Vendors:
 - a) Health Enhancement International Inc.
3200 North Central Avenue, 17th Floor
Phoenix, AZ 85012-2437
POC Mr. Rodolfo Varela
Phone: (602) 230-7575
Fax: (602) 241-0754
e-mail: rvarela@nhesinc.com
 - b) Healthwise
373 W. Fort St.
Boise, Idaho 83702
Mr. Arnt
Phone: (208) 345-1161
Fax: (208) 345-1897
 - c) MDS
Two Concourse Parkway
Suite 225
Atlanta, Georgia 30328
Mr. Eilermann
Phone: (770)-393-7474
Fax (770)-393-7484
5. The purchasing point of contact is CPT Hogan at 371-2280.



PRISCILLA HAMILTON
LTC, DC
Project Officer

PURCHASE REQUEST AND COMMITMENT For use of this form, see AR 37-1; the procuring agency is OASAF(M)		1. PURCHASE INSTRUMENT NO.	2. REQUISITION NO.	3. DATE	PAGE	OF
4. TO: PURCHASING AND CONTRACTING		5. THRU: U.S. Army MEDDAC, Heidelberg Unit 29223, Box M, APO AE 09102	6. FROM: Managed Care Division, USAMH Unit 29223 Box M, APO AE 09102	25 March 1997	PAGES	
It is requested that the supplies and services enumerated below or on attached list be						
7. PURCHASED FOR Managed Care Division, US Army MEDDAC Heidelberg, Unit 29223, Box M APO AE 09102		8. DELIVERED TO WK4FZW, Materiel Warehouse, USAMH, Unit 29223 Box M, APO AE 09102	9. NOT LATER THAN (Date) 1 May 1997		11. TELEPHONE NUMBER 371-2655	
The supplies and services listed below cannot be secured through normal supply channels or other Army supply sources in the immediate vicinity, and their procurement will not violate existing regulations pertaining to local purchases for stock, therefore, local procurement is necessary for the following reason: (Check appropriate box and complete item.)						
12. LOCAL PURCHASES AUTHORIZED AS THE NORMAL MEANS OF SUPPLY FOR THE FOREGOING BY		13. REQUISITIONING DISCLOSES NONAVAILABILITY OF ITEMS AND LOCAL PURCHASE IS AUTHORIZED BY				
EMERGENCY SITUATION PRECLUDES USE OF REQUISITION CHANNELS FOR SECURING ITEM						
14. ITEM	15. SUPPLY OR SERVICES	16. QUANTITY	17. UNIT	18. ESTIMATED UNIT PRICE a	TOTAL COST b	
1. Annual License for Healthwise Knowledgebase (72,928 Members)				\$26,254		
2. On Site Training (2 Trainers for 5 Days)				\$15,000		
3. Customized Protocols/Programming			16 Hour	\$150	\$2,400	
FSC 7030 Healthwise 373 W. Fort Street Boise, ID 83702 Phone (208) 389 1084 Fax (208) 345 1897					\$43,854.00	
25. THE FOREGOING ITEMS ARE REQUIRED NOT LATER THAN AS INDICATED ABOVE FOR THE FOLLOWING PURPOSE Implement Medical Call Center for the telephonic triage of eligible patients within the USAMH catchment area.						
27. TYPED NAME AND GRADE OF INITIATING OFFICER Priscilla Hamilton, LTC (O5)		28. SIGNATURE 		29. DATE 25 Mar 97	36. DATE 25 Mar 97	
30. TELEPHONE NUMBER 371-2655		32. SIGNATURE 		33. DATE 25 Mar 97	35. SIGNATURE 	
31. TYPED NAME AND GRADE OF SUPPLY OFFICER Patrick J. Hogan, CPT (O3)		34. TYPED NAME AND GRADE OF APPROVING OFFICER OR DESIGNEE Mary R. Deutsch, LTC Chief, Logistics Division		36. DATE 25 Mar 97		

DEPARTMENT OF THE ARMY
U.S. ARMY MEDDAC, HEIDELBERG
UNIT 29223
APO, AE 09102

MCEUH-LO

4 April 1997

MEMORANDUM FOR Contracting Officer, RCO Seckenheim

SUBJECT: Sole Source Justification

1. Request the approval and contracting measures be taken to secure the Healthwise Medical Call Center Package for USAMH. The specific mission requirements of the USAMH can only be supported by the unique characteristics of the Healthwise Medical Call Center Package.
2. The Healthwise product allows incorporation of Putting Prevention Into Practice (PPIP) information, the prevention and wellness initiatives linked to Healthy People 2000, as directed by TRICARE standards. These standards are mandatory and must be incorporated in any future applications that are implemented. The ability to effect and track prevention efforts directly reflects upon the readiness of the population. Further, because USAREUR is currently involved in extensive deployment actions, not having this product will adversely affect our ability to support the deployment missions, while continuing to provide health services to families left in Germany.
3. The Healthwise product is already employed by several DoD agencies worldwide. By using this product, USAMH's mission is enhanced by expending less training effort in training new professional staff that in-process to the command. Using any other product requires additional expenditure by the command in terms of time, supervision and loss of productivity. The Access-based data management is compatible with systems already in place, further reducing training burdens in fielding future TRICARE data reporting requirements.
4. Healthwise is the only product that uses a self care book. The Healthwise software complements a self-care book already in use in the theater, thereby meeting the USAMH mission to implement TRICARE directives and supports the self-care classes underway at USAMH. Self-care information is critical to meeting the health needs of the community in a managed care environment.
5. The Healthwise product is the only product that supports an in-house medical education program. This directly implements the MEDCOM mission of deploying a

MCEUH-LO

4 April 1997

SUBJECT: Sole Source Justification (Cont'd)

ready medical force by meeting medical training needs. Also, the Healthwise Knowledge Base system is the only product that provides a learning tool accessible to beneficiaries within existing infrastructure constraints. Informed medical consumers are necessary to facilitate TRICARE implementation and are essential for informed decision making regarding medical treatment.

6. The strategic plan for USAMH calls for an advice line/triage system in place by spring/summer 1997. In order to complete this mission, the Healthwise product is the only system that can be completely implemented in this time frame considering CHCS connectivity and staff training.

7. USAMH has aggressively reviewed, both quantitatively and qualitatively, all of the competing products available on the market. None of the other products meets the minimum requirements.

8. The purchasing point of contact is CPT Hogan at 371-2280.

PRISCILLA H. HAMILTON
LTC, DE
Project Officer

Facilities and Equipment	34
Marketing Plan	36
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS	38
WORKS CITED	43
APPENDIX	
A. GLOSSARY	45 43 ✓
B. "VON STEUBEN HEALTH CARE SYSTEM" INTEGRATED SERVICE NETWORK.....	45 47 (to 63)
C. INTEGRATED SERVICE NETWORK/PATIENT ACCESS AND ADVICE LINE WORK GROUP MEMBERS	66 64 ✓
D. USAMH: DEMAND MANAGEMENT SYSTEM DECISION BRIEFING.....	67 65 ✓
E. CRITERIA FOR EVALUATION OF COMMERCIAL TELEPHONE TRIAGE SYSTEM	76 74 ✓
F. JUDGE MODEL	77 75 ✓
G. TELEPHONE TRIAGE SYSTEM EVALUATION	78 76 ✓
H. JUDGE MODEL EVALUATION.....	79 77 ✓
I. AUDIENCE COMMENTS ON VENDOR DEMONSTRATIONS.....	80 78 ✓
J. DECISION BRIEF: PAAL	83 81 ✓
K. SOLE SOURCE JUSTIFICATION	86 84 ✓
L. JOB DESCRIPTIONS	91 89-95 ✓
M. PAAL MARKETING PLAN.....	98 96 ✓

↓ 6 returns top

Tab @ 62

↓ 5 returns @ bottom

APPENDIX L

DEPARTMENT OF THE ARMY JOB DESCRIPTION For use of this form, see AR 690-500, Chapter 511, the proponent agency is ODCSPER		1. JOB NUMBER	
2. INSTALLATION OR HEADQUARTERS OFFICE HQ, USAEUR / 7A Civilian Personnel Operations Ctr		3. ORGANIZATIONAL LOCATION (Complete on organization copy only) Heidelberg Medical Activity Department of Nursing APO, AE 09102 w/duty in the Managed Care Branch	
4. CITATION TO APPLICABLE STANDARD AND THE DATE OF ISSUANCE	5. TITLE Clinical Nurse		
	6. PAY SCHEDULE GS	7. OCC CODE 0610	8. GRADE 09
	9. FAIR LABOR STANDARDS ACT ☒ EXEMPT ☐ NONEXEMPT		10. COMP LEVEL
11. EVALUATION APPROVAL			
TITLE, PAY SCHEDULE, OCC CODE, AND GRADE OF THIS JOB HAVE BEEN FIXED IN ACCORDANCE WITH OFFICIAL POLICY AND GRADE LEVEL STANDARDS _____ _____ (Signature) (Date)			
12. JOB CONTENT APPROVAL (COMPLETE ON ORGANIZATION COPY ONLY)			
a. I CERTIFY THAT THIS IS AN ACCURATE STATEMENT OF THE MAJOR DUTIES AND RESPONSIBILITIES OF THIS POSITION AND ITS ORGANIZATIONAL RELATIONSHIPS AND THAT THE POSITION IS NECESSARY TO CARRY OUT GOVERNMENT FUNCTIONS FOR WHICH I AM RESPONSIBLE. THIS CERTIFICATION IS MADE WITH THE KNOWLEDGE THAT THIS INFORMATION IS TO BE USED FOR STATUTORY PURPOSES RELATING TO APPOINTMENT AND PAYMENT OF PUBLIC FUNDS AND THAT FALSE OR MISLEADING STATEMENTS MAY CONSTITUTE VIOLATIONS OF SUCH STATUTES OR THEIR IMPLEMENTING REGULATIONS. _____ _____ (Signature of Approving Supervisor) (Date)			
b. THIS JOB DESCRIPTION WITH SUPPLEMENTAL MATERIAL IS ADEQUATE FOR PURPOSE OF EVALUATION. _____ _____ (Signature of Position Classification Specialist) (Date)			
13. STATEMENT OF DUTIES AND RESPONSIBILITIES			
1. Provides professional nursing care to patients from birth to geriatrics by telephone contact with indirect physician support. Based on extensive knowledge of disease processes and pathophysiology, conducts accurate initial assessment and triage of patients via telephone dialogue. Utilizes established protocols, policies and procedures included in manual, verbal and automated format to complete a plan of care for the patient and determines appropriate referral if necessary. Able to recognize life threatening scenarios and activate emergency medical services 65%			
2. Demonstrates knowledge of the principles of growth and development over the life span and possess the ability to assess data reflective of the patient's status and interpret the appropriate information needed to identify each patient's requirements relative to his/her age specific needs. 10%			
3. Participates in departmental or facility quality improvement activities. Provides input to supervisor for quality improvement program/monitoring and maintains statistical data as requested. 10%			
4. Completes competency based orientation. Remains current on all mandatory training requirements to include life safety, infection control, BCLS certification, TQM training and current licensure. Earns a minimum of 20 contact hours of continuing education per year. 5%			
6. Uses communication skills in a professional manner to communicate patients. Integrates job knowledge with written communication to produce an accurate and concise care plan and documents same in medical records. 10%			

Factor 1 Knowledge Required by the Position Level 1-6,

- Knowledge and skill necessary to provide care appropriate to the age of the patients serviced by the unit.
- Knowledge of the nursing process and the ability to collect data and formulate a plan of care for the patient.
- Knowledge of the principles of growth and development over the life span, methods of assessment reflective of the patient's status and strategies to interpret the appropriate information. Knowledge is used to identify each patient's requirements relative to a specific need and provide the care needed as described in the unit's policies and procedures.
- Broad knowledge base of professional nursing concepts, principles and knowledge of clinical medical/surgical nursing to conduct an initial assessment and triage of patients via telephone dialogue.
- Knowledge to recognize and manage life threatening situations.
- Knowledge of CQI/TQM.
- Skill in developing and improving approaches, techniques and procedures to meet education and care requirements.
- Skill in both oral and written communications.
- Knowledge and skill needed to operate a personal computer system.

2. Supervisory Controls Level 2-4

Works under the supervision of the Patient Access Line supervisory nurse manager and the medical direction of the physician OIC. The nurse performs and plans the work independently in coordination with the health care team. Uses professional expertise to accomplish overall objective using available resources. Plans, implements and evaluates telephone advice IAW established philosophy, objectives, standard operating procedures, professional nursing standards and telephone advice protocols. Work is reviewed for adequacy, accuracy, effectiveness and compliance with medical requirement and professional standards and protocols.

3. Guidelines: Level 3-3

Guidelines which form the basis for the clinical nurse's decisions and clinical practice include established policies, triage and advice protocols and standards of practice and care. Guidelines are not completely applicable to every situation likely encountered. The nurse uses judgement in interpreting and adapting guidelines, determining appropriate courses of action,

intervening in crisis situations and making adjustments in the care recommended.

4. Complexity: Level 4-3

Provides and directs comprehensive health care to patients calling the advice line. This includes assessing, interpreting, planning, initiating, evaluating and recommending care based on protocols. Provides counseling and health teaching to patients and family members. Supervises the work of assigned staff who provide telephone advice and make patient appointments. staff.

5. Scope and Effect: Level 5-3

The scope includes planning, organizing, implementing, evaluating and revising a plan of care tailored to the individual needs of the patient. Assessments and judgements are the basis for the recommendations for care and/or referral and to assess the effectiveness of the treatment and education plan. The work affects the physical and emotional well-being of patients.

6. Personal Contacts: Level 6-2

Personal contacts are with patients, family members and significant others, hospital personnel within and outside of the organization such as physicians, dietitians, nurses and host nation health care providers. Contacts may be formal or informal in nature.

7. Purpose of Contacts: Level 7-3

Contacts with patients are for the purpose of collecting data, performing telephone triage, providing recommendations based on protocols and teaching. Contacts with family members are for the purpose of collecting data, providing psychosocial support and instructions about home care. Contacts with the health team are to provide information regarding the patient and to recommend modifications of the treatment/education regime. Contacts with community agencies are to obtain community resources on behalf of the patient.

8. Physical Demands: Level 8-2

The work requires frequent periods sitting and use of a computer and telephone system.

9. Work Environment: Level 9-2

The work is performed in an office. It requires the use of a , telephone and a computer to include reading of computer screens for prolonged periods of time.

DEPARTMENT OF THE ARMY JOB DESCRIPTION For use of this form, see AR 690-500, Chapter 511, the proponent agency is ODCSPER		1. JOB NUMBER	
2. INSTALLATION OR HEADQUARTERS OFFICE HQ, USAEUR / 7A Civilian Personnel Operations Ctr		3. ORGANIZATIONAL LOCATION <i>(Complete on organization copy only)</i> Heidelberg Medical Activity Department of Nursing APO, AE 09102 w/duty in the Managed Care Branch	
4. CITATION TO APPLICABLE STANDARD AND THE DATE OF ISSUANCE	5. TITLE Supervisory Clinical Nurse		
	6. PAY SCHEDULE GS	7. OCC CODE 0610	8. GRADE 10
	9. FAIR LABOR STANDARDS ACT ☒ EXEMPT ☐ NONEXEMPT		10. COMP LEVEL
11. EVALUATION APPROVAL			
TITLE, PAY SCHEDULE, OCC CODE, AND GRADE OF THIS JOB HAVE BEEN FIXED IN ACCORDANCE WITH OFFICIAL POLICY AND GRADE LEVEL STANDARDS _____ _____ (Signature) (Date)			
12. JOB CONTENT APPROVAL (COMPLETE ON ORGANIZATION COPY ONLY)			
a. I CERTIFY THAT THIS IS AN ACCURATE STATEMENT OF THE MAJOR DUTIES AND RESPONSIBILITIES OF THIS POSITION AND ITS ORGANIZATIONAL RELATIONSHIPS AND THAT THE POSITION IS NECESSARY TO CARRY OUT GOVERNMENT FUNCTIONS FOR WHICH I AM RESPONSIBLE. THIS CERTIFICATION IS MADE WITH THE KNOWLEDGE THAT THIS INFORMATION IS TO BE USED FOR STATUTORY PURPOSES RELATING TO APPOINTMENT AND PAYMENT OF PUBLIC FUNDS AND THAT FALSE OR MISLEADING STATEMENTS MAY CONSTITUTE VIOLATIONS OF SUCH STATUTES OR THEIR IMPLEMENTING REGULATIONS. _____ _____ (Signature of Approving Supervisor) (Date)			
b. THIS JOB DESCRIPTION WITH SUPPLEMENTAL MATERIAL IS ADEQUATE FOR PURPOSE OF EVALUATION. _____ _____ (Signature of Position Classification Specialist) (Date)			
13. STATEMENT OF DUTIES AND RESPONSIBILITIES Serves as supervisor for the Patient Access Line Service with responsibility to the physician OIC and the Deputy Commander for Nursing for assessing, planning, implementing and evaluating the care provided to patients calling the service for telephone triage and patient appointments. Manages nursing activities which contribute to the provision of patient care. Provides care as an advice nurse.			
CLINICAL DUTIES:		25%	
1. Provides professional nursing care to patients from birth to geriatrics by telephone contact with indirect physician support. Based on extensive knowledge of disease processes and pathophysiology, conducts accurate initial assessment and triage of patients via telephone dialogue. Utilizes established protocols, policies and procedures included in manual, verbal and automated instructions to complete a plan of care for the patient and determines appropriate referral if necessary. Able to recognize life threatening patient scenarios and activate emergency medical services.			
2. Demonstrates knowledge of the principles of growth and development over the life span and possess the ability to assess data reflective of the patient's status and interpret the appropriate information needed to identify each patient's requirements relative to his/her age-specific needs.			
3. Completes competency based orientation. Remains current on all mandatory training requirements to include life safety, infection control, BCLS certification, TQM training and current licensure. Earns a minimum of 20 contact hours of continuing education per year.			

SUPERVISORY DUTIES:

75%

1. Plans, directs and supervises the work of subordinate staff to include 12 registered nurses and 10 appointment clerks assigned to the Patient Access Line. Plans and established work schedules. Orients, counsels, evaluates, supervises and provides continuing education opportunities for assigned staff. Reviews and develops standard operating procedures as needed to establish standards for subordinates.
2. Participates in and supports hospital TQM/CQI activities by participating in clinic and department level QI programs to include performing quality assessments such as process improvements, chart audits, unit level assessments and analysis of nursing care using a variety of tools.
3. Participates in hospital and unit activities such as staff and committee meetings, inservices (as presenter and participant), staff development and unit level orientation programs.
4. Completes performance evaluation of subordinates, approves leave requests and initiates personnel actions. Insures that job descriptions and performance standards are current and accurately reflect work being performed and that individual personnel problems are considered and resolved. Refers more complex problems to the Chief, Department of Surgery or the Department of Nursing. Encourages career and self development.
5. Demonstrates personal leadership in Equal Opportunity.

Factor 1 Knowledge Required by the Position Level 1-6,

- Knowledge and skill necessary to provide care appropriate to the age of the patients serviced by the unit.
- Knowledge of the nursing process and the ability to collect data and formulate a plan of care for the patient.
- Knowledge of the principles of growth and development over the life span, methods of assessment reflective of the patient's status and strategies to interpret the appropriate information. Knowledge is used to identify each patient's requirements relative to a specific need and provide the care needed as described in the unit's policies and procedures.
- Broad knowledge base of professional nursing concepts, principles and knowledge of clinical medical/surgical nursing to conduct an initial assessment and triage of patients via telephone dialogue.
- Knowledge to recognize and manage life threatening situations.
- Knowledge of CQI/TQM.

- Skill in developing and improving approaches, techniques and procedures to meet education and care requirements.
- Knowledge and skill to direct the work up to 12 registered nurses and 10 appointment clerks.
- Skill in both oral and written communications.
- Skill in motivating individuals and utilizing counseling techniques.
- Knowledge and skill needed to operate a personal computer system.

2. Supervisory Controls Level 2-4

Works for the physician OIC and under the general administrative and nursing direction of the Deputy Commander for Nursing. The nurse performs and plans the work independently in coordination with the health care team. Determines the focus and priorities of nursing activities. Uses professional expertise to accomplish overall objective using available resources. Incumbent keeps the physician OIC and Deputy Commander for Nursing informed of all personnel or unit problems or accomplishments. Plans, implements and evaluates nursing care IAW established philosophy, objectives, standard operating procedures, professional nursing standards and physicians's orders. Serves as the nursing expert on the unit health care team. Work is evaluated by quality improvement measures.

3. Guidelines: Level 3-3

Guidelines which form the basis for the supervisory clinical nurse's decisions, clinical practice and unit management include established policies, triage and advice protocols and standards of practice and care. Guidelines are not completely applicable to every situation. The nurse uses judgement in interpreting and adapting guidelines, determining appropriate courses of action, intervening in crisis situations and making adjustments in the care recommended. After appropriate staffing, modifies or changes guidelines to meet patient care and administrative requirements and keeps chain of command informed.

4. Complexity: Level 4-3

Provides and directs comprehensive health care to patients calling the advice line. This includes assessing, interpreting, planning, initiating, evaluating and recommending care based on protocols. Provides counseling and health teaching to patients and family members. Supervises the work of assigned staff who provide telephone advice and make patient appointments. Develops and evaluates standards to guide the work performed by assigned staff.

5. Scope and Effect:

Level 5-3

The scope includes planning, organizing, implementing, evaluating and revising a plan of care tailored to the individual needs of the patient. Assessments and judgements are the basis for the recommendations for care and/or referral and to assess the effectiveness of the treatment and education plan. Scope also includes planning and directing section nursing and administrative functions to provide a functional unit environment and foster competent nursing care by staff members.

6. Personal Contacts:

Level 6-2

Personal contacts are with patients, family members and significant others, hospital personnel within and outside of the organization such as physicians, dieticians, nurses and host nation health care providers. Contacts may be formal or informal in nature.

7. Purpose of Contacts:

Level 7-3

Contacts with patients are for the purpose of collecting data, performing telephone triage, providing recommendations based on protocols and teaching. Contacts with family members are for the purpose of collecting data, providing psychosocial support and instructions about home care. Contacts with the health team are to provide information regarding the patient and to recommend modifications of the treatment/education regime. Contacts with health care providers and hospital administrative staff are for the purpose of establishing/ revising policies and quality improvement activities. Contacts with staff members are for the purpose of providing direction of nursing care and observing/ evaluating daily performance. Contacts with community agencies are to obtain community resources on behalf of the patient.

8. Physical Demands:

Level 8-2

The work requires frequent periods sitting and use of a computer and telephone system.

9. Work Environment:

Level 9-2

The work is performed in an office. It requires the use of a , telephone and a computer to include reading of computer screens for prolonged periods of time.

United States Army Medical Department Activity Heidelberg

Patient Access & Advice Line - PAAL

MARKETING PLAN

Objective:

Promote the new telephonic patient access & advice system, internally within the MEDDAC and externally to eligible beneficiaries comprising our patient population.

Product/Service:

PAAL is the improved USAMH telephonic patient access & advice system which offers, in addition to patient appointments, a network of several experienced registered nurses answering patient calls. These nurses, in collaboration with central appointments personnel, will initiate a triage process utilizing software based on established algorithms and protocols to provide patients with the proper care at the proper time.

Marketing Strategy:

The marketing plan will occur in 3 phases:

- ◆ Phase 1, to the Heidelberg military community -
- ◆ Phase 2, to include the Babenhausen military community -
- ◆ Phase 3, to include the remaining military communities which comprise the MEDDAC area of responsibility; Butzbach, Buedingen, Darmstadt, Friedberg, Hanau, Mannheim/Worms/Coleman, and Stuttgart.

All of the phase 1 marketing (TV, radio, and print media) must clearly target Heidelberg in order to avoid confusion in areas not yet targeted. Phase 2 marketing must clearly indicate the inclusion of Babenhausen, while phase 3 needs to emphasize the inclusion of the remaining clinics.

Internal marketing will teach *us* (nurses, appointment clerks, PCMs, administrators, etc.) how to deliver the service. External marketing will teach *beneficiaries* how to use the service. In order for the marketing to be effective, the audience must always be kept in mind.

PHASE 1 (Heidelberg military community)

Internal -	DATE	ACTION
☐	2 May 97	Brief PAAL to executive steering committee: POC - CPT Ledlow <i>Present the marketing/implementation plan, manpower/training status</i>
☐	5 May 97	Run internal press release: POC - LTC Hamilton/Paul
☐	*28 April 97	Paul submit internal press release <i>USAMH newsletter, DON newsletter, MCB newsletter, E-Mail</i>
☐	*23 April 97	HSMD return final copy to Paul
☐	*21 April 97	Paul submit final proof to HSMD
☐	*16 April 97	HSMD return corrected copy to Paul
☐	*9 April 97	Paul submit rough to HSMD
☐	2 May 97	Brief PAAL to clinic chiefs: POC - CPT Ledlow <i>Present the product/service, basic clinical policy, marketing/implementation plan</i>
☐	2 May 97	Clinics submit final appointment protocols: POC - clinic chiefs <i>OB/GYN, Pediatrics, Internal Medicine, Optometry, etc.</i>
☐	*2 May 97	DCCS return protocols to clinics
☐		DCCS submit protocols to PAAL supervisor
☐	*25 April 97	Clinic chiefs submit final proofs to DCCS
☐	*21 April 97	DCCS return corrected copies to clinic chiefs
☐	*11 April 97	Clinic chiefs submit roughs to DCCS
☐	15-22 May 97	Train Nurses/Central Appointments Personnel: POC - HEALTHWISE, Inc. <i>Use of triage software, integration of clinic protocols</i>
☐	*15-22 May 97	PAAL Supervisor needs to modify current self-care books used with the PAAL so they coincide with triage software until we purchase the actual HEALTHWISE self-care books
☐	2 June 97	Distribute brochures/posters explaining PAAL, how it works: POC - Paul <i>Staff duty desk, TRICARE Service Center, Managed Care Branch, Outpatient Records, Wellness Center/bulletin board, Pediatric Clinic</i>
☐	*28 May 97	Paul distribute final product within hospital
☐	*23 May 97	Paul pick up brochures/posters from printer
☐	*15 May 97	Paul submit final art to printer
☐	*9 May 97	HSMD submit w/corrections to Paul
☐	*5 May 97	Paul submit roughs to HSMD

External -	DATE	ACTION
☐	2 June 97	Run external press release: POC - LTC Hamilton, Paul
☐	*28 May 97	Paul submit external press release (Adjutant) <i>Herald-Post, MWR Magazine, R&R Magazine</i>
☐	*23 May 97	Paul submit final proof to HSMD, Executive Committee
☐	*20 May 97	HSMD return corrected copy to Paul
☐	*13 May 97	Paul submit rough to HSMD
☐	2 June 97	Distribute brochures explaining PAAL, how it works: POC - Paul <i>Heidelberg PX (inprocessing center), Family Services/family support groups, High School/Middle School nurses office, Housing office</i>
☐	2 June 97	Distribute posters explaining PAAL, how it works: POC - Paul <i>Heidelberg bulletin boards (Campbell Barracks: outside bank; gym, PX: inprocessing center; main bus stop; Housing office; bank), bowling alley, day-care centers</i>
☐	2 June 97	Update current hospital patient information handbook to assist PAAL personnel with patient appointments and referrals: POC - Paul <i>The patient information handbook for the Hanau Health Clinic has been completed recently. Handbooks for each outlying clinic have been in development (80%) for close to one year (Paul), they have been on hold pending TRICARE implementation</i>
☐	*2 June 97	Paul distribute completed handbook throughout hospital/inprocessing
☐	*2 June 97	Paul submit completed handbook to PAAL supervisor
☐	*23 May 97	Paul pick up product from printer
☐	*15 May 97	Paul deliver art to printer
☐	*9 May 97	HSMD, Executive Committee submit final corrected copy to Paul
☐	*2 May 97	Paul submit rough to HSMD, Executive Committee
☐	2 June 97	Begin running AFN TV production spot: POC - Paul <i>Run TV spot 2 days per week, 3 times per day for all of July Run TV spot 1 day per week, 2 times per day for all of August</i>
☐	*9 May 97	Paul submit script to AFN
☐	*5 May 97	Paul submit final script to HSMD, Executive Committee
☐	*1 May 97	HSMD return corrected script to Paul
☐	*21 April 97	Paul submit rough script to HSMD for Phases 1, 2 and 3

- ☐
2 June 97
Begin running AFN Radio production spot:
 POC - LTC Hamilton, Paul
Run Radio spot 2 days per week, 3 times per day for all of May
Run Radio spot 1 day per week, 2 times per day for all of June
- ☐
***9 May 97**
 Paul submit script to AFN
- ☐
***5 May 97**
 Paul submit final script to HSMD, Executive Committee
- ☐
***1 May 97**
 HSMD return corrected script to Paul
- ☐
***21 April 97**
 Paul submit rough script to HSMD for Phases 1, 2 and 3
- ☐
2 June 97
Run Single line notice on LES:
 POC - Paul
- ☐
***20 May 97**
 Submit text to 266th finance to print on LES
Per Heidelberg UPCs/UICs or APOs?
- ☐
***15 May 97**
 Paul write text (HSMD)
- ☐
3 June 97
Brief PAAL at BSB meeting:
 POC - CPT Ledlow
Present the product/service, marketing/implementation plan, distribute flyers & brochures
- ☐
16, 30 June 97
Present PAAL at Monday Self-Care class:
 POC - PAAL Supervisor
Explain PAAL concept to beneficiaries and teach them how to use it
- ☐
***10 June 97**
 Preventive Medicine return corrected outline to PAAL Supervisor
- ☐
***4 June 97**
 PAAL Supervisor submit class outline to Preventive Medicine

PHASE 2 (Babenhausen military community):

Internal -	DATE	ACTION
☐	11 July 97	Brief Clinic (Commander, XO, staff, PCMs, MCP POC): POC - CPT Ledlow <i>Present the product/service, marketing/implementation plan, distribute flyers & brochures</i>
☐	11 July 97	Run internal press release (to include basic clinical policy): POC - clinic XO
☐	*30 June 97	Paul submit internal press release to clinic (from Heidelberg template) <i>Clinic newsletter, E-Mail (CC:mail, CHCS Mailman) to group lists within the clinic</i>
☐	11 July 97	Distribute brochures/posters explaining PAAL, how it works: POC - clinic XO <i>Staff duty desk, TRICARE Service Center, Outpatient Records</i>
☐	*16 June 97	Deliver materials to POC for internal & external marketing <i>(how many? _____ brochures, _____ posters)</i>
☐	11 July 97	Clinic submit final appointment protocols: POC - clinic XO
☐	*11 July 97	DCOC return protocols to clinic DCOC submit protocols to PAAL Supervisor
☐	*25 June 97	Clinic XO submit final proof to DCOC
☐	*20 June 97	DCOC return corrected copy to clinic XO
☐	*10 June 97	Clinic XO submit rough to DCOC
External -	DATE	ACTION
☐	20 June 97	Update current Babenhausen patient information handbook to assist PAAL personnel with patient appointments and referrals: POC - Paul <i>Babenhausen handbook was the original prototype for all outlying clinic handbooks and is 90% completed</i>
☐	*20 June 97	Paul deliver completed handbooks to XO <i>(How many? _____ Patient Information Handbooks)</i>
☐		Paul submit completed handbooks to PAAL Supervisor for use by triage personnel
☐	*5 June 97	Paul pick up product from printer
☐	*15 May 97	Paul deliver art to printer
☐	*12 May 97	XO submit corrected handbook to Paul
☐	*2 May 97	POC submit roughs to XO <i>Clinic XO, CDR and HBA should proof the handbook</i>

- ☐
 4 August 97
 Run external press release:
 POC - clinic XO
- ☐
 ***28 July 97**
 Paul submit external press release to clinic (from Heidelberg template)
 Babenhausen paper, MWR Magazine, R&R Magazine
- ☐
 4 August 97
 Distribute brochures explaining PAL, how it works:
 POC - clinic XO
 Babenhausen/Darmstadt PX, Family Services/family support groups, High School/Middle School nurses office, Housing office
- ☐
 4 August 97
 Distribute posters explaining PAL, how it works:
 POC - clinic XO
 Babenhausen/Darmstadt PX, Family Services/family support centers, High School/Middle School nurses office, Housing office
 Babenhausen bulletin boards, bank, bowling alley, day-care centers
- ☐
 5 August 97
 Brief PAAL at BSB meeting:
 POC - CPT Ledlow
 Present the product/service, marketing/implementation plan, distribute flyers & brochures
- ☐
 15 August 97
 Begin running AFN TV production spot:
 POC - LTC Hamilton, Paul
 Run TV spot 2 days per week, 3 times per day for all of July
 Run TV spot 1 day per week, 2 times per day for all of August
- ☐
 ***8 August 97**
 Paul notify AFN when to run
- ☐
 15 August 97
 Begin running AFN Radio production spot:
 POC - LTC Hamilton, Paul
 Run Radio spot 2 days per week, 3 times per day for all of July
 Run Radio spot 1 day per week, 2 times per day for all of August
- ☐
 ***8 August 97**
 Paul notify AFN when to run
- ☐
 15 August 97
 Run Single line notice on LES:
 POC - Paul
- ☐
 ***21 July 97**
 Paul submit text to 266th finance to print on LES
 Per Babenhausen UICs or APOs?

PHASE 3 (Butzbach, Buedingen, Darmstadt, Friedberg, Hanau, Mannheim/Worms/Coleman, and Stuttgart military communities):

Internal -	DATE	ACTION
☐	1 Oct 97	Brief Clinics (Commander, XO, staff, PCMs, MCP POC): POC - CPT Ledlow <i>Present the product/service, marketing/implementation plan, distribute flyers & brochures</i>
☐	1 Oct 97	Run internal press release (to include basic clinical policy): POC - clinic XOs
☐	*19 Sept 97	Submit internal press release (from Heidelberg template) <i>Clinic newsletter, E-Mail (CC:mail, CHCS Mailman) to group lists within the clinics</i>
☐	1 Oct 97	Clinics submit final appointment protocols: POC - clinic XOs
☐	*1 Oct 97	DCOC submit protocols to PAAL Supervisor
☐	*25 Sept 97	Clinic XO submit final proof to DCOC
☐	*19 Sept 97	DCOC return corrected copy to clinic XO
☐	*10 Sept 97	Clinic XO submit rough to DCOC
☐	1 Oct 97	Distribute brochures/posters explaining PAAL, how it works: POC - clinic XOs <i>Staff duty desk, TRICARE Service Center, Outpatient Records</i>
☐	*15 Sept 97	Paul deliver materials to XOs for internal & external marketing (how many - Buedingen? _____ brochures, _____ posters Butzbach? _____ brochures, _____ posters Darmstadt _____ brochures, _____ posters Friedberg _____ brochures, _____ posters Hanau _____ brochures, _____ posters Mannheim _____ brochures, _____ posters Stuttgart _____ brochures, _____ posters)

External -	DATE	ACTION
☐	1 Oct 97	Update remaining MTF patient information handbooks to include information about PAAL: POC - Paul <i>Clinic XOs, CDRs and HBAs should proof the handbook</i>
☐	*25 Sept 97	Paul (DCOC) deliver completed handbooks to XOs Paul (DCOC) submit completed handbooks to PAAL Supervisor for use by triage personnel
☐	*15 Sept 97	XOs deliver corrected handbooks to Paul
☐	*1 Sept 97	Paul deliver roughs to XOs

- ☐ 15 Oct 97 Distribute brochures explaining PAL, how it works:
POC - clinic XO's (will have brochures)
PXs, Family Services/family support groups, High School/Middle School nurses offices, Housing offices
- ☐ 15 Oct 97 Distribute posters explaining PAL, how it works:
POC - clinic XO's (will have posters)
Community bulletin boards, PXs, Bowling Alleys, Day-Care Centers
- ☐ 15 Oct 97 Brief PAAL at BSB meeting:
POC - CPT Ledlow
Present the product/service, marketing/implementation plan
- ☐ 15 Oct 97 Run external press release:
POC - clinic XO's
- ☐ *29 Sept 97 Paul deliver external press release to clinics (from Heid template)
Babenhause paper, MWR Magazine, R&R Magazine
- ☐ 3 Nov 97 Begin running AFN TV production spot:
POC - Paul
Run TV spot 2 days per week, 3 times per day for all of September
Run TV spot 1 day per week, 2 times per day for all of October
- ☐ *15 Oct 97 Paul notify AFN when to run
- ☐ 3 Nov 97 Begin running AFN Radio production spot:
POC - Paul
Run Radio spot 2 days per week, 3 times per day for all of September
Run Radio spot 1 day per week, 2 times per day for all of October
- ☐ *15 Oct 97 Paul notify AFN when to run
- ☐ 3 Nov 97 Run Single line notice on LES:
POC - Paul
- ☐ *20 Oct 97 Submit text to 266th finance to print on LES
Per remaining UICs or APOs?

Potential Threats:

- Internal -
 1. Incompatibility between triage software and CHCS
 2. Inadequate training/support from HEALTHWISE, Inc.
 3. Friction between clerks and RNs regarding responsibilities/workload
 4. Unclear or unenforced USAMH policy regarding the ISN
 5. Telephone/computer problems
 6. Quality assurance/UM problems
- External -
 1. Patient opposition to triage, nurses seen as barrier to doctor or simply unqualified
 2. Conflicting marketing (triage as the gateway or PCM as the gateway)
 3. Top-driven switch to a centralized European triage center
 4. Overall failure of TRICARE

PAAL Marketing Timeline:

APRIL	MAY	JUNE	JULY
Paul generate internal press release for Heidelberg Hospital	CPT L brief PAAL to Executive Steering Committee	Paul distribute posters & brochures internally within hospital	CPT L brief Babenhausen clinic commander, XO, PCMs, staff
hospital clinics correct protocols	Paul run internal press release for Heidelberg Hospital	Paul distribute posters & brochures externally to Heidelberg community	Babenhausen run internal press release
Paul submit AFN TV, Radio roughs	CPT L brief PAAL to Clinic Chiefs	Paul run external press release for Heidelberg area	Babenhausen XO distribute posters & brochures internally
Paul submit Hansu patient info handbook prototype to other clinics	hospital clinics submit final protocols	Paul distribute hospital patient info handbook within hospital & to PAAL	Babenhausen submit final protocols
	HEALTHWISE train nurses and central appts personnel	AFN begin running Heidelberg TV, Radio spots	Paul submit external press release for Babenhausen area
	Paul generate PAAL posters & brochures (Rhodelheim & my printer)	Paul run single-line notice per Heidelberg APOs	Paul submit LES single-line notice per Babenhausen APOs
	Paul generate external press release for Heidelberg	CPT L brief PAAL at BSB meeting	
	Paul generate LES single-line notice per Heidelberg APOs	PAAL supervisor present PAAL at Self-Care classes	
	Paul correct current hospital patient info handbook	Paul submit internal press release to Babenhausen clinic	
	Paul correct Babenhausen patient info handbook	Paul deliver posters & brochures to Babenhausen clinic	
		Babenhausen clinic correct protocols	
		Paul deliver Babenhausen patient info handbook to clinic and PAAL	

AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
Babenhausen run external press release	Paul correct remaining clinic patient info handbooks (cont...)	CPT L brief PAAL to remaining clinic commanders, XOs, PCMs, staff	AFN begin running TV, Radio spots
Babenhausen XO distribute posters & brochures externally	Paul submit internal & external press release for remaining clinics	CPT L brief PAAL at BSB meetings for remaining clinic areas	Paul run single-line notice per remaining clinic area APOs
CPT L brief PAAL at Babenhausen BSB meeting	remaining clinics correct protocols	Paul run internal & external press release for remaining clinic areas	
AFN begin running Babenhausen TV, Radio spots	Paul distribute posters & brochures to remaining clinics	remaining clinics submit final protocols	
Paul run single-line notice per Babenhausen APOs		XOs for remaining clinics distribute posters & brochures internally & externally	
Paul correct remaining clinic patient info handbooks			

WORKS CITED

- Abdullah, M. 1996. Fiscal Year 1996 financial data for USAM-H.
- Access Health. 1996, July. Personal Health Advisor- TRICARE Europe aggregate data for 52nd Medical Group and 31st Medical Group.
- Cantor, C. 1995, Fall. Advances, the newsletter of the Robert Wood Johnson Foundation, vol. 8, no. 4, pp. 1, 10, 12.
- Cardy, I. "ER patient data." Unpublished raw data, 1996.
- Carpenter, S. "Information paper on Healthwise Handbook Self-Care Manual Configured for Internet Access." electronic mail message to the author, 1997.
- Deardon, K. "Emergency Room Cost per Visit." Memo dated 3 February 1997.
- Draper, S. "Patient evaluation of medical care and related services, emergency service USAM-H." Unpublished graphical data, 1996.
- Emergency Department Quality Improvement Committee. Minutes of the Emergency Department Quality Improvement Committee, Emergency room log. August, 1996.
- Farr, J. 1993. Telephone advice nurse: identifying critically-ill patients. Dimensions of Critical Care Nursing 12, no. 4: 212-217.
- Gobis, L.J. Legal issues regarding screening, assessment and intervention over the phone. In Asking the Right Questions: Nursing Assessment and Intervention Over the Phone, a conference for ambulatory care nurses, 12 October 1996, Madison, Wisconsin.
- Gobis, L.J. Legal issues regarding screening, assessment and intervention over the phone. In Asking the Right Questions: Nursing Assessment and Intervention Over the Phone, a conference for ambulatory care nurses, 19 April 1997, Madison, Wisconsin.

- Glasper, A. 1993. Telephone triage: a step forward for nursing practice? British Journal of Nursing 2: 108-109.
- Healthwise. 1997. Promotional material distributed at on-site demonstration 6-7 February.
- Hill, S. Telephone interview with author, 24 September 1996.
- Hill, S. 1996. Information "Talking Paper" on the Health Care Information Line. Distributed at the Health Promotion Committee Meeting, 15 October 1996, Landstuhl Regional Medical Center.
- Iserson, K. 1992. Assessing values: rationing emergency department care. American Journal of Emergency Medicine 10: 263-264.
- Ledlow, G. "Cost determination for family practice clinic visit." Unpublished raw data, 1996.
- National Health Information, LLC. 1995. Demand management holds key to prepaid profits. Capitation Management Report 2: 33.
- Rupp, R.E., Ramsey, K.P., & Foley, J.D. 1994. Telephone triage: results of adolescent clinic responses to a mock patient with pelvic pain. Journal of Adolescent Health 15: 249-253.
- Sickafoose, K. Telephone interview with author, 19 September 1996.
- Tudor, R. 1997. Interview with author, 4 April.
- U.S. General Accounting Office. 1995. Defense health care-issues and challenges confronting military medicine. Report number HEHS-95-104. Washington, DC: U.S. Government Printing Office.
- Webster, K. 1996. Telephone nursing telezine-an e-zine for and about telephone nursing services 1. <http://ally.ios.com/~webster/triage.html>
- Wheeler, S. Q. 1993. Telephone Triage: Theory, Practice and Protocol Development. Albany, NY: Delmar Publishers, Inc.
- Wolcott, B. 1995. Telephone triage safely lessens demand for acute care pediatric services. Managed Care Medicine May: 22-25.